INEQUALITIES IN HEALTH
FUTURE CHALLENGES
FOR INTERSECTORAL COOPERATION

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FOREWORD BY MINISTER OF HEALTH

This report on health inequalities comes at a time when we are faced with the challenges of the COVID-19 epidemic and its impact on all aspects of our lives. The epidemic, and the measures and restrictions introduced in response to it, represent a major challenge to all of us. They require us to make numerous adjustments, and are having a significant impact on the quality of life of every individual. The biggest burden in these unpredictable times is borne primarily by those who were already especially vulnerable before the epidemic or who have become so because of it, and who suffer from a chronic disease, mental health problems, poverty, social deprivation, exclusion or unemployment. Children (and young people generally) have been deprived of school and of the opportunity to socialise with their peers, older people have lived in fear of infection and of being isolated from their loved ones, patients have found it difficult to see their doctor in the way they were used to, and many people have encountered uncertainties in their employment and work. All these things can lead to an increase in health inequalities. Despite the superb efforts of medical, social and education workers, and the active involvement of civil society in addressing the epidemic-related and other needs of vulnerable groups, we are seeing a rise in the number of people in serious distress and who are unable to properly access healthcare and other services. It is vital that we continue to monitor the situation, draw comparisons with previous periods and other countries, and identify the new needs that have arisen among vulnerable groups. By responding promptly and with great sensitivity to those in distress, and by providing the necessary help and care, we can prevent further increases in health inequalities. This report on health inequalities provides a good insight into the complex area of inequalities, and is an important tool for planning measures that will enable us to be as successful as possible in eliminating health inequalities in the future.

The report is an exemple of intersectoral cooperation between key research institutions and ministries engaged in work and policies of reducing inequalities, and it is also the result of Slovenia's successful collaboration with the World Health Organization in this area. In 2019, Slovenia hosted the world's first high-level WHO conference on health inequalities. The Ljubljana Statement on Health Equity was adopted in response to the conference's findings, and called on policymakers to take more decisive action. It is an important milestone in efforts to eliminate health inequalities. Slovenia is very actively engaged in the problem of health inequalities, as the reports and other publications issued so far show.

'Health for All', 'Nobody Left Behind' and 'Together for a Healthy Society' – these have, for many years, been more than just slogans in Slovenia. We have already made progress in many areas, from public health efforts to promote health and prevent disease in all population groups; huge efforts were made by everyone working in primary healthcare to better address the needs of vulnerable groups through preventive programmes and comprehensive medical provision to chronic patients in cooperation with the local community and social services. cancer screening programmes and many achievements at the specialist healthcare level that are available to all. The COVID-19 epidemic should not derail efforts to further increase access to high-quality healthcare for all, and particularly for vulnerable groups, in the future.

This year, 2021, is also important for Slovenia in the international context, as it assumes the Presidency of the Council of the EU and it has the opportunity to show Europe its achievements. This report, 'Health Inequalities: Future Challenges for Intersectoral Cooperation', is an example of good practice and one that we can be proud of. It warns us that investments in health and a reduction in health inequalities, particularly among vulnerable groups, require an 'all-government' approach and the participation of all ministries and departments. They are a precondition for greater social justice and well-being for all, which are two key objectives of a strong social Europe, as well part of the United Nations' Sustainable Development Goals.

Janez Poklukar, Minister of Health

FOREWORD BY THE MINISTER OF LABOUR, FAMILY, SOCIAL AFFAIRS AND EQUAL OPPORTUNITIES

Equality is written in all fundamental international documents and is also the foundation for much of the relevant legislation. Social equality must be the guiding principle and objective of every society and every policy. However, we still (too) often encounter inequality in many walks of life. The task of the state is to identify these inequalities, take steps to reduce and eliminate them, and help to raise society's awareness of the issue of inequality.

Cooperation and the interconnection of policies across different areas is crucially important if we are to eliminate inequalities. Family policy, which pays particular attention to caring for and protecting children, is one example of good practice. While it is, an independent area, family policy is nevertheless inextricably linked to other policies, particularly those concerning education, healthcare, social security and spatial planning. If we want progress, it is vital that we connect with research institutions. Only the creative cooperation of everyone will increase child well-being and reduce child poverty and social exclusion.

The authors of this publication recognise the importance of cooperation and have therefore included all relevant stakeholders in order to address the issue of inequalities in a more comprehensive way. They have therefore carried out important work required to eliminate inequalities, for example by establishing cooperation between policymakers and institutions. They will also raise the awareness of the profession and the general public.

Reducing social inequality is one of the greatest challenges facing modern society. The starting point of any attempt to eliminate inequality is the belief that equality is good for everyone. This is proved by societies with a high degree of equality, where people are healthier, happier and have a better quality of life. Equality is therefore a value well worth fighting for.

Janez Cigler Kralj, Minister of Labour, Family, Social Affairs and Equal Opportunities

FOREWORD BY DIRECTOR OF THE NATIONAL INSTITUTE OF PUBLIC HEALTH

Intersectoral cooperation is key to identifying and reducing health inequalities, which are result of complex problems at the global and national level. In order to achieve our common goal, to identify, reduce and prevent inequalities, we must bring all stakeholders together and encourage their cooperation. This will enable us to design adequate (indeed the most optimal) proposals for decision makers for developing health policies that improve health and reduce health inequalities. The Slovenian Development Strategy 2030 points out health as one of the main focuses of the strategy. Reducing health inequalities is one of the key contemporary challenges to creating the conditions for a high quality of life. The aim is to improve the population's health in all regions, particularly among the elderly, the socially deprived and the less educated.

Health is our greatest public asset and value. Our tendency to take health for granted has been shattered in the last year by the global coronavirus pandemic. Health systems around the world have been faced with enormous demands in a very short time, which has had an impact on their effectiveness and ability to adapt – a result of organisational issues, as well as past investments and development. The concept of public health care and social security has proved to be extremely important. Unfortunately, the epidemic has also placed a high price on access to a healthcare system which, despite the huge demands placed on it, has always operated as best it can. The issue of health inequalities is not a matter for the healthcare sector alone, but has pronounced socioeconomic dimensions as well. The deepening of social differences brought by the epidemic has had a negative effect on the population's lifestyle, with an increase in psychosocial distress and, consequently, a deterioration in the population's mental health and financial situation. What we can learn from this is that we have to ensure a functioning healthcare system and devote considerably more attention to reducing the risk of health inequalities arising in crisis situations as a result of socioeconomic factors, and to investing in this area when there is no crisis in order to be prepared for the next one.

The National Institute of Public Health (NIJZ) has an extremely important part to play in this area, as it has, for a number of years, recognised the role and impact of health inequalities. Developing programmes and policies to resolve the problem of health inequalities brings together a range of different stakeholders who work together on national and international projects to address the challenges presented by inequalities. Regional and geographical inequalities are being addressed as part of the 'Health in the Municipality' project. For the sixth year we have issued 'health profiles' for each municipality in Slovenia. Numerous projects ('Together for Health', the Model of a Community-Based Approach to Promoting Health and Reducing Health Inequalities in Local Communities), examples of good practice (the School Fruit and Vegetable Scheme) and programmes (Svit) address health inequalities and work towards reducing them. The NIJZ represents Slovenia as one of the 25 countries taking part in the Joint Action Health Equity Europe (JAHEE), whose objectives are to identify and improve scenarios for reducing health inequalities, raise awareness among decision-makers of the challenges associated with inequalities, and improve the activities at national level. The results of the project, which will come to an end this year, will be invaluable in helping us to design new proposals for measures.

By adapting social subsystems and ensuring access to high-quality, timely healthcare and long-term care services, raising the awareness of and educating the population regarding the importance of healthy lifestyle, and reducing risks to human health, we will also reduce the incidence of health inequalities. Providing the necessary services will also reduce inequity, where the aim should be to ensure that everyone receives the care they need without having to wait too long for it. We must therefore realise, at the social as well as individual level, that health is not simply a value and an asset, but a right that should be available to everyone regardless of their socioeconomic status.

Milan Krek, director of the National Institute of Public Health

LIST OF ABBREVIATIONS AND KEY TERMS RELATED TO THE TOPIC OF INEQUALITIES

ADL – Activity of Daily Living
AAD – Alcohol-Attributable Deaths
APC – Annual Percent Change
APG – Household Budget Survey
ARSO – Slovenian Environment Agency
ATADD – National Survey on Use of Tobacco, Alcohol and Other Drugs
ATC – Anatomical-Therapeutic Classification
GDP – Gross Domestic Product
DPOR – National Cancer Control Programme
DZZ – Supplementary health insurance
EEA – European Economic Area
EHIS – European Health Interview Survey
EU – European Union
EU-SILC – EU-Statistics on Income and Living Conditions
FAS – Family Affluence Scale
HBSC – Health Behaviour in School-Aged Children
HESRi – European Health Equity Status Report initiative
IARC – International Agency for Research on Cancer
IBO – Child well-being index
IER – Institute for Economic Research
ICT – Information and communications technology
IRSSV – Social Protection Institute of the Republic of Slovenia
ISRO – Index of changes in child vulnerability
BMI – Body Mass Index
JAHEE – Joint Action Health Equity Europe
MDDSZ – Ministry of Labour, Family, Social Affairs and Equal Opportunities
MIZŠ – Ministry of Education, Science and Sport
MOP – Ministry of the Environment and Spatial Planning
MOSA – Mobilising the Community for Responsibility Towards Alcohol
MoST – Model of a Community-Based Approach to Promoting Health and Reducing Health Inequalities in Local Communities
MZ – Ministry of Health
NIJZ – National Institute of Public Health
NPOSB – National Diabetes Plan
OECD – Organisation for Economic Co-operation and Development
OI RRRS – Institute of Oncology, Cancer Registry of Republic of Slovenia
UN – United Nations
OZZ – Compulsory health insurance
PAF – Population Attributable Fraction
PISA – Programme for International Student Assessment
PRISMA – Preferred Reporting Items for Systematic Review and Meta-analysis Protocols
RIBO – Regional child well-being index
RII – Relative Index of Inequality
SHA – System of Health Accounts
SHARE – Survey of Health, Ageing and Retirement in Europe

SII – Slope Index of Inequality

SI-PANDA – Behavioural Insights Survey on COVID-19: Slovenia

SOPA – Together for a Responsible Attitude Towards Alcohol Consumption

ASR – Age-standardised rate

SURS – Statistical Office of the Republic of Slovenia

SVRK – Government Office for Development and European Cohesion Policy

WHO – World Health Organization

UMAR – Institute of Macroeconomic Analysis and Development

ZPMS – Slovenian Association of Friends of Youth

ZZVZZ – Healthcare and Health Insurance Act

ZZZS – Health Insurance Institute of Slovenia

Equality in health means the absence of differences between different groups of people in terms of their state of health, where these differences are unfair, can be avoided and, if they already exist, can be removed. We talk about equality in health when all individuals are able to achieve their full potential in terms of health and well-being (1).

Health inequalities as referred to in this publication are socioeconomic health inequalities. These are differences between different groups of the population as regards their state of health or the distribution of healthcare resources, and stemming from the social conditions in which individuals are born, are raised, live, work and grow old. Health inequalities are unjust and preventable differences in the health and well-being of people and in the extent to which they are able to access high-quality healthcare services (2). Governments can reduce these differences by employing a combination of suitable intersectoral government policies and measures. Reducing health inequalities is a matter of social justice (3).

Inequalities in access to healthcare relates to the right of every individual, regardless of the socioeconomic circumstances from which they come, to timely, affordable and high-quality preventive and curative healthcare. There are three dimensions to the effect an individual's socioeconomic status has on their ability to access healthcare. The first is the extent of utilisation of healthcare services, the second is affordability, and the third is unmet needs as a result of various barriers to access (e.g. waiting lists) or the poor quality of services (4).

The (education) **gap** in health within a selected indicator means the difference in the value of that indicator for people with the highest level of educational attainment (e.g. post-secondary education or higher) and people with the lowest level of educational attainment (e.g. primary-school education or lower). Gaps can also be calculated in relation to people's income classes and various other socioeconomic categories available for the observed population.

Gender-based differences in health are differences in health that are conditioned by economic, social and societal factors, and that do not derive merely from the biological differences between the sexes. It is important to analyse health inequalities separately for men and women. This is because the inequalities themselves, and their causes, can differ by gender (5).

Geographical or territorial differences in health are differences in health between different geographical areas. It is also important to take into account the age structure of the inhabitants and the socioeconomic factors in play in the area we are analysing. The healthcare indicators of an area being observed may be applied as an approximation or an estimate of the socioeconomic health inequalities when we do not have healthcare indicators to hand for different socioeconomic groups. It is important that the social or societal structure is uniform, and that we take the differences in the age structure of the inhabitants into account (5).

Determinants of health are individual factors (or a combination of factors) that have a positive or negative impact on health. This report focuses on the socioeconomic determinants of health, i.e. factors that we can influence by means of political, economic and personal decisions. By contrast, we are unable to have an impact on determinants or factors such as age, gender and genetic characteristics via decisions of those types.

Protective factors affect health and health-related behaviour by protecting health and, at the same time, preventing and reducing the risk of contracting a certain disease. The classic example is vaccination against a variety of infectious diseases. Protective factors also include a healthy diet (e.g. the Mediterranean diet) or refraining from smoking. Protective factors also include wider mental health factors (e.g. social support and clear guidelines for living, control over one's own life and good relations within the family and social environment), financial security, adequate housing conditions, food security and so on (3), (6).

Risk factors increase the likelihood or risk of the occurrence of preventable health problems and illnesses. These can be socioeconomic in nature, and may also be linked to specific environmental (e.g. air pollution) or lifestyle-related (e.g. smoking) risk factors.

The **social gradient in health** shows how health outcomes are related to socioeconomic status. The gradient shows that health inequalities are not only a question of the gap between the most and least affluent members of society, as it relates to the whole population (Fig. 1.1).

Fig. 1.1: Social gradient of health

Socio-economic status is the relative status of a family or individual in the social hierarchy. It depends on access to assets, reputation and power, and the extent to which control can be exercised over them.

Health in all policies is a concept by which better health and a reduction in health inequalities becomes part of the overall objective pursued by all sectors at various levels through joint integrated policies, strategies and programmes. It is an approach to realising a universal, health-oriented policy, or 'policy of health', which is the long-term, intersectoral and joint responsibility of the government as a whole.

Health outcomes are observed phenomena such as morbidity, disability, mortality, self-assessed health and well-being.

Vulnerability is understood as a relational concept (one that exists between the individual and the wider social, cultural and economic environment), as well as a process that changes from one person to another, differs from one period of life and set of circumstances to another, where one person may be subject to many forms of vulnerability. The individual is situated at the intersection of different individual and social processes (micro, mezzo, macro) that affect vulnerability in health and other areas of human life. Similarly, 'vulnerable groups' are not static or strictly demarcated, but change and overlap. An individual may, at a certain point in their life, be situated in several vulnerable groups at the same time, only to subsequently find themselves outside all of them (7).

The **concept of well-being** is multi-dimensional, which means that it comprises several different areas of well-being (e.g. health, income and assets, housing, social networks, work-life balance, etc.). An individual's specific social, economic and cultural environment, along with subjective indicators, have an important impact on the definition of well-being. This understanding of well-being (and consequently its measurement) has been around since at least the 1960s, or since the appearance of demands for a greater presence of social indicators in assessments of social progress (8). Major international organisations, such as the WHO, the OECD and PISA, and research studies such as Health Behaviour in School-Aged Children (HBSC) and the International Survey of Children's Well-Being (ISCI) acknowledge the important role that subjective indicators play in assessing well-being, and incorporate the subjective assessment of well-being (or satisfaction with life, happiness, etc.) into their well-being measurements.

Long-term care is defined as a series of services or forms of assistance to people who, for reasons of mental and/or physical infirmity and/or disability, are dependent over the longer term on help in performing daily activities and/or need constant healthcare. Daily tasks may be those that the person requiring assistance performs every day (activities of daily living, or ADL, such as bathing, getting dressed, eating, getting in and out of bed or up from a chair, sitting down, moving around, using the bathroom and controlling the operation of the bladder and bowels) or that are associated with independent living (instrumental activities of daily living, or IADL, such as preparing a meal, managing money, buying food or personal items, performing light or heavy household tasks and using the telephone) (9).

The glossary on cancer information, available at SLORA website, may also be used for an understanding of general epidemiological concepts (10).

CONTENTS

1 HEALTH INEQUALITIES IN SLOVENIA – FROM REPORTING ON HEALTH INEQUALITIES TO STUDYING THE IMPACT OF POLICIES ON HEALTH INEQUALITIES

Authors: Mojca Gabrijelčič Blenkuš, Monika Robnik Levart (both NIJZ), Ana Mihor (OI RRRS)

Public health is a socially oriented medical profession that deals with the health of the population. While general public health information gives us a basic insight into a certain population's state of health, the serious challenges faced by specific population sub-groups are only noticed when data on state of health and the different circumstances that affect health are properly disagreggated, mainly by gender, age, region of residence and, in particular, by education and socioeconomic status. This enables us to establish which population groups have particularly unfavourable health outcomes because of their conditions of life and are in an unequal position to that of the general population when it comes to their health. We are referring here to health inequalities and to the ways in which the state should work with all stakeholders to reduce unjust inequalities (1). Health inequalities are today at the heart of the United Nations' Sustainable Development Goals, the first of which, 'No poverty', is linked to the 'Zero hunger', 'Good health and well-being', 'Quality education' and 'Gender equality' objectives (11).

We have been focusing on health inequalities in Slovenia since the turn of the last century. There was a boom in public health, with its social medicine aspects, after the First World War. At the forefront were the Pirc brothers, particularly Ivo, who 'took part in the process of socialising medicine and introduced public health to Slovenia following the Štampar model' (12). Immediately after the end of the Second World War, Pirc also carried out one of the first studies of a social group in a remote rural area, and set out the measures that should be carried out within that group to improve its health (13). In the period following the Second World War, healthcare, social and education systems were designed to enable wide access to the largest majority of population groups, while public health measures tracked the situation and the problems observed within the population. Between 1991 and the crisis of 2008, Slovenia continued to carry out policies that maintained relatively low and stable levels of inequalities and poverty, which meant that it had one of the lowest Gini indices (14).

We could trace health inequalities and their determinants research in Slovenia through the Javno Mnenje (SJM) - Public opinion (15). Direct questions on perceptions of inequalities, mainly through the social determinants of inequalities, were already being introduced into the SJM research tool back in the 1970s. (16). In 1968, for example, people were asked what most divided the Slovenian population, with possible answers including income, living standard and education. In 1980 people were asked to say which of the following was most important: 1) the maximum possible increase in production, even at the cost of increasing inequalities or 2) the highest possible level of equality, even if this meant a slower pace of development. Those questions remain also today some of the most pressing ones, and ones that continue to gain considerable attention. As another example, in 2005 the SJM included the question of how successful the Slovenian government had been in limiting the growth in inequalities.

The NIJZ monitors the unequal distribution of various health phenomena among population groups as a regular part of healthcare statistics. Following encouragement from the international community, and above all because of the increasingly more advanced technical possibilities for securing, combining and processing large databases, we have thoroughly overhauled and updated these statistics in recent years.

In common with other countries, Slovenia has in recent decades transformed its national system for reporting inequalities in health and well-being. We are also committed to do this by the World Health Organization's Political Declaration on Social Determinants of Health, which was adopted in Rio in 2011 (17). The document specifically points out that Member States must start with appropriately modern monitoring of the situation in five harmonised areas of the social determinants of health that depend on political measures. In 2019 the WHO, through its European Office for Investment for Health and Development in Venice, took a major step towards the monitoring of the situation as described with the preparation of the WHO Health Equity Status Report, which was based on a tool for tracking policies with an impact on equality (18), (19). In 2019, Slovenia

was given the honour of hosting the High-Level Conference on Health Equity for the European region, along with the presentation of a report, with the countries involved adopting the Ljubljana Statement on Health Equity. This statement paved the way for the adoption of the Health Equity Resolution at the 69th session of the WHO Regional Committee for Europe in 2019 (20), (21) .

In comparison with other countries, Slovenia today has a sophisticated three-level system of obligatory reporting that contains elements or indicators of health inequalities, or is designed for exclusive reporting on health inequalities:

- since 2007, the Institute for Macroeconomic Analysis and Development (UMAR) has published an annual Development Report, which includes the objective of achieving a healthy and active life for all, as part of the process of monitoring implementation of the Slovenian Development Strategy (22);
- since 2014, the Social Protection Institute of the Republic of Slovenia (IRSSV) has been preparing annual reports on the social situation in Slovenia for the Ministry of Labor, Family, Social Affairs and Equal Opportunities (MDDSZ). for Work, Family, Social Affairs and the Disabled of October 2013;
- the NIJZ is responsible for compiling periodic reports (every four to five years) on health inequalities in Slovenia, as laid down in the Resolution on the National Healthcare Programme 2016–2025 ('Together for a Healthy Society') (for more on this, see below).

In 2016, Slovenia was invited to take part in a WHO technical meeting on the topic of measuring and monitoring social determinants of health. Together with Colombia and New Zealand, it presented the system of monitoring inequalities in the country as outlined above (23).

The first two NIJZ reports on health inequalities were mainly focused on collecting, analysing and presenting data on the differences in health between different groups of the population. The first report was published in 2011 and included, together with the reporting on inequalities in health indicators, an analytical presentation of access to healthcare and conceptual proposals for reducing health inequalities (24). At that time, we were able to present health inequalities in relation to an individual subject of study only in cross-sectional studies such as the EHIS, CINDI and the HBSC. As most routine databases were not equipped with a personal identifier, in the first report (2011) we used data on the socioeconomic status of local communities in which the individuals lived (in relation to income tax base and registered unemployment rate) to show inequalities between inhabitants.

The second report on health inequalities in Slovenia was published in 2018. It outlined changes in the health inequality indicators during the financial crisis and, in line with the WHO guidelines, the first steps were also taken towards describing the impact of intersectoral measures on the expression of health inequalities (25). The second report also contained a detailed analysis of individual vulnerable groups and selected examples of good practice for reducing the gap in health. At the same time, NIJZ researchers realized that while we could describe the situation well, it was significantly more difficult to identify and interpret the measures to which an impact on inequalities could be ascribed. Therefore, prior to the publication of the second report, the NIJZ presented it informally to colleagues at the Institute for Economic Research (IER) and the Social Protection Institute (IRSSV) with the aim of finding joint interpretive solutions. This was possible because all three national institutions worked together closely on the AHA.Si project between 2014 and 2016 when preparing the groundwork for the Slovenian strategy for a longevity society and were well-versed in building multidisciplinary competence and mutual trust. The results of that cooperation formed the basis used by the government's working group at the Institute of Macroeconomic Analysis and Development (UMAR) for the preparation of the Strategy for a Long-Lived Society, which was published in 2017.

For the third NIJZ publication on health inequalities, we sought an even more developmentally minded approach, as we wanted to make advances in our reporting, work in a more multidisciplinary way and, in practice, shift the emphasis of the report away from data to policies. In line with the WHO's Rio Political Declaration on Social Determinants of Health, Slovenia also undertook to 'achieve social and health equity through action on social determinants of health and well-being by a comprehensive intersectoral approach.' Alongside implementation of the Rio approach, we also tested the European Health Equity Status Report (HESRi) tool with the help of and in collaboration with the WHO European Office for Investment for Health and

Development. This tool encourages a shift in focus from describing the problem of inequalities in healthcare to facilitating measures to reduce it. Participation in EuroHealthNet, in which public health institutions, health ministries and key stakeholders work together in the area of health inequalities, health promotion and 'health in all policies' in the European Union, has also assisted us greatly (26). The network provides an insight into the political actions and strategic development of sectors relevant to public health and political bodies within the context of health promotion and health inequalities (e.g. the European Pillar of Social Rights, gender equality, education and inequalities, and many other fields) (27), (28), (29) .

When making preparations for the 2021 report, and to realise its ambitious objective, the NIJZ once again sought the formal cooperation of the IRSSV and IER, two stakeholders that had already taken part in reporting on social inequalities at national level. All three institutions signed a cooperation agreement at the start of the process, and set out a joint plan for short-, medium- and long-term cooperation. The basic assumption was that all the top specialists in each field should be included in the cooperation process so that their findings could complement each other, thereby reducing the fairly frequent problem of everyone working solely within their area of expertise. Through close cooperation at regular twice-monthly meetings, the partners began by designing and presenting policy proposals for discussion in the report (measures based on the European processes of the European Semester and strategic guidelines such as the European Pillar of Social Rights) (30), (31). These proposals were in line with the national priority tasks. At the same time, using the same methodology as the WHO Europe Office's report on health in Slovenia, we analysed how the five basic conditions contributed to health inequalities (in doing so, we joined a group of countries that were testing the HESRi approach).

Active discussions led to an agreement that the policy-related part of the third report would focus in detail on children (IRSSV, topic: child well-being indicators in relation to policies), the older adults (IER, topic: long-term care in relation to policies) and lifestyle-related policies (NIJZ, topic: political measures connected with the harmful alcohol use, with some good practice examples). These are the topics that the partners are also currently actively researching. In the part of the publication that shows the indicators over time, all three partners contributed a final list of indicators to be included; this also gave an insight into the inequalities arising from COVID-19. The report also contains a wide-ranging analysis of vulnerable groups and a preparatory analysis of focus groups for optimal political reach. Participation in the European Union's Joint Action – Health Equity Europe (JAHEE) also took place in parallel with this, and enabled a direct insight into and participation in the development of monitoring, research and measures in the area of reducing inequalities.

A steering committee was established to prepare the third publication on health inequalities in Slovenia in June 2020. It included representatives of the Ministry of Health, the Ministry of Education, Science and Sport, the Ministry of Labour, Family, Social Affairs and Equal Opportunities, and the Ministry of the Environment and Spatial Planning, as well as all three partner organisations and UMAR. It became obvious that cooperation with senior ministerial representatives provided considerable added value, as researchers were able to explain their research work in direct dialogue, while sectoral representatives could ask questions as they arose, guide the work and identify the information that was key at any given political moment to arguments in favour of the best possible political solutions.

It was also evident that, while the implementation of a 'health in all policies' approach enables public health experts, with the support of the healthcare sector, to present their results and content independently to the representatives of other sectors, those experts do not necessarily have sufficient multidisciplinary competencies and, above all, that they lack knowledge of how the various elements interact and of the history of the development of specific areas in other sectors, in addition there is a lack of networking and the required mutual trust is frequently lacking. In the case of the preparations for the third publication, good mutual cooperation among several of the leading sectoral institutions, which were then able to address their views to sectoral representatives more effectively because they did so together, was key to the successful preparation of the review and of the policy recommendations.

The shift from reporting on inequalities in Slovenia based on data to reporting based on the policies affecting inequalities also required a shift in the area of mutual cooperation and the development of a range of different types of capacity. Work on the preparation of the publication was only part of the short-term objectives of cooperation between partner institutions. As a medium-term objective, we envisage the establishment of a joint pilot interdisciplinary Platform of sectoral institutions that could support measures to reduce inequalities in health and well-being, while the long-term objective is to place this Platform within the organisational structure of the government so as to enable the system-wide formulation of policies to reduce health inequalities. The Platform is defined as one of the key measures for enabling Slovenia's recovery and swifter exit from the crisis caused by the COVID-19 syndemic.

INEQUALITIES IN HEALTH AND SLOVENIAN SOCIETY

The National Institute of Public Health's new publication on health in Slovenia takes a close look at inequalities., The inequalities and health needs of individuals, families, groups, local communities and society as a whole are not uniform. Instead, they change and are woven into people's everyday lives in different ways; they also indirectly define the level of health security and social justice that exists in Slovenian society. Indeed, our healthcare achievements are comparable with those countries that have more staff and provide more funding for health. Nevertheless, does the system itself also lead to health inequalities? Accessing healthcare services is becoming more and more difficult, with opaque waiting lists that will, thanks to the COVID-19 epidemic, become even longer. How has the epidemic affected the relationship between healthcare and society? Was the profession sufficiently united when measures were being designed, and have those measures strengthened or reduced society's trust in healthcare? Could the refusal to adhere to preventive recommendations or to be vaccinated against COVID-19 be a sign of new health inequalities? We also have to ask ourselves how our complicated national character and growing social intolerance are affecting social health.

In tiny Slovenia, the health 'gap' between the highest and lowest regions is clear. It is time to ask whether inequalities in the flatlands of Prekmurje need to be resolved differently to those in mountainous of Gorenjska. Do the abilities of the population differ from region to region, or should public health be more tailored in its approach? Quite a few other questions suggest themselves after reviewing the publication, but we have to realise that no person, no society and no health system is perfect, and that health and happiness cannot be given or promised to anyone. When faced with health inequalities, we will always ask ourselves what degree of health is achievable in any given circumstance and still be fair despite the differences.. Even our more socially and economically deprived fellow citizens have needs and abilities to satisfy them. They just need more support to realise it. We would therefore like to see the NIJZ connect the promised intersectoral cooperation with the abilities and active cooperation of every Slovenian resident.

Božidar Voljč, former Minister of Health of the Republic of Slovenia and former member of the WHO Executive Board

The present work provides an insight into health inequalities in Slovenia. In this context, it aims to start a discussion as to whether Slovenia is a just society, and to examine what we need to do to make the community healthier. It is reasonable to assume, and science and the public health profession both prove this, that just (egalitarian) communities are healthier, more stable and last longer than unjust ones. This work makes evidence-based proposals for improving the population's health, and highlights the importance of the social determinants of health and the necessity of introducing social measures to reduce inequalities at all levels of social organisation, particularly in crisis situations.

Because we know that social determinants accompany individuals and the community throughout their lives and determine their state of health, they must be constantly monitored and made the subject of wider-ranging political discussion. In addition to concern for accessible and high-quality healthcare activities (healthcare policy), evidence-based policies also include health promotion, social security and environmental improvement activities (health policy). To improve conditions within the healthcare system, we therefore need a comprehensive (economic, social, environmental) health policy in synergistic development strategy leading to a society of health. Health policy supports the more rapid development of groups susceptible to poor health and, within the context of justice, creates the conditions that enable all members of the community to enjoy equal opportunities for good health and success. Members of the community must trust and believe in social fairness if they are to act according to the rules that bind and maintain it. In this sense, the government is obliged to set measurable healthcare objectives and strategies, manage and upgrade the health information system, establish safety mechanisms for eliminating deficiencies, and operate in such a way as to employ moral and political power to support health policy in all sectors and encourage and respect democratic processes through participation of the public.

This work shows the necessity of incorporating an awareness of the ethics of interdependence in the current complex and dynamic social relations as the way forward for our decisions. The present work convinces us that we need systemic solidarity if, as a community, we wish to achieve better health and take advantage of the benefits that come with well-being.

Marjan Premik, a longtime university teacher of social medicine

2 PRESENTATION OF THE SITUATION WITH THE HELP OF INDICATORS, FOR SLOVENIA AND FOR COMPARISON WITH THE EU

2.1 On indicators of health inequalities

Authors: Tatjana Kofol Bric, Metka Zaletel, Ada Hočevar Grom (all NIJZ)

While health inequalities exist in all societies, we tend to deny their existence, unless we uncover and highlight them. This is broadly the reason why so much effort has been invested in the last three decades in researching suitable methods and defining the indicators that will shed light on one of the most important development-related problems of modern societies (3). There are differences in the health status of different population groups, and we have traditionally observed them in relation to gender, age and geographical area. Many of the differences in health status that are unjust and need to be reduced are caused by socio-economic status of the individual and the environment where people live. The adequate indicator-based evaluation and monitoring of differences in health underpins all strategies for reducing health inequalities at local, national and international level.

The monitoring of health inequalities is a very dynamic field and one that is developing all the time. When we began to study health inequalities in Slovenia, we were aided by methodological handbooks produced in collaboration with leading experts in the field by international organisations that made research into socioeconomic health inequalities the focus of their work in the area of general public health (32), (33), (34), (35), (36). We went on to develop and upgrade the approaches with the aim of showing all dimensions of health inequalities in Slovenia as fully as possible, and particularly those differences that arise because of socioeconomic status.

Individuals' data and internationally comparable categories are used to place those individuals into different groups by typical determinants of socioeconomic status for the purposes of comparison. In NIJZ publications, level of educational attainment is most often taken as the determinant of socioeconomic status. Of all the socioeconomic determinants, this is the most reliable one, or the one most straightforwardly linkable between different data sources (from databases as well as national surveys) where we obtain information on health, healthcare, social security, employment and the population's economic status. We have already shown in previous publications on health inequalities that the level of educational attainment and income match well at national as well as regional level (24), (25).

Using health indicators, we are able to outline the important factors affecting the main causes of death and disease, and help organisations, communities and governments to focus their resources and efforts on improving the health and well-being of everyone. Experts are engaged in a continuous discussion on which factors to choose when examining health inequalities. Studies conducted in Slovenia and abroad have taught us that there are health and disease factors in which we find significant differences in socioeconomic status to the detriment of the less educated and less affluent, as well as factors in which there are no differences in socioeconomic status. We even find instances where the less educated and less affluent perform better.

The indicators for this publication have been selected based on the experiences acquired in the course of working on the two previous publications. At the National Institute of Public Health, we analysed various health and healthcare factors, such as morbidity, mortality, use of healthcare services and known lifestyle factors that affect the health of the population. The thematic areas included represent major public health problems in terms of their prevalence or frequency and their impact on the population's work capacity, premature mortality, the burden for health services, and quality of life in Slovenia and Europe (24). Inter-institutional cooperation has enabled experts who are most familiar with the data and are best able to interpret it to contribute their knowledge to the descriptions of social security, long-term care and accessibility to healthcare indicators. An examination of social indicators suggests an individual's early years are crucial to determining whether they are able to lead a healthy life as they get older. For the purposes of this publication, we have therefore included an extensive set of indicators that illuminate social status in Slovenia. We show indicators of healthcare system accessibility in an extensive way. Despite universal health insurance, some groups find it difficult to access that system.

Placing Slovenia alongside other European countries helps us to assess the extent of health inequalities in Slovenia. To understand how widespread health inequalities between different population groups are, and how significant they are in relation to accessibility to the healthcare system, we need to draw international comparisons between Slovenia and the countries of the EU or OECD in relation to several key health and healthcare indicators. On the other hand, a regional view inside Slovenia can also help us to shed light on health inequalities. In the previous report, 'Health inequalities in Slovenia at a time of economic crisis', we mentioned in the introduction that regional differences in health were an important aspect of inequalities. We therefore also presented a number of regional comparisons that generalised inequalities in health status and healthy lifestyles across a geographical area and examined inequalities through the prism of socioeconomic impacts of the environments in which people live. The 'Health in the Municipality' website contains a detailed presentation of indicators broken down by Slovenian municipalities (http://obcine.nijz.si/).

We show indicators by educational attainment categorised into low, medium and high. Low level of educational attainment cover people with no education and up to vocational education, while high level of educational attainment cover people with tertiary and postgraduate education. Where possible, we have shown the gap between low and high level of educational attainment over a longer time period and tried to assess whether differences in socioeconomic status in Slovenia are narrowing, widening, remaining the same or the trend in gap cannot be defined with certainty.

When we look at health, age is the most important factor affecting outcomes. With lifestyle factors as well, we can observe important differences between age groups but these are often distributed differently to health outcomes. Health outcomes are typically more favourable for younger members of the population, while with some risk factors we notice that the young engage in more risky health-related behaviours. In order to exclude the impact of age as much as possible in comparisons through time and space, we have made use of age standardisation as the normal standard for health outcome indicators and the majority of other indicators addressed.

During the extensive necessary analysis to outline the indicators, we calculated different measures of relative and absolute difference between the groups, the slope index of inequality, and the population attributable fraction. In presenting the data, we opted for a simple presentation of the gap in incidence or prevalence of a phenomenon by group of socioeconomic factors (most frequently education).

We regard the set of indicators presented as a step towards a standard set of selected indicators that will enable us to monitor health inequalities in Slovenia more frequently and over the long term.

improvement during the period observed
deterioration during the period observed
no statistically significant changes or an indefinable trend resulting from a fluctuation in the value or a reversal of the educational gap in the period observed

Indicator	Time trend for Slovenia in total	Low level educational attainment group time trend	High level educational attainment group time trend	Time trend in the gap low/high
Self-assessed good or very good health				
Life expectancy at age 30 – men				
Life expectancy at age 30 – women				
Smoking during pregnancy				
Proportion of women with BMI >= 25 before pregnancy				
First examination after 12th week of pregnancy				
Pregnant woman not undergoing foetal chromosomopathies screening				
Pregnant women (first pregnancy) not attending a maternity course				
Preterm birth				
Low birth weight				
Perinatal mortality of singletons				
Prevalence of tobacco smoking				
Alcohol – heavy episodic drinking				
Physical activity				
Consumption of fruit and vegetables				
Obesity – men				
Obesity – women				
Prescribed antihypertensives – men				
Prescribed antihypertensives – women				
Prescribed diabetes medication – men				
Prescribed diabetes medication – women				
Neck chronic disorder				
Back chronic disorder				
Incidence of all cancers (total) – men				
Incidence of all cancers (total) – women				
Incidence of lung cancer – men				
Incidence of lung cancer – women				
Incidence of gastric cancer – men				
Incidence of gastric cancer – women				
Incidence of breast cancer				
Incidence of melanoma skin cancer – men				
Incidence of melanoma skin cancer – women				
Incidence of head and neck cancers – men				
Incidence of head and neck cancers – women				
Symptoms of depressive disorders – men				
Symptoms of depressive disorders – women				
Seeking help from mental health professionals – men				
Seeking help from mental health professionals – women				
Premature mortality before the age of 75				
Lung cancer mortality – men				
Lung cancer mortality – women				
Mortality directly attributable to alcohol – men				
Mortality directly attributable to alcohol – women				
Adult mortality from injuries caused by accidents				
Mortality of elderly people from falls				
Suicide mortality – men				
Suicide mortality – women				

Fig. 2.1: Trends over time for indicators shown in the publication by educational attainment groups

Indicators in which the trend in the gap between low and high levels of educational attainment is improving - the difference between socioeconomic groups is narrowing

Indicator	Time trend for Slovenia in total	Low level educational attainment group time trend	High level educational attainment group time trend	Time trend in the gap low/high
Self-assessed good or very good health				
Life expectancy at age 30 – men				
Obesity - men				
Neck chronic disorder				
Backk chronic disorder				
Seeking help from mental health professionals – women				
Adult mortality from injuries caused by accidents				

Fig. 2.2: Indicators in which the trend in the gap between low and high levels of educational attainment is improving – the difference between socioeconomic groups is narrowing

Indicators in which the trend in the gap between low and high levels of educational attainment is deteriorating - the difference between socioeconomic groups is widening

Indicator	Time trend for Slovenia in total	Low level educational attainment group time trend	High level educational attainment group time trend	Time trend in the gap low/high
Pregnant women (first pregnancy) not attending a maternity course				
Alcohol – heavy episodic drinking				
Prescribed antihypertensives – men				
Prescribed antihypertensives – women				
Prescribed diabetes medication – men				
Prescribed diabetes medication – women				
Symptoms of depressive disorders – men				
Symptoms of depressive disorders – men				
Seeking help from mental health professionals – men				
Lung cancer mortality – women				
Mortality directly attributable to alcohol – men				

Fig. 2.3: Indicators in which the trend in the gap between low and high levels of educational attainment is deteriorating – the difference between socioeconomic groups is widening

Indicators in which the gap between low and high levels of educational attainment is not statistically significantly changed in observed time period or educational gap fluctuates from period to period

Indicator	Time trend for Slovenia in total	Low level educational attainment group time trend	High level educational attainment group time trend	Time trend in the gap low/high
Life expectancy at age 30 – women				
Smoking during pregnancy				
Proportion of women with BMI >= 25 before pregnancy				
First examination after 12th week of pregnancy				
Pregnant woman not undergoing foetal chromosomopathies screening				
Preterm birth				
Low birth weight				
Perinatal mortality of singletons				
Prevalence of tobacco smoking				
Physical activity				
Consumption of fruit and vegetables				
Obesity - women				
Incidence of all cancers (total) – men				
Incidence of all cancers (total) – women				
Incidence of lung cancer – men				
Incidence of lung cancer – women				
Incidence of gastric cancer – men				
Incidence of gastric cancer – women				
Incidence of breast cancer				
Incidence of melanoma skin cancer – men				
Incidence of melanoma skin cancer – women				
Incidence of head and neck cancers – men				
Incidence of head and neck cancers – women				
Premature mortality before the age of 75				
Lung cancer mortality – men				
Mortality directly attributable to alcohol – women				
Mortality of elderly people from falls				
Suicide mortality – men				
Suicide mortality – women				

Fig. 2.4: Indicators in which the gap between low and high levels of educational attainment is not statistically significantly changed in the observed time period or educational gap fluctuates from period to period

People's health is intimately linked with the social and economic conditions in which they live. Individuals further down the social ladder are at higher risk of several – but not all – serious illnesses and premature death than those closer to the top. Accordingly, socioeconomic deprivation is recognised as one of the important predictors of many cancers. Too many Slovenians and other European citizens with cancer die prematurely every year because of inequalities in outcome between population groups. Tackling social inequalities in cancer is thus one of prime focus for our professional and lay community as well as for the decision makers.

Owing to the Slovenian Cancer Registry, which has been operating within the Institute of Oncology Ljubljana for 70 years, Slovenia has an extremely long tradition of monitoring the burden of cancer and the quality of care for oncology patients. Grounded on the population-based Cancer Registry data this contributed chapter addresses the link between the social environment and cancer in Slovenia. We hope that our work will help national politicians and broader to understand better the inequalities in cancer burden and to drive policy to reduce or eliminate them.

Vesna Zadnik, director of Slovenian Cancer Registry, Institute of Oncology Ljubljana

Studies confirm the exceptional importance of an entire population's health at all stages of life. Health is vital for an individual's inclusion in society, but also for achieving a higher level of economic development, which is essential to ensuring well-being for all generations. Protecting and promoting health must therefore be included in all policies and measures, with particular attention to socially vulnerable population groups.

Marijana Bednaš, director of Institute of Macroeconomic Analysis and Development of the Republic of Slovenia

2.2 Health inequalities – international comparisons

Authors: Metka Zaletel, Tatjana Kofol Bric, Ada Hočevar Grom (all NIJZ), Eva Zver (UMAR)

The state of population health is the result of a complex interaction between a large number of factors. As a result of the higher well-being, less exposure to risk factors, advances in medicine and better access to healthcare, it is improving in all countries of the European Union. The speed of improvements in health and in the reduction in health inequalities depends, in most countries, on investments in health and social security system, better accessiblity to healthcare and health promotion and prevention activities in the country. The most significant cause of health inequalities are general socioeconomic inequalities in society.

In its publication 'Health for Everyone? Social Inequalities in Health and Health Systems', the OECD states that the least educated inhabitants of OECD Member States are more likely to be in bad health – and, moreover, that those people are at least two times more likely to perceive their health as poor than people with at least tertiary education (44% vs. 23%). We see similar results in the limitations in daily activities and in the prevalence of multiple chronic conditions (4).

While health inequalities are a fact, we can see that their dimensions differ from country to country and in different aspects of health. To understand how widespread health inequalities between different population groups are, and how significant they are in relation to access to the healthcare system, we need to draw international comparisons between Slovenia and the countries of the EU or OECD in relation to several key health and healthcare indicators.

Comparisons between Slovenia and the EU in terms of the main health and healthcare indicators

Life expectancy is an indicator that allows us to examine the population health and partly also the performance of the healthcare system at the same time. In the last ten years, life expectancy has increased in Slovenia by 2.1 years to 81.5 years, and more significantly for men (by 2.6 years) than for women (by 1.7 years). In the same period, life expectancy in the EU increased by 1.4 years, and more significantly for men (1.7 years) than for women. The gap in life expectancy between men and women in Slovenia remains greater than in the EU as a whole (Slovenia 5.9 years, EU 5.3 years), although it has narrowed more than in the EU in the last decade.

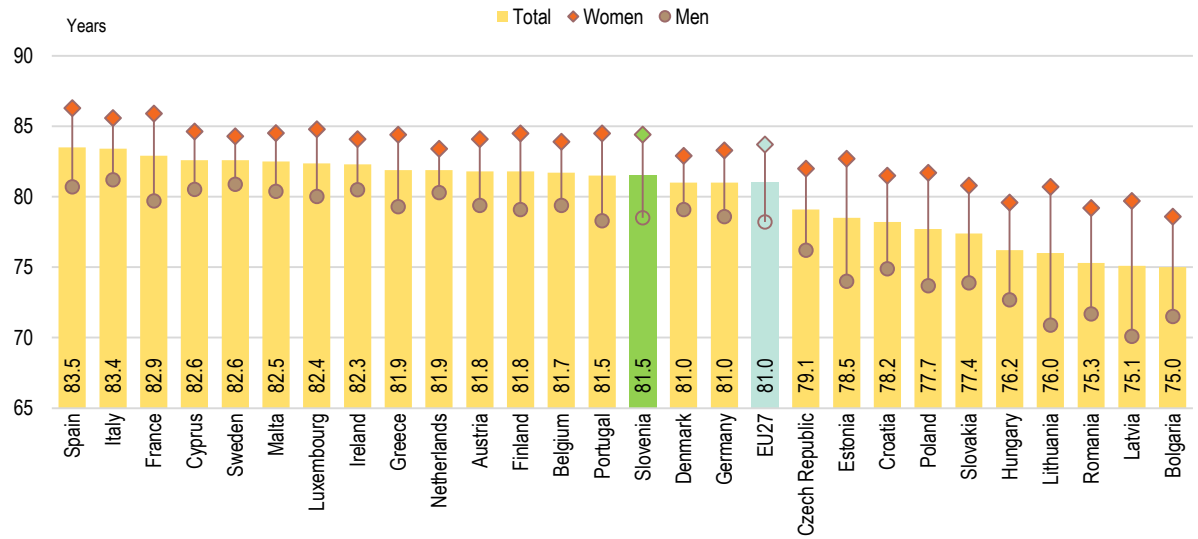

Fig. 2.5: Life expectancy in EU countries, 2016–2018 average

Source: Eurostat Database, OECD calculations.

Increases in life expectancy also depend on spending for the healthcare system. Between 2005 and 2017, the increase in health expenditure in Slovenia was lower in relative terms than the EU average. In Slovenia, health expenditure accounted for 8% of GDP in 2005 and 8.2% of GDP in 2017. In European countries, the share of GDP devoted to health rose from 7.7% in 2005 to 8.3% in 2017 (37). Nevertheless, progress as measured by the increase in life expectancy in Slovenia has been considerable, or comparable with those countries with a similar life expectancy. Countries with a life expectancy five or more years lower than Slovenia have, of course, made more progress. This is because the life expectancy growth curve flattens in all countries after the age of 75. The arrows in Figure 2.6 show the trends in individual countries in relation to investments in health and increase in life expectancy.

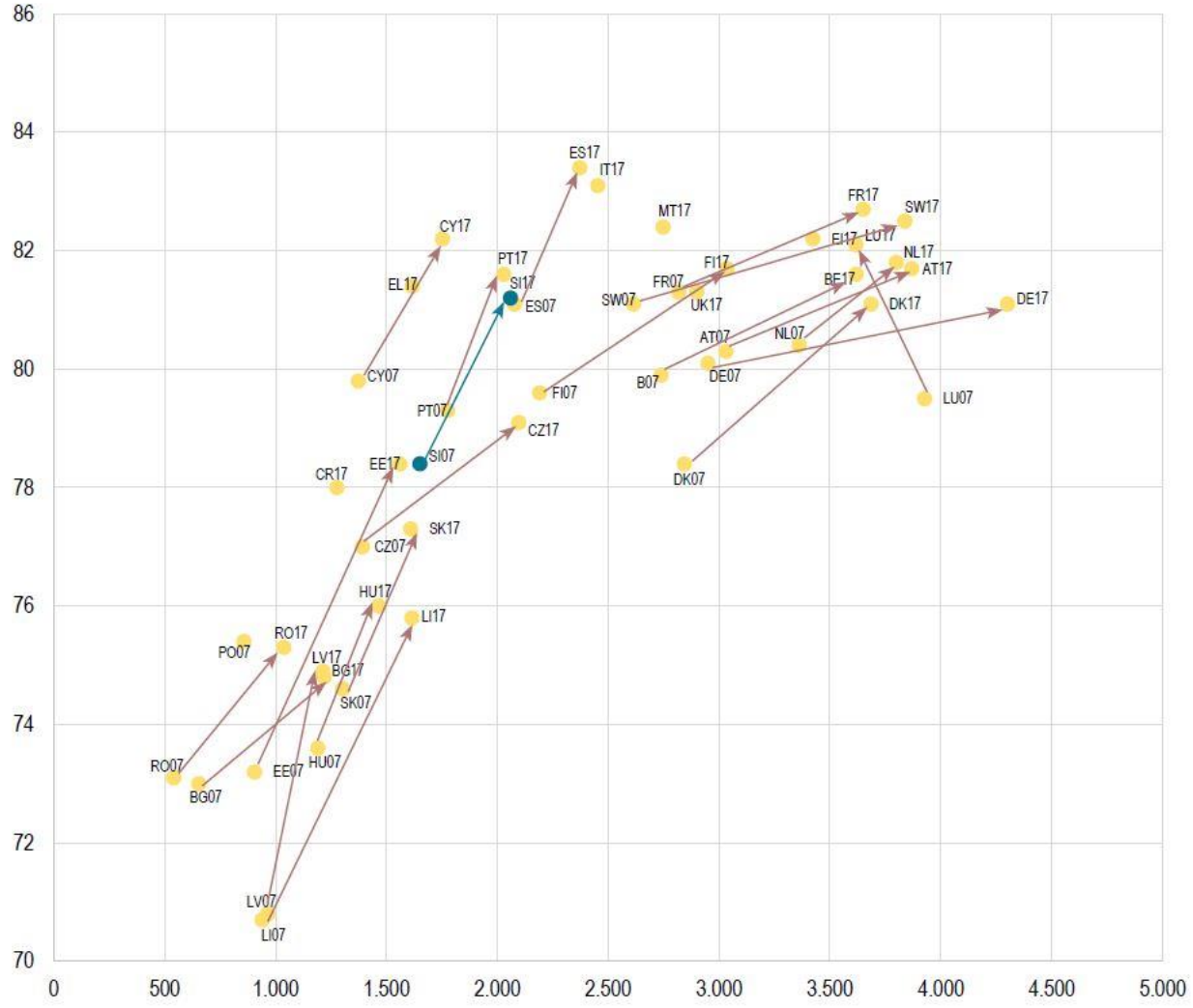

Fig. 2.6: Life expectancy relative to health expenditure by purchasing power parity (2007 and 2017)

We can learn a lot about Slovenia population health when comparing the main causes of mortality with other countries. The age-standardised mortality rates in Slovenia are comparable with the EU-27 average, and the rankings for each of the main causes of mortality (cardiovascular diseases, cancer and respiratory diseases) do not differ from those in comparable countries. However, Slovenia does have one of the highest mortality rates from external causes, which include accidents (road and other accidents), suicide and other similar causes. We can attribute a significant proportion of these mortality rates to suicide, where Slovenia remains one of the countries with a very high burden.

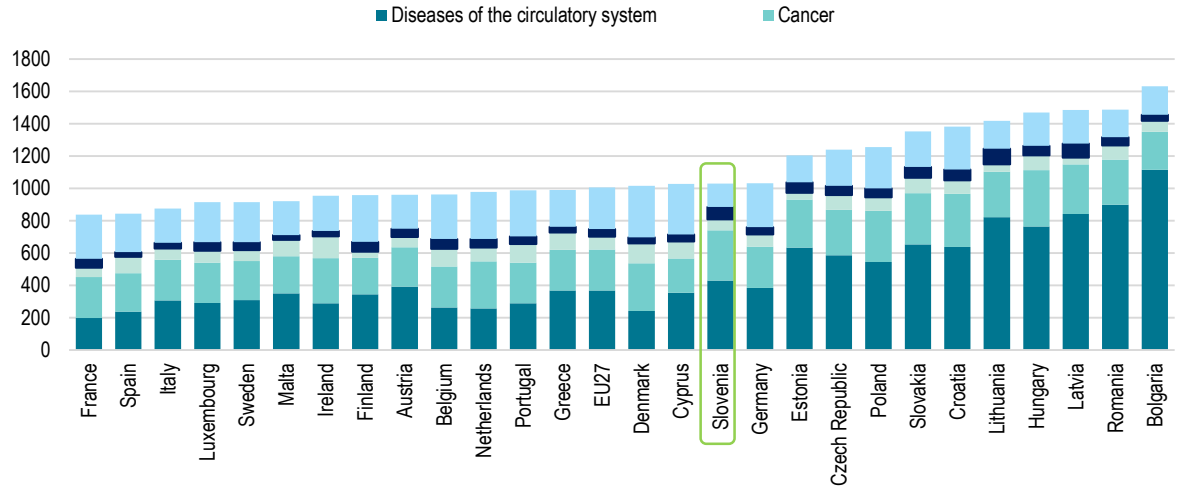

Fig. 2.7: Age-standardised mortality rate by main cause of mortality per 100,000 inhabitants, EU Member States, 2017
Source: Eurostat Database.

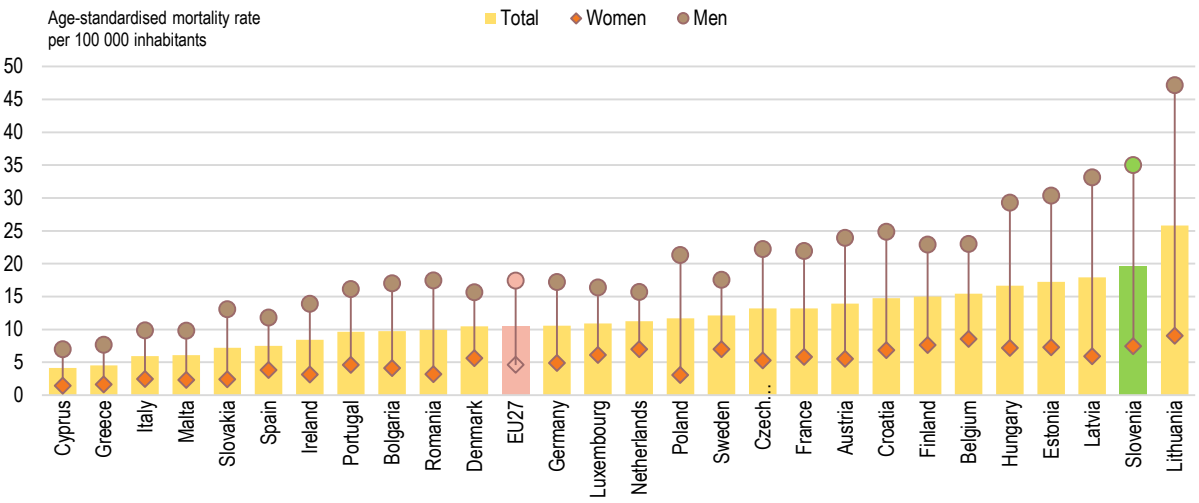

Fig. 2.8: Age-standardised suicide rate per 100,000 inhabitants, EU Member States, 2017
Source: Eurostat Database.

According to a number of different studies, Slovenia is one of the most successful countries in the EU when it comes to infant and child care. One of the most important indicators is infant mortality (number of infant deaths per 1,000 live births), with Slovenia traditionally being among the countries with the lowest infant mortality rates. It is still less than half the European average, and four times lower than the worst-performing Member States.

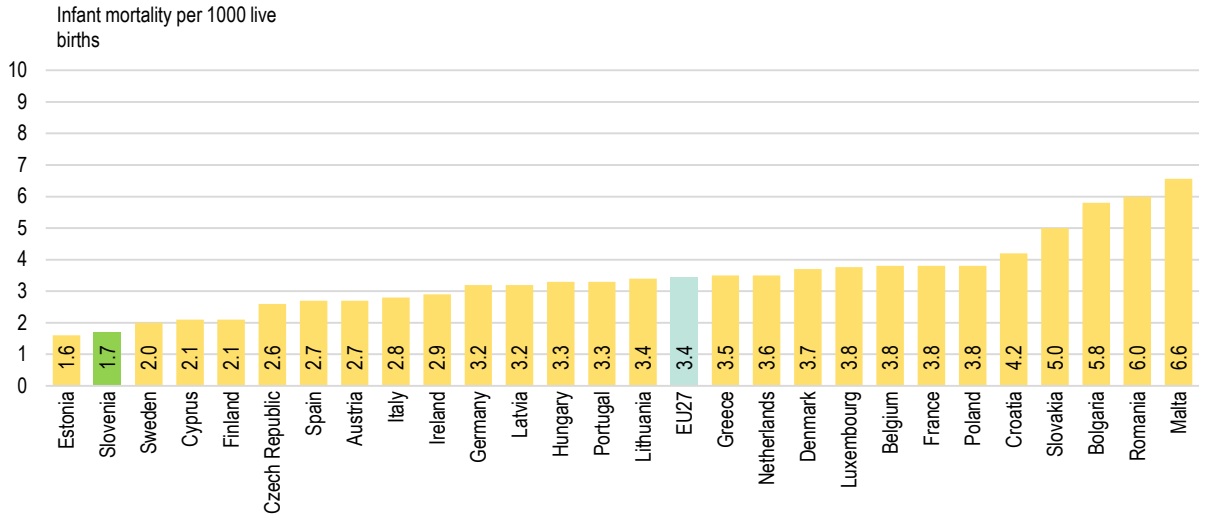

Fig. 2.9: Infant mortality (number of infant deaths per 1,000 live births), EU Member States, 2018
Source: Eurostat Database.

Key to the affordability of healthcare is a low level of 'out-of-pocket' expenditure on health (see indicator *Out-of-pocket payments for health care*), which remains low in Slovenia. While the share taken by all private expenditure on health is roughly at the level of the average for the EU-27 (2018: 27%) (Fig. 2.10), Slovenia differs from most of those countries in the fact that more than half of all private expenditure is covered by the complementary health insurance system (see also indicator: *Expenditure on voluntary health insurance*). This is the reason why out-of-pocket expenditure has remained at around 12% of current health expenditure for the last 15 years. This is significantly lower than the EU average. According to World Health Organization recommendations, direct out-of-pocket expenditure is still acceptable, and presents no risk to the affordability of healthcare, if it does not exceed around 15% (38). The share of final households consumption taken by out-of-pocket spending on health is also very low in Slovenia (1.9% in 2018). At the aggregate level as well, this shows that healthcare in Slovenia is affordable. In Slovenia, the share of expenditure on voluntary health insurance was 15% of current healthcare expenditure in 2018, which is the highest in the EU and significantly higher than the EU-27 average (5% in 2018). Slovenia is one of the few countries in the world where expenditure on voluntary health insurance is higher than out-of-pocket health expenditure (39).

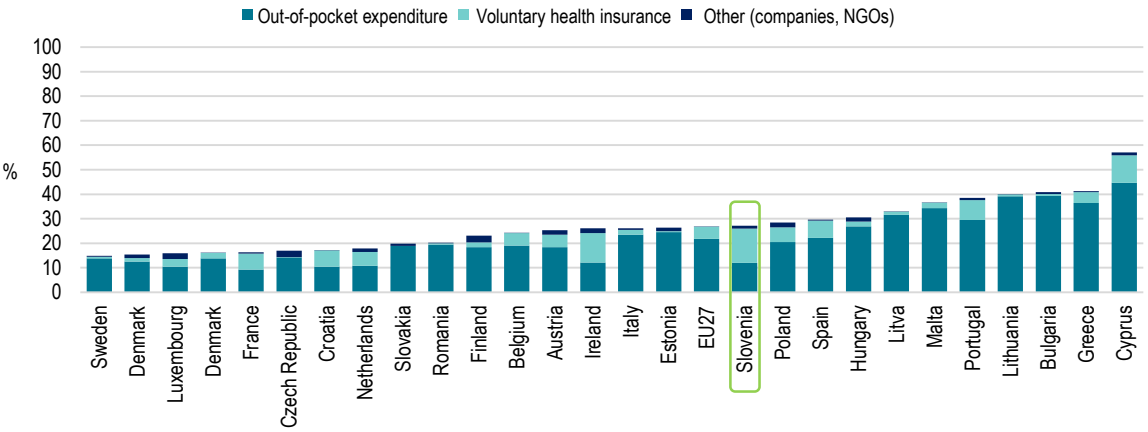

Fig. 2.10: Private health expenditure and its' structure, 2018 (%)
Source: OECD 2020, (40). Note: The EU-27 is the non-weighted average

In Slovenia, the proportion of households faced with catastrophic health spending (see also indicator: *Out-of-pocket payments for health care by households consumption*) remains very low, only 0.8% of the entire population. This is the lowest proportion among those EU and OECD Member States (25) for which calculations are available (Fig. 2.11). In Slovenia, as in the majority of EU countries, households in the lowest income quintile are most at risk of catastrophic health spending.

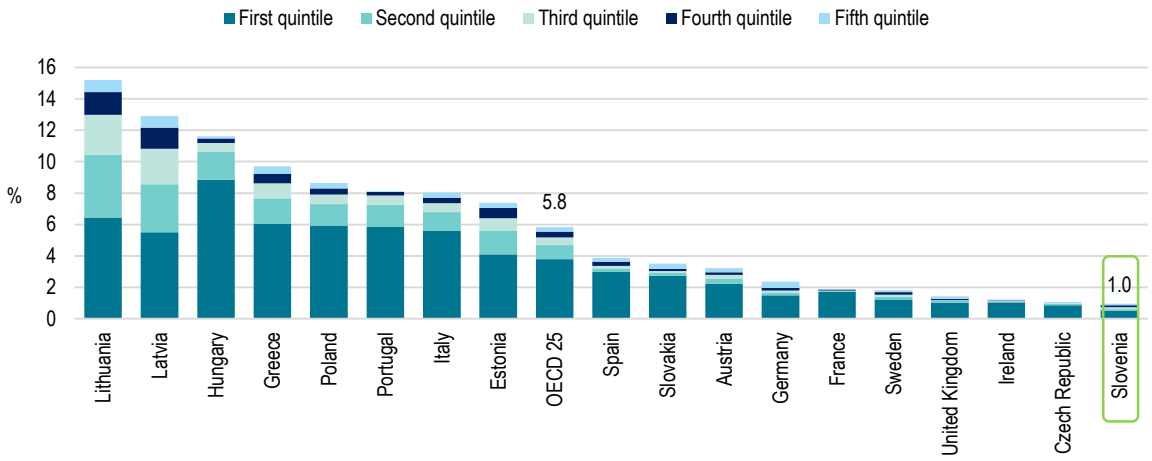

Fig. 2.11: Proportion of households with catastrophic health spending , by consumption quintile, EU countries and OECD 25 average

Source : Thomson et al, 2019 (41) originaly in OECD 2020 (40).

Note: Based on Household Budget Surveys from: 2011: France; 2012: Slovakia, Sweden; 2013: Latvia, Germany; 2014: United Kingdom, Poland; 2015: Hungary, Estonia, Spain, Slovenia; 2016: Ireland, Lithuania, Greece, Italy.

In addition to challenges in healthcare, Slovenia is faced with major problems concerning the affordability of long-term care services, which have been deteriorating for a number of years. Private expenditure on long-term care (this is entirely out-of-pocket and is not covered by complementary health insurance) has increased by 60% in real terms since 2005 (22), (39). Inadequately organised care of the elderly increases the burden on families and the volume of use of healthcare services (see section 3.6: Inequalities in the relationship between the long-term care and healthcare of the elderly). Studies show that increased public expenditure on long-term care ensures greater financial protection of the population against out-of-pocket spending on long-term care and unmet needs (42), (43). Public expenditure on long-term care in Slovenia is increasingly lagging behind the EU average. In 2018, it accounted for only 0.9% of GDP; this compares to an average of 1.3% of GDP for the 22 countries for which data is available (Fig. 2.12).

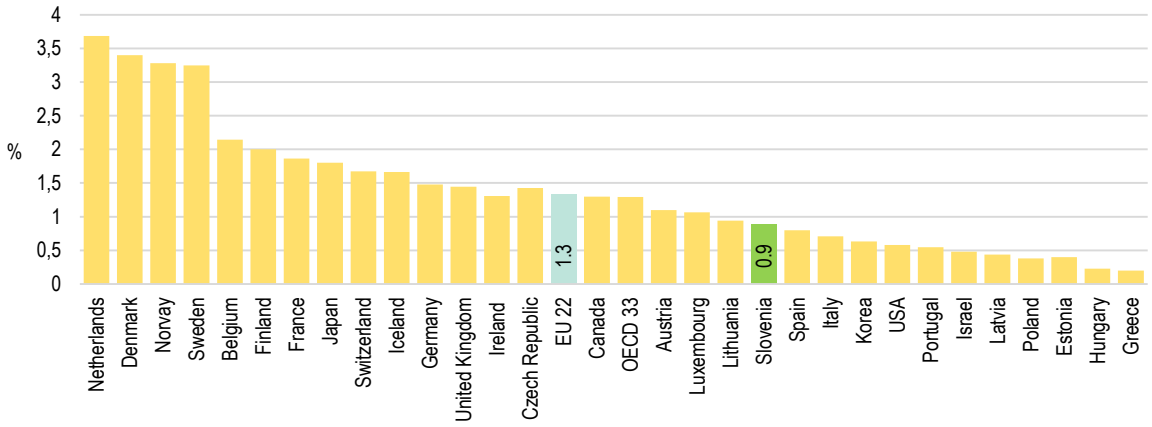

Fig. 2.12: Proportion of public expenditure on long-term care in Slovenia and EU countries, 2018

Source: SURS 2020; OECD Stat 2021.

Unmet healthcare needs are very high in Slovenia, mainly due to waiting times. In Slovenia, 2.3% of the population reports unmet healthcare needs. This compares to an average of 1.7% in the EU. Differences between countries are considerable in terms of the proportion of the population reporting unmet needs, the reasons for them, and income-based inequalities. The main reasons can be financial (high out-of-pocket expenditure), or because of long waiting times or geographical distance (Fig. 2.13). In Slovenia, as in Estonia, Finland, Slovakia, Sweden and the UK, only waiting times are problematic (22). The Slovenian population with the highest and lowest incomes differ only very slightly when it comes to unmet healthcare needs.

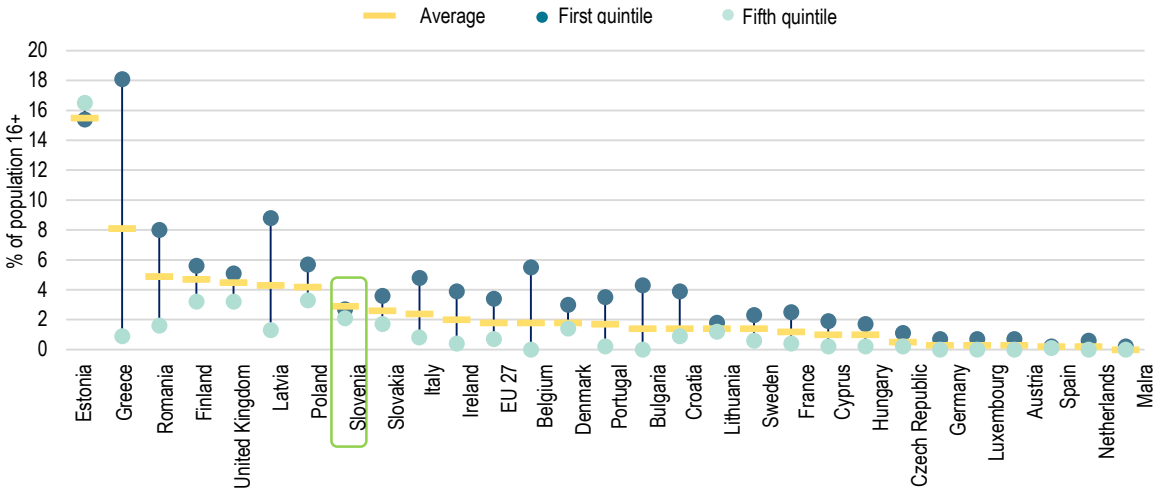

Fig. 2.13: Unmet healthcare needs due to financial, waiting time or geographical reasons, and income inequalities, 2019 (%)
Source: Eurostat Database, 2021. Note: according to the EU-SILC survey.

Comparison between countries in relation to health inequalities

A decomposition of most of the health indicators would show that Slovenia has population sub-groups (by education, income or region) whose health is as poor as it is in the worst-performing EU countries, as well as sub-groups whose health is as good as it is in the best-performing EU countries. We therefore examine the gaps between individual sub-groups and compare them with the gaps in other countries. Comparisons are often hindered by the fact that data is collected in a variety of different ways, and by data that do not allow comparable population decompositions. Nevertheless, we set out a number of indicators below that provide an insight into the size of the gap between population sub-groups in Slovenia compared to other countries.

In the most recent period, two major European publications have been issued that deal with socioeconomic health inequalities: the OECD publication 'Health for Everyone? Social Inequalities in Health and Health Systems', the 'Health Equity Dataset' (a WHO platform) and the WHO report 'Healthy, Prosperous Lives for All: The European Health Equity Status Report (4), (18). We should point out here that, because of the relatively long delays in the processing of international databases, publications such as these always tend to show data for three (and even up to five) years back. We are therefore unable to produce direct comparisons with the data in this publication.

While extensive comparisons between countries in relation to the various indicators cannot be summarised in a single paragraph, we should draw the reader's attention to the dashboard of 14 indicators in the OECD publication (4). The dashboard covers indicators from four groups: risk factors, health outcomes, healthcare utilisation and unmet needs. The list shows that the UK is the only country in Europe whose inhabitants do not experience a critical level of inequality between those with the lowest and highest levels of educational attainment in relation to any of the indicators. Slovenia experiences a critical level in relation to overweight women, self-assessed health, probability of a specialist visit, probability of a dentist visit and delayed/foregone care due to distance (from the place of treatment). Similar indicator values (ranges) can be found in neighbouring and central European countries, although it is worth pointing out that countries show high levels of inequality across a range of very different indicators. For Europe as a whole, we therefore cannot say that some indicators are more and others less critical, as the actual set of critical indicators differs significantly from country to country.

For illustrative purposes, we set out below some of the indicators or gaps between population sub-groups with lower and higher levels of educational attainment by country (those countries where data is available).

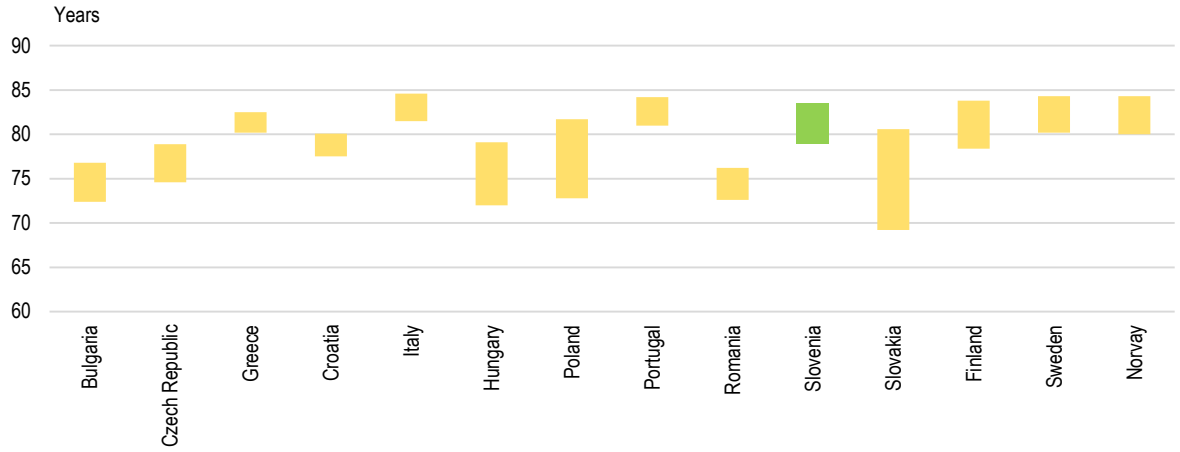

Fig. 2.14: Gaps in life expectancy between people with lower and higher levels of educational attainment, some EU countries, 2017
Source: Eurostat Database.

Gaps in life expectancy between people with lower and higher levels of educational attainment exist in all countries, although there are big differences between them in terms of the size of the gap. In terms of size of the gap, Slovenia is comparable with Sweden, Norway and the Czech Republic, while the gap is narrower in Croatia, Greece, Italy and Portugal.

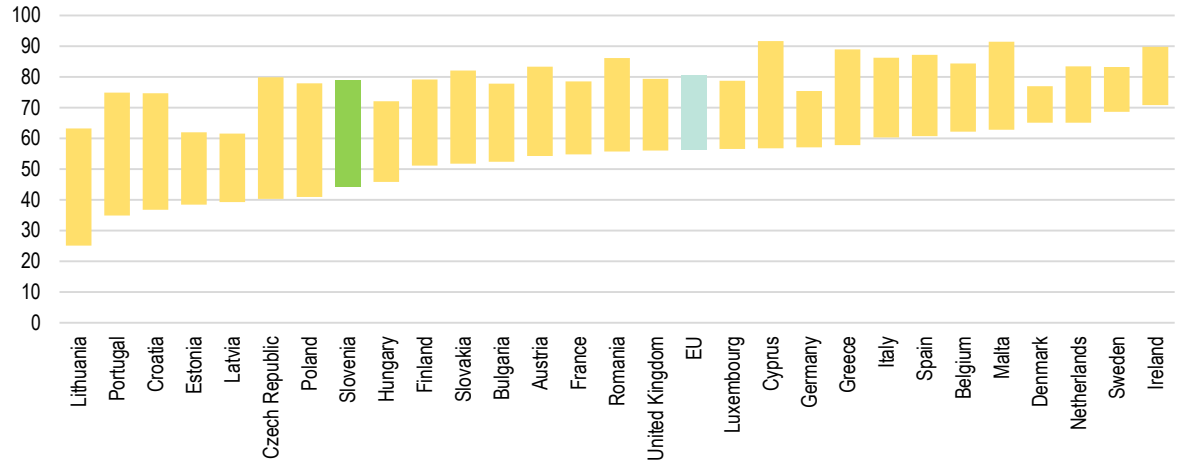

Fig. 2.15: Gaps in self-assessed health (proportion of people who assess their own health as good or very good) between people with lower and higher levels of educational attainment, some EU countries, 2018
Source: Eurostat Database.

The gap between people with lower and higher levels of educational attainment in terms of self-assessed health (proportion of people who assess their own health as good or very good) in Slovenia is among the widest in the EU. According to Eurostat figures and the EU-SILC study, the gap was 34.7% in 2018, with only Cyprus, Poland, Croatia, Portugal, Lithuania and the Czech Republic recording wider gaps. The average gap in the EU is 24.2% (44).

As inequalities in childhood and adolescence have a marked effect in adulthood, it is very important to identify them during early years and take appropriate steps to tackle them. The National Institute of Public Health (NIJZ) takes part in the international 'Health Behaviour in School-Aged Children (HBSC)' survey, where observations on inequalities have become a standard part of the international report (45), (46). A typical example of inequalities among adolescents is that of physical activity, with adolescents from poorer families reporting lower levels of daily exercise in the majority of countries. In Figure 8, we show the proportion of adolescents who undertake at least 60 minutes of moderate to vigorous exercise, separately by gender and the Family Affluence Scale (FAS). On the basis of the FAS, adolescents are divided into three groups: low, middle and high socioeconomic status of the family.

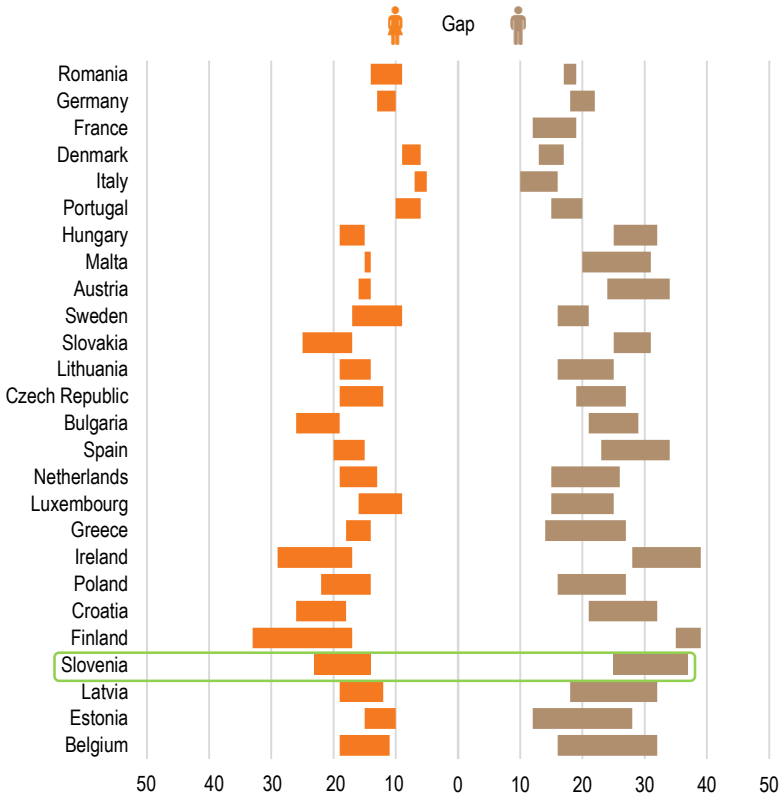

Fig. 2.16: Gaps in the proportion of adolescents with lower and higher FAS scores who have undertaken at least 60 minutes of moderate to-vigorous physical activity in the last week, boys and girls, EU, 2017–2018

Source: Inchley 2020.

Among both boys and girls, the gap in Slovenia is higher than the average gap in other countries, and also higher than the median gap. The differences between the least and most affluent Slovenian adolescents in relation to the indicator of undertaking at least 60 minutes of moderate to vigourous physical activity are therefore greater than they are among their peers in a number of other countries, such as Germany, France, Italy, Portugal, Austria, Slovakia and Bulgaria. Nevertheless, we can also conclude that the proportion of boys in Slovenia who score low on the FAS and who have undertaken exercise for more than 60 minutes in the last week is one of the highest in the EU, and is even higher than the proportion of boys who score high on the FAS in several other countries. The same applies to girls.

Conclusion

In relation to several health indicators, Slovenia retains its traditionally good results (e.g. in infant mortality), while for some other indicators it remains among the worst-performing countries in the EU (e.g. in suicide mortality). In the majority of health indicators, it comes somewhere in the middle (e.g. life expectancy).

Life expectancy at birth is slightly higher than the EU-28 average, while the life expectancy gap between men and women remains higher than that average.

In comparison with other EU countries, Slovenia managed, during and after the economic crisis, to retain relatively good health across the population. This was despite the relatively low levels of expenditure on healthcare. Direct out-of-pocket expenditure on healthcare has been significantly lower in Slovenia than the EU average for the last 15 years. The share of final household consumtion taken by out-of-pocket spending on health is also very low, while the share taken by voluntary health insurance is one of the highest in the EU. There has been a worrying decline in the affordability of long-term care services, with private expenditure increasing by 60% in the last decade and a half.

In relation to socioeconomic health inequalities, and in common with other countries, Slovenia performs well or very well in some indicators (prevalence of chronic diseases, obesity among men, smoking among women, unmet needs due to waiting times) and fairly poorly in others (obesity among women, self-assessed health, visits to specialists and dentists, unmet needs due to geographical distance).

Therefore, if inequalities are to be reduced they must be measured in a way that enables comparisons to be made with all European countries; this would provide a wider overview of inequalities and also facilitate the transfer of good practices from countries that have successfully reduced inequalities. This must go hand in hand with the measures already in place.

2.3 Selected indicators of inequality in Slovenia

We have listed health indicators from health-related lifestyle, diseases and the causes of death to socio-economic status and the accessibility of the healthcare system, shedding light on the current situation and on the most important impacts on socioeconomic inequalities in health. We have outlined the gaps in health going back more than a decade, and tried to assess whether health inequalities are reducing, increasing or staying the same.

2.3.1 Health inequalities through life course

Authors: Ivan Eržen, Mojca Gabrijelčič Blenkuš, Marjetka Hovnik-Keršmanc, Helena Jeriček Klanšček, Blashko Kasapinov, Tatjana Kofol Bric, Helena Koprivnikar, Aleš Korošec, Marcel Kralj, Darja Lavtar, Barbara Mihevc Ponikvar, Ticijana Prijon, Sandra Radoš-Krnel, Maruša Rehberger, Mateja Rok Simon, Maja Roškar, Andreja Rudolf, Matej Vinko, Metka Zaletel, Ana Zgaga, Tina Zupanič (all NIJZ), Ana Mihor (OI RRRS)

SELF-ASSESSED GOOD OR VERY GOOD HEALTH

Authors: Blashko Kasapinov, Metka Zaletel

A health self-assessment is an indicator of one's own personal perceptions of health. It is used on a frequent basis in health, psychological and clinical research. Personal perception of health is supposed to reflect the biological, socioeconomic and psychosocial dimensions of the health of an individual, who determines it by answering a single question. There are many different factors that affect a health self-assessment; these include age, gender, education, material status and social position. It is generally the case that women and people with a lower socio-economic status assess their health more negatively than men and people with a higher socio-economic status.

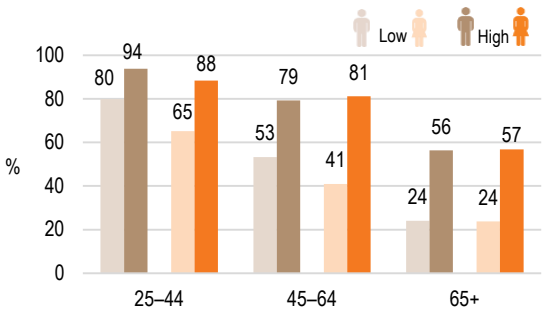

Fig. 2.17: Proportion of people who assess their health as good or very good, by gender, age and educational attainment groups, Slovenia, 2019

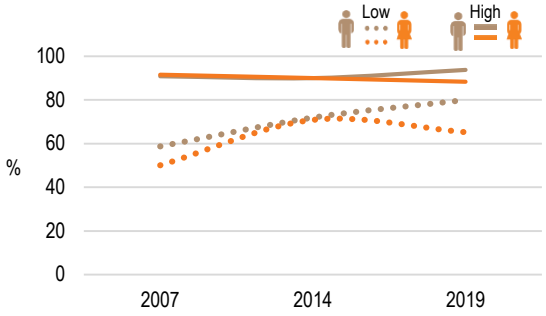

Fig. 2.18: Proportion of people who assess their health as good or very good, 25–44 age group, by gender and educational attainment across three time periods

In Slovenia in 2019, we found, similar as in previous Slovenian studies and studies conducted abroad that a less positive health self-assessment was linked to a lower level of educational attainment (47), (48). The gap in self-assessments of good or very good health between those with higher and lower levels of educational attainment increases with age: in men, from 13.9% in the 25–44 age group to 32.2% in the population aged over 65. Among women, the gap also increases between those two age groups (from 23.2% to 33%) and is widest in the 45–64 age group. Overall, younger men in all educational attainment groups generally assess their health more positively than women, while the differences between the genders narrow in the older age groups.

Trends in the periods observed show that the proportion of individuals who assess their health as good or very good is increasing among men and women alike, and that this increase is happening in all age groups. A gender-based gap nevertheless remains (it was 7.3% in 2019), although it has narrowed in relation to educational attainment (53% in 2007 vs. 43% in 2019). While we can observe a narrowing in the educational attainment gap among men in all age groups, with women it has narrowed only in the 25–44 age group (and there is no change to the trend in other age groups).

Figures show that, between 2007 and 2019, there was an increase in the proportion of population aged 25+ years who assessed their health as good or very good. This indicator places Slovenia at the level of the EU average. Although the gap between those with lower and higher levels of education is narrowing, it is still wide. The gap between men and women remained relatively stable during the periods observed. This gender-based difference is documented in the research and is based on a combination of biological factors and social, gender-related inequalities (49). Although equality is increasing in societies as a whole, persistent inequalities in education, employment and income continue to lead to protracted health inequalities between men and women. Moreover, even countries with greater levels of gender equality fail to produce greater equality in health. Health inequalities by level of educational attainment can be explained by a variety of concepts that focus on behavioural, material and psychosocial factors. Studies have shown that there is a link between health self-assessment, lifestyle-related diseases (e.g., diabetes, high blood pressure), lifestyle habits (e.g., smoking, regular exercise) and obesity (50). The link with mortality is particularly strong, with research showing that people who report poorer health are two or more times more likely to die prematurely in the future (51), (52). Encouraging social inclusion, particularly of people with lower levels of educational attainment, is an appropriate measure for reducing inequalities in health self-assessment. Participation in social activities means physical involvement in society, provides emotional support, gives a feeling of self-worth and belonging, and increases the likelihood of an individual enjoying long-term well-being. This is particularly true of older generations (53).

LIFE EXPECTANCY AT 30 YEARS OF AGE

Authors: Tatjana Kofol Bric, Blashko Kasapinov

Life expectancy is a recent metric that shows how many years of life a person may expect at birth and when reaching a specific age. The calculation is based on patterns of mortality within an observed period and the assumption that these patterns will persist. The three-year averages of mortality rates form the basis of the calculation. As life expectancy differs significantly for men and women in most societies, it is often shown separately by gender and often at birth and the age of 65. When the indicator is decomposed by socioeconomic status determined by educational attainment level life expectancy is usually shown at the age of 30.

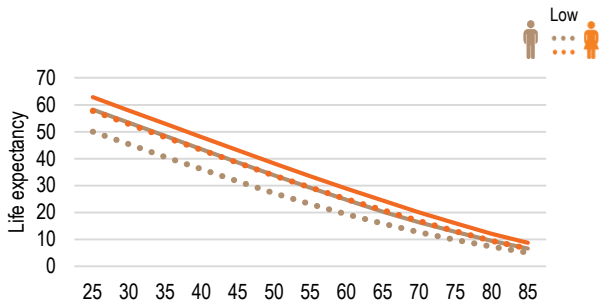

Fig. 2.19: Life expectancy, by gender and educational attainment, Slovenia, 2017–2019

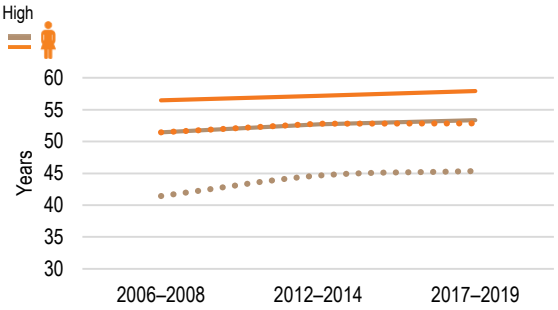

Fig. 2.20: Life expectancy at the age of 30, by gender and educational attainment across three time periods

In the periods observed, the life expectancy of men at the age of 30 increased in all educational attainment groups. When we compare 2012–2014 and 2017–2019 periods, we see that a life expectancy gap of around eight years between those with high and low levels of educational attainment is maintained. This is a marked narrowing of the educational attainment gap recorded in the 2006–2008 period. Life expectancy at the age of 30 is increasing for women, but not in all educational attainment groups. Between 2017 and 2019, life expectancy among women with low levels of educational attainment remained the same as it had been between 2012 and 2014. There has been an increase in the life expectancy of women with higher levels of educational attainment, which has led to widening the gap between the two educational attainment groups to 5.1 years (in 2012–2014 it was 4.4 years and in 2006–2008 it was 5 years).

The life expectancy of women with low levels of educational attainment is almost the same as the life expectancy of men with high levels of educational attainment, although in the last period observed there was a noticeable gain in life expectancy in favour of men with high levels of educational attainment. The premature mortality of men between 60 and 70 years of age with low levels of educational attainment is the biggest contributor to the educational gap in mortality among men, while the mortality of women aged over 85 with low levels of educational attainment is the biggest contributor to the educational gap in mortality among women.

The data for Slovenia shows an increase in the educational attainment gap in women's life expectancy between the two most recent periods observed. When it comes to women's mortality, the difference in educational attainment is spread evenly across all periods of life but increases among the very oldest. We must therefore identify and address the preventable reasons for this widening of the gap among women in terms of access to healthcare and long-term care as well, in addition to the known varying prevalence of healthy lifestyle determinants in the educational attainment groups.

Educational inequalities in life expectancy are generally greater among men than among women, particularly in central and eastern Europe. In 14 European countries in which educational attainment data is available of deceaseda people, the average life expectancy at the age of 30 of men is seven years lower for those with low levels of educational attainment than for those with high levels of educational attainment. The educational attainment gap among women in these 14 countries is, on average, around three years (54). In an analysis of eight health determinants that typically represent different areas of life and of the policies associated with them in selected EU countries it appears that smoking, low income, obesity and under-consumption of fruit and vegetables were the biggest contributors to the educational attainment gap in life expectancy between the ages of 35 and 80. There are significant differences between countries in terms of the importance of those risk factors (55). The varying priorities of countries in terms of measures to increase life expectancy and reduce socioeconomic inequalities are also connected with this.

LIFESTYLE DURING PREGNANCY

Author: Barbara Mihevc Ponikvar

The general health and the lifestyles of women of childbearing age have an impact on the course and outcome of pregnancy. Among the most important factors that can lead to complications in pregnancy and have a long-term impact on a new-born's health are maternal smoking and overweight during pregnancy (56). This section therefore includes details of the proportion of women who smoke during pregnancy and the proportion of women who are overweight or obese (body mass index - BMI of over 25) at the beginning of pregnancy.

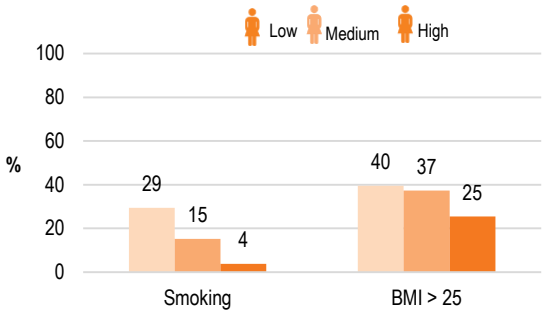

Fig. 2.21: Proportions of smokers and women with a BMI > 25 at the beginning of pregnancy, by educational attainment, 2017–2019

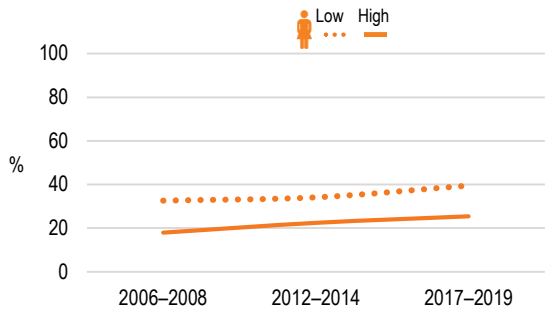

Fig. 2.22: Proportion of women with a BMI > 25 at the beginning of pregnancy, by educational attainment and time period

In the 2017–2019 period, 10.2% of women smoked during pregnancy. The proportion of smokers deline with age: 19.1% in the 24-and-under age group, 9.2% in the 25–34 age group and 8.6% in the over-35 age group. The differences were even greater among women when it came to level of educational attainment (Fig. 2.21); women with the lowest levels of educational attainment were almost eight times more likely to smoke while pregnant than women with the highest levels of educational attainment, while women with medium levels of educational attainment were four times more likely to smoke than those with the highest levels of educational attainment. The gap between the lowest and highest levels of educational attainment group did not change between 2006 and 2019.

In the period in question, we noticed an upward trend in the proportion of overweight and obese pregnant women. Between 2017 and 2019, already 31.2% of women had a BMI of over 25 at the beginning of pregnancy, which was an increase of six percentage points on the 2006–2008 period. This upward trend was present among all educational attainment groups, which means that there was no change in the gap between those with the highest and lowest levels of educational attainment (Fig. 2.22). Between 2017 and 2019, pregnant women with lower levels of educational attainment were, on average, at 56% greater risk of having a BMI of over 25 than women with higher levels of educational attainment (Fig. 2.21). The difference between the two educational attainment groups was lowest among young women aged 25 or under (33% greater risk) and highest among women aged 35 or over (88% greater risk).

Smoking is one of the most important preventable risk factors for complications in pregnancy. There is an increasing amount of evidence of the long-term effects of smoking during pregnancy, such as risk of obesity, behavioural and cognitive impairment, and lung damage. It affects foetal growth and development, and is linked to lower birth weight, intra uterine growth restriction, stillbirth, preterm birth and some congenital anomalies. Overweight and obesity in pregnancy increase the risk of gestational diabetes, preeclampsia, congenital anomalies, stillbirth, intra uterine growth restriction or macrosomia, preterm birth and delivery by Caesarean section; a child's long-term health can also be affected through foetal programming, epigenetic processes and changes to the new-born's microbiome. Possible consequences include obesity, asthma and developmental impairment (56). Lifestyle is one of the mechanisms through which socioeconomic status affects pregnancy outcomes (57). There are significant differences between pregnant women in relation to smoking and overweight if one takes their levels of educational attainment into account. There has been an observable deterioration in comparison with previous years with respect to overweight in particular, although there have been no changes in the gap between the educational attainment groups as regards any of the factors, which shows that the differences are not diminishing. Children born to mothers with lower levels of educational attainment are therefore, on average, exposed to greater risk of long-term consequences even before birth. Health promotion programmes must devote more attention to young women with risk factors, particularly those from under-privileged groups. Targeted programmes, such as smoking cessation or safe pregnancy exercise programmes, are also required. All programmes should be based on the latest approaches and focused on empowerment.

HEALTHCARE DURING PREGNANCY

Author: Barbara Mihevc Ponikvar

Every pregnant woman in Slovenia is entitled to ten preventive examinations. The first should take place by the 12th week of pregnancy. Women who will be aged between 35 and 37 by the time they give birth are entitled to a free prenatal screen for foetal chromosomopathies. All other expectant mothers pay for such examinations. A pregnant mother and one accompanying person may also take part in a Childbirth and parenting preparation course. The indicators we present in relation to the use of healthcare services during pregnancy are the proportion of women undergoing their first examination after the 12th week of pregnancy, the proportion of first-time mothers who did not take part in the Childbirth and parenting preparation course and the proportion of women not undergoing prenatal screening for foetal chromosomopathies.

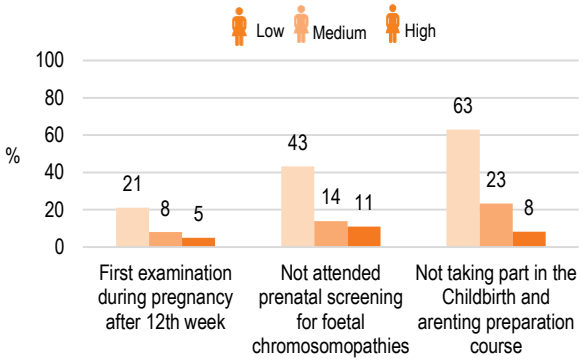

Fig. 2.23: Selected healthcare during pregnancy indicators, by educational attainment, 2017–2019

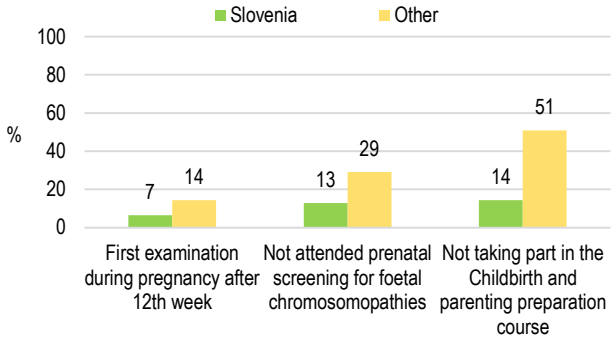

Fig. 2.24: Selected healthcare during pregnancy indicators, by country of first residence, 2017–2019

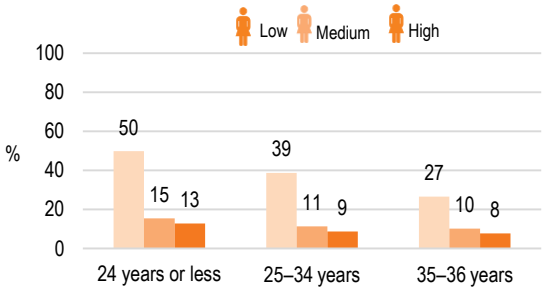

Fig. 2.25: Proportion of pregnant women not undergoing prenatal screening for foetal chromosomopathies, by educational attainment and age, 2017–2019

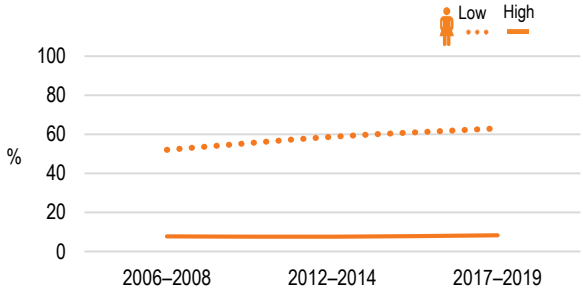

Fig. 2.26: Proportion of first-time mothers not taking part in the Childbirth and parenting preparation course, by educational attainment and time period

The purpose of preventive activities in pregnancy is to protect the health of the mother and foetus through the early detection and treatment of complications, the detection of increased risk of congenital abnormalities, the promotion of healthy lifestyle, and preparation for birth and infant care. Between 2017 and 2019, 8.3% of women (15.8% of young women aged under 25) underwent their first examination later on during their pregnancy (i.e., after the 12th week). A total of 19.6% of first-time mothers did not take part in the Childbirth and parenting preparation course (40.7% of younger women) and 15.5% of pregnant women did not undergo prenatal screening for foetal chromosomopathies. In all three indicators, there were large differences between the educational attainment groups and in relation to the pregnant mother's country of first residence (Figs. 2.23 and 2.24). In relation to prenatal screening, the difference between the educational attainment groups was lowest between 35 and 37 years of age, when the screening is free (Fig 2.25). This shows that the inability to meet the costs of the screening may also contribute to the differences between the educational attainment groups. The proportions of women undergoing a late first examination and not undergoing prenatal screening decline in comparison with previous periods. By contrast, the proportion of first-time mothers who did not attend the Childbirth and parenting preparation course increase, as did the gap between the educational attainment groups (Fig. 2.26). We find a lower take-up of healthcare in pregnancy services among younger women, women with lower levels of education and immigrant women. If we wish to reduce these considerable differences, more effort must be invested in raising awareness among the target groups, tailoring preventive programmes to vulnerable groups of women, and providing free access to all services that make an important contribution to health during pregnancy. Encouraging women and men to adopt healthy lifestyles during the reproductive period, before pregnancy, during pregnancy and after the birth of a child is the sensible and cost-effective thing to do.

PREGNANCY OUTCOMES

Author: Barbara Mihevc Ponikvar

Preterm birth (before the 37th week of pregnancy) and low birth weight (under 2,500 grams) are among the most important causes of infant morbidity and mortality. They are therefore regarded as among the key pregnancy outcomes. The perinatal mortality rate is one of the most important indicators of health and quality of healthcare in pregnancy, during and after birth (56). The indicators we present in this section therefore include: the proportion of preterm born singletons, the proportion of singletons with low birth weight and the perinatal mortality rate of singletons (total number of stillborn babies and babies who die up to six days after birth, per 1,000 births).

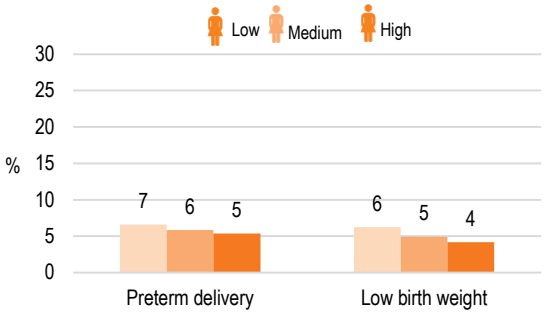

Fig. 2.27: Proportion of preterm births and births of singletons with a birth weight of less than 2,500 g, by mother's level of educational attainment, 2017–2019

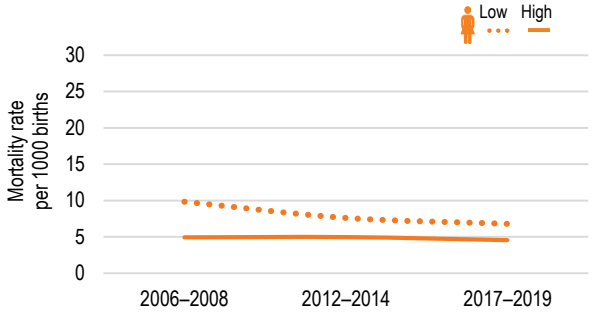

Fig. 2.28: Perinatal mortality rate for singleton births, by time period and mother's level of educational attainment

Between 2017 and 2019, 5.6% of singleton births were preterm and 4.6% of singletons had low birth weight. Among women with lower levels of educational attainment, the risk of preterm birth was 23% higher and the risk of low birth weight 49% higher than for women with higher levels of educational attainment (Fig. 2.27). For women aged over 35, these risks were 51% and 85% higher respectively. The risk of perinatal death of a singleton was 50% higher for mothers with lower levels of educational attainment than for mothers with higher levels of educational attainment, although the difference was not statistically significant. The difference becomes greater (2.4 times) and statistically significant if we exclude artificial termination of pregnancy on account of foetal abnormality. The proportion of preterm births of singletons and of singletons with low birth weight did not change significantly between 2006 and 2019, nor were there any significant changes in the gap between women with lower and higher levels of educational attainment. There was a reduction in the perinatal mortality of singletons in this period, albeit not a statistically significant one. While we find a significant absolute narrowing of the gap in the perinatal mortality of singletons between women with lower and higher levels of educational attainment (Fig. 2.28)), the relative differences are also not statistically significant, given the changes in the age structure of mothers.

Children born preterm are at greater risk of death, morbidity and impairments of their motoric and cognitive development, and of developing chronic non-communicable diseases later in life. Low birth weight is more common among multiple births and preterm births but can also appear in full-term children in the form of intra uterine growth restriction. Children with low birth weight are also at greater risk of poor perinatal outcomes and long-term cognitive and motoric impairment, cardiovascular disease, diabetes and metabolic syndrome (56). We detect a greater risk of preterm birth and low birth weight among women with lower levels of educational attainment. Greater infant mortality among women with lower levels of educational attainment has already been established in earlier studies (24). Similar inequalities are also present in some other developed countries with otherwise favourable perinatal outcomes (58). These inequalities have their basis in structural risk factors, such as low levels of educational attainment and income, immigrant status and residence in deprived areas. The long-term consequences for health present a major challenge to political decision-makers and healthcare systems (59). The needs of socioeconomically deprived pregnant women can be very complex, since these women often encounter numerous challenges, including stress, mental health problems, addiction and exposure to violence (60). It is vital to strengthen obstetric care, which should be tailored to the individual and include aspects of physical, mental, emotional and social care, and to increase the awareness of those working in the field in order to enable them to identify and target care at vulnerable groups of pregnant women. Focus must also be placed on comprehensive programmes of help, which need to be further developed in Slovenia.

HEALTH AND HEALTH-RELATED BEHAVIOURS AMONG ADOLESCENTS

Authors: Helena Jeriček Klanšček, Tina Zupanič

Studies conducted in the last few decades show that adolescents raised in socially and materially underprivileged families are more exposed to poor health and risky behaviours than those who come from the other end of the social and material scale (61), (62), (63), (64), (65), (66), (67), (68), (69), (70), (71), (72), (73), (74), (75). One important international study (Health Behaviour in School-aged Children – HBSC) provides us with an insight into the differences between the most and least materially privileged 11-, 13- and 15-year-olds in relation to the indicators of risky behaviours, lifestyle, and self-assessed physical and mental health (61). A better understanding of inequalities in health and health-related behaviours among adolescents can help us to identify the causes of the establishment and maintenance of health inequalities among adults, the ways in which those inequalities arise and the possible ways in which they can be tackled.

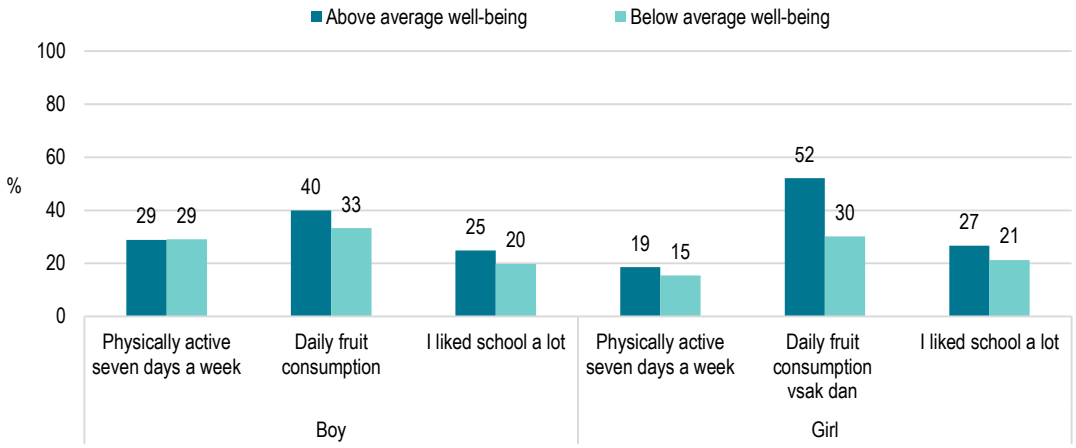

Fig. 2.29: Selected indicators of lifestyle and attitudes towards school in relation to self-assessed financial well-being (above- and below-average) by gender, 2018

Source: HBSC 2018.

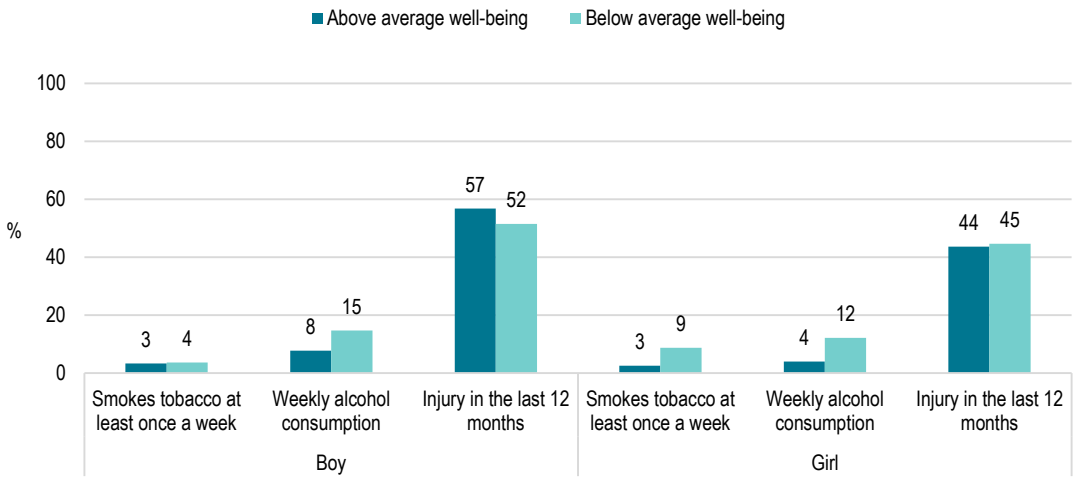

Fig. 2.30: Selected indicators of risky behaviours and injuries in relation to self-assessed financial well-being (above- and below-average), by gender, 2018

Source: HBSC 2018.

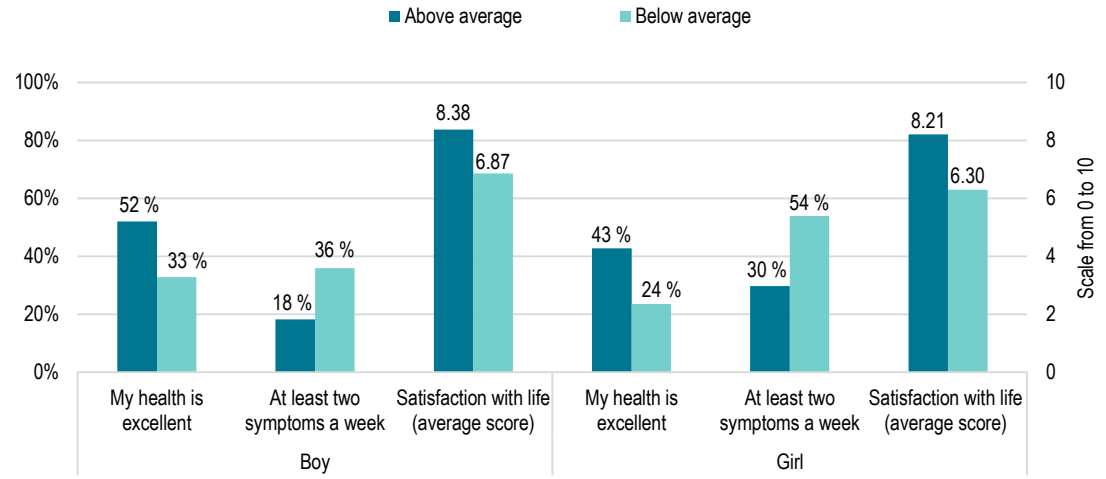

Fig. 2.31: Selected health indicators and average satisfaction with life in relation to self-assessed material well-being (above- and below-average), by gender

Source: HBSC 2018.

Comparisons between the two groups of adolescents with above- and below-average financial well-being from 2018 show that the former are more frequently physically active, eat more fruit, smoke less and drink less alcohol, experience fewer psychosomatic symptoms, and assess their own health and level of satisfaction more positively than the latter (Figs. 2.29 – 2.31). The differences between the two groups are generally significant, except for physical activity and injury, where there are no differences. There are several significant differences between boys and girls in the group of adolescents with above-average financial well-being, and fewer such differences in the group of adolescents with below-average financial well-being.

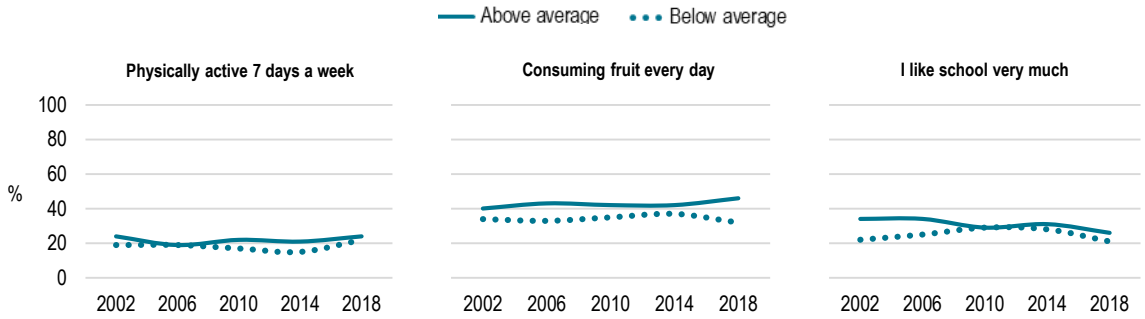

Fig. 2.32: Gap/differences in the percentages for the selected indicators of lifestyle and attitude towards school between 11-, 13- and 15-year-olds with above- and below-average self-assessed financial well-being

Source: HBSC 2018.

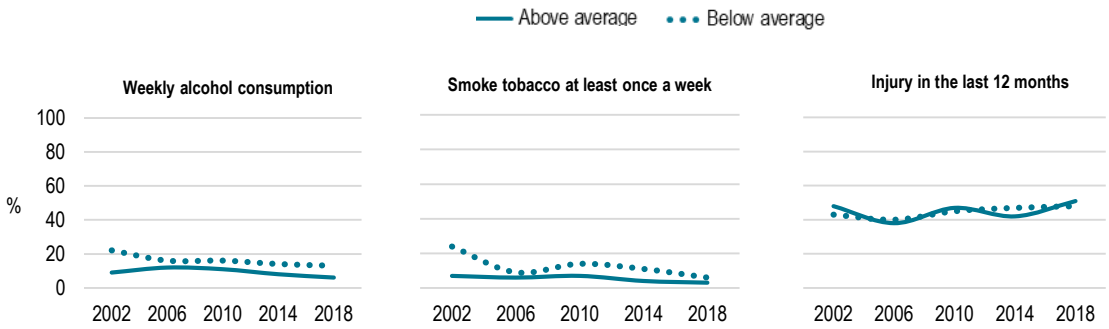

Fig. 2.33: Gap/differences in the percentages for the selected indicators of risky behaviours and injuries between 11-, 13- and 15-year-olds with above- and below-average self-assessed financial well-being

Source: HBSC 2018.

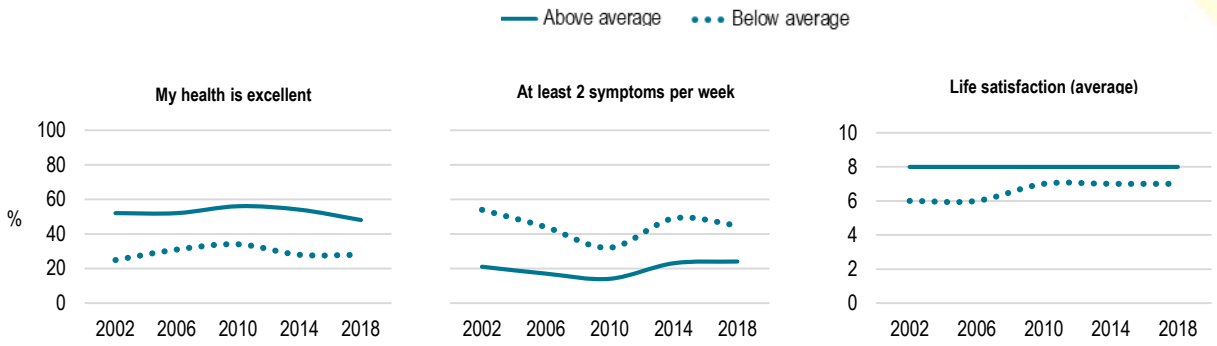

Fig. 2.34: Gap/differences in the percentages for the selected health indicators and average levels of satisfaction with life between 11-, 13- and 15-year-olds with above- and below-average self-assessed financial well-being

Source: HBSC 2018.

Generally speaking, the gaps/differences between adolescents with above- and below-average financial well-being did not increase between 2002 and 2018, with the exception of fruit consumption. The biggest gaps/differences between the above- and below-average groups appear in self-assessment of health as excellent: those with above-average financial well-being are almost twice as likely than those with below-average financial well-being to believe that their health is excellent. There is also a large gap/difference between the above- and below-average groups in relation to the experience of psychosomatic symptoms and level of satisfaction with life. The differences between the two groups are smaller in relation to the other indicators.

A calculation of the population attributable fraction (PAF) in the 2018 study shows that:

- the number of cigarettes smoked per week would be 18.5% lower if all adolescents smoked as much as those in the above-average financial well-being group;
- alcohol consumption per week would be 14.8% lower if all adolescents drank as much as those in the above-average financial well-being group;
- instances of self-assessed excellent health would be 13.5% higher if all adolescents assessed their health as excellent as much as those in the above-average financial well-being group;
- the number of psychosomatic symptoms experienced per week would be 11.5% lower if all adolescents experienced as many psychosomatic symptoms as those in the above-average financial well-being group.

The differences are less than 10% in relation to the other indicators: if all adolescents behaved like those in the above-average financial well-being group, daily fruit consumption would be 7.4% higher, physical activity 6.8% higher, the number of adolescents enjoying school 5% higher and satisfaction with life 4.2% higher.

Despite the positive trend in several health-related behaviours among adolescents in recent years, we can observe significant differences deriving from the socio-economic status of the family (61). Adolescents who assess the financial well-being of their family as above average are more physically active, eat more healthily, and use alcohol or tobacco less often. Reducing inequality in health and in health-related behaviours among adolescents is key to enabling adolescents to lead healthier lives and to reducing health inequalities in later life.

General measures to improve the health of the entire adolescent population include, among other things, promoting adolescents' autonomy in a safe environment, making access to healthy and high-quality food easier, increasing opportunities for sporting activities, maintaining safety in the local environment, and actively involving the community in health promotion programmes, prevention programmes and workshops. As far as alcohol and tobacco are concerned, combining measures has proven to be the most effective approach; these include greater control over the sale of alcohol and tobacco, placing time and age restrictions on purchase, reducing general availability and, in some cases, increasing the price of alcohol and tobacco and reducing their acceptability among the general population (61), (68), (69), (70), (71), (72), (73), (74), (75).

Home and school remain the two main social environments in which adolescents grow and develop. Schools are therefore the ideal environment for changes and promotion of healthy behaviours among individuals from economically under-privileged environments as well. Schools can provide access to healthy food and sufficient exercise and, by strengthening the quality of adolescents' social networks, can promote the benefits of other, more positive health-related behaviours (61), (73). Reducing access to unhealthy food in schools should be a more effective approach than simply offering healthy alternatives alongside unhealthy food (73). Strategies at the family level should be directed towards teaching positive parenting skills, providing psychological education on the role and importance of healthy behaviours, and increasing parents' involvement in school and in communities in which organised activities take place (61), (71), (72).

Another measure is the promotion of high-quality use of leisure time and organised leisure (sports) activities, as adolescents from families with a lower socio-economic status and from single-parent families are involved in such activities to a lesser extent (71), (72). The opportunity to be involved in organised sports or artistic activities, and involvement in youth organisations are linked to a higher degree of psycho-social adjustment and subjective well-being (71). In connection with this, special emphasis should be placed on sports activities, as involvement in sport correlates positively with better health and fewer psychosomatic problems (71), (72), (74), (75). Individuals who come from environments with a lower socio-economic status and are more physically active more often give a higher subjective assessment of their own health than individuals who come from similar environments and are not physically active (74), (75). Adolescents from less privileged environments should be provided with greater access to healthy activities and encouraged to use their free time in a better way. Their parents should also be encouraged to become involved in the organisation of such activities in order to set a good example.

TOBACCO SMOKING

Authors: Helena Koprivnikar, Darja Lavtar, Maruša Rehberger

In Slovenia, as in the rest of the world, the proportion of smokers differs according to socioeconomic status (socioeconomic inequalities in smoking). A higher proportion of people with a lower socioeconomic status (usually indicated by level of educational attainment) smoke, with differences existing by gender and age in line with concept of the 'smoking epidemic'. Inequalities in smoking are a major cause of health inequalities, it is crucial to monitor the situation and design measures to reduce the inequalities (76), (77), (78).

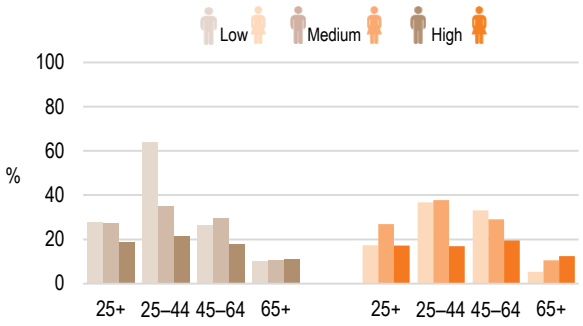

Fig. 2.35: Proportions of smokers (regular and occasional) among the adults aged 25 or over, by gender, age and educational attainment, 2019

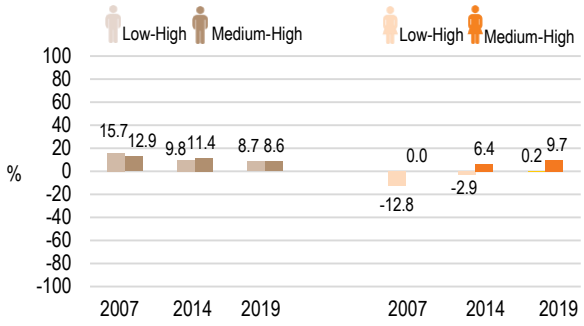

Fig. 2.36: Gaps in the proportions of smokers between low and high levels of educational attainment groups, and between middle and high levels of educational attainment groups, adults aged 25 or over, by gender, 2007, 2014 and 2019

The proportions of smokers differ by education overall, in both genders and age groups (in all cases $p < 0.001$). Among men, the lower proportion of smokers among those with the tertiary education stands out, while among women the proportion is higher among those with secondary education. In both, men and women, inequalities in smoking are most pronounced in the 25–44 age group, in which the proportion of smokers is lowest in the group with the tertiary education. The same applies to women in the 45–64 age group (in all cases $p < 0.05$).

Overall there was no change in the proportion of smokers in all educational groups between 2007 and 2019, but there was a decrease in the proportion of smokers among women with the tertiary education ($p = 0.01$). Among women, the gap in the proportion of smokers between those with the lowest and highest levels of educational attainment (primary vs. tertiary) and between those with secondary education and those with tertiary education changed in different directions during this period: the first decreased absolutely by 13 percentage points while the second increased absolutely by ten percentage points. Among men, there was an absolute reduction in both gaps (by seven and four percentage points respectively).

Significant socioeconomic inequalities in smoking can be observed in Slovenia. Among men with primary or secondary education, the proportions of smokers are 1.5 times higher than among those with tertiary education. Among women, the proportion of smokers among those with secondary education stands out and is 1.6 times higher compared to other educational groups. If the proportion of smokers among all educational groups could be reduced to the level of those with the tertiary education, it would be reduced by a quarter in men and a fifth in women. Inequalities in smoking are most pronounced among the younger inhabitants (25–44), which indicates that inequalities in smoking are likely to increase in future; compared to those with the tertiary education, the proportion of smokers is three times higher than among men with primary education, and two times higher among women with primary or secondary education.

Between 2007 and 2019, the gap in the proportion of smokers between women with the lowest and highest levels of education disappeared, while the gap between those with secondary education and those with tertiary education increased by ten percentage points. The proportion of smokers is now therefore the highest among women with secondary education. Among men, the gap in proportion of smokers decreased by up to seven percentage points.

Reducing inequalities in smoking is key to reducing health inequalities. Measures that reduce inequalities in smoking include raising the price or reducing the affordability of tobacco products, and national smoking cessation programmes that target the higher proportion of smokers with a low socioeconomic status (79), (80), (81). It is estimated that, in the long term, all tobacco control measures probably do reduce inequalities in smoking (82).

ALCOHOL – HEAVY EPISODIC DRINKING

Authors: Marjetka Hovnik-Keršmanc, Maja Roškar

Heavy episodic drinking (HED), which is a highly risky way of consuming alcohol, is an important risk factor for harmful consequences, reducing the well-being of the individual and others. HED is at this site defined as the consumption of six or more units of alcohol on a single occasion at least once in the last 12 month. In many countries, the frequency of HED differs according to socioeconomic status (83), (84). To preserve the health and well-being of the population, it is vital that we monitor socioeconomic inequalities in alcohol consumption, and design measures to reduce them.

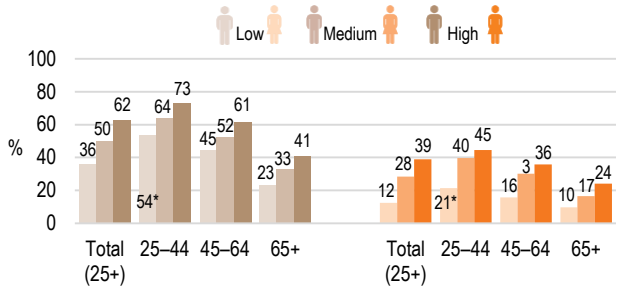

Fig. 2.37: Percentages of people with HED, Slovenian population in total, by gender, age and educational attainment, 2019
*Value is less precise.

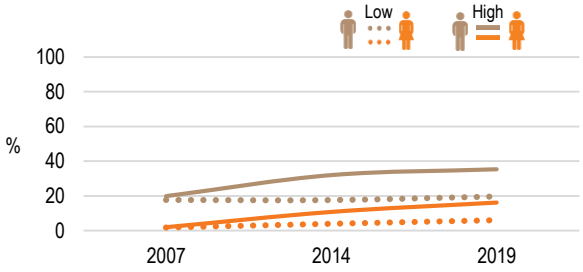

Fig. 2.38: Prevalence of HED in lowt and high educational attainment group, age 25 or over, by gender in 2007, 2014 and 2019

In 2019, 39.5% of people reported HED. The percentage was 1.8 times higher among men than women. The percentages differed, in total, by gender, age and in line with level of educational attainment. For both men and women of all age groups, HED is most common among those with higher levels of educational attainment. Differences in the frequency of HED are most pronounced in the 25–44 age group: the difference between those with the highest and lowest levels of education is 19.7 percentage points for men and 23.1 percentage points for women.

We observed significant gaps in the frequency of HED between those with medium and higher levels of educational attainment and between those with lower and higher levels of educational attainment in 2007, 2014 and 2019. In 2019 the gaps were, respectively, 8.7 and 29.3 percentage points. In 2019 the percentage of people with HED was 2.6 times higher among those with higher education than among those with lower levels of educational attainment. In all years, the gaps in HED between groups of people with different levels of educational attainment were similarly pronounced for men and women (in 2019 the gap between those with lower and higher levels of educational attainment was 26.5% in both men and women).

Between 2007 and 2019, the percentage of people with HED significantly increased as a total and in all age groups; there was also an increase among women and those with higher levels of educational attainment. In the same period, the gap in frequency of HED between those with higher and lower levels of educational attainment increased significantly in both sexes, which indicates an increase in the difference in frequency of HED.

If in 2019 everyone in Slovenia aged 25 or over recorded the same proportion of HED as those with higher levels of educational attainment, that proportion would have increased by 22%; in total the frequency of HED would rise to 61.5%. The aim is for people in all groups to decrease HED (or not to drink alcohol at all).

There are significant differences in HED in Slovenia, which is most common among the younger age groups and those with higher levels of educational attainment. Nevertheless, researchers point out that the harmful consequences of drinking alcohol are more pronounced among those with a lower socioeconomic status, even though they drink the same or even lower quantities of alcohol (the ‘alcohol-harm paradox’. Several different factors could contribute to this (e.g. other lifestyle factors, poorer access to healthcare services and other forms of help, and stigma). (85), (86), (87). It is important that efforts to reduce alcohol-related harm are directed to the population as a whole and that measures be adopted to reduce inequalities. Such measures include limiting the availability of alcohol (e.g., by raising prices, introducing a minimum price, reducing the consumption of unregistered alcohol) and the advertising of alcoholic beverages, raising awareness, identification and help to people who drink hazardously, while simultaneously implementing other effective alcohol policy measures, particularly those targeted at reducing intoxication (88), (89)

PHYSICAL ACTIVITY

Author: Mojca Gabrijelčič Blenkuš

Sufficient exercise is one of the key factors in protecting health, it reduces all-cause mortality and is linked to reduced incidence of cardiovascular diseases, type 2 diabetes and some forms of cancer. It is also linked to better mental and cognitive health and sleeping, and can increase social integration. The World Health Organization recommends that adults take at least 150–300 minutes a week of regular moderate to intensive exercise or at least 75–150 minutes a week of intensive exercise (Fig. 2.40) (90).

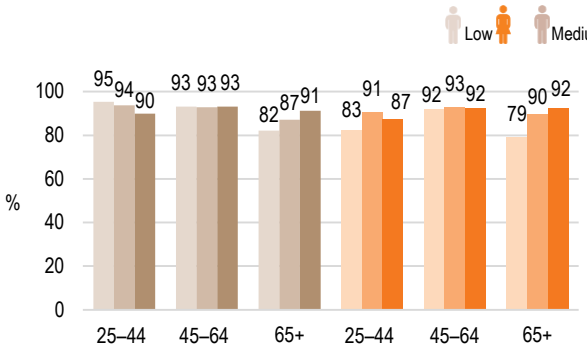

Fig. 2.39: People physically active in line with WHO recommendations, by gender, age and educational attainment, 2019

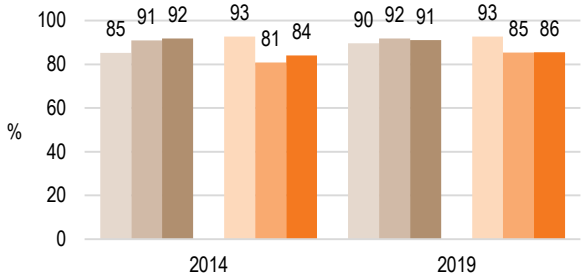

Fig. 2.40: People physically active in line with WHO recommendations, by gender and educational attainment, 2014 and 2019

In 2019, just over 90% of Slovenian inhabitants answered 'yes' to the question 'Are you on average physically active every day for at least 30 minutes or for a total of 150 minutes a week?'. This was one percentage point more than in 2014, which is cause for satisfaction. The differences between men and women were not significant in 2019, with just over nine in ten men and just under nine in ten women answering 'yes' in both years of the survey. Typically, the most physically active are those in the 45–64 age group (92.7%) and the least physically active are those with primary school education or lower (85.6%). However, among the oldest age groups of both sexes the most physically active are those with the highest levels of education and the least physically active are those with primary school education. In 2019, the most physically active members of the oldest male age group were those with higher education and the least physically active were those with primary school education, although the differences are not significant. In 2019, the proportion of people with higher education or more who were physically active was 4.5 percentage points higher than it was for people with primary school education or lower. The gap between the lowest and highest levels of educational attainment did not change between 2014 and 2019.

In Slovenia, large numbers of people are, on average, physically active for at least 30 minutes a day or a total of 150 minutes a week, including activities at work, everyday tasks and recreation. While this is encouraging, we are assessing the situation based on the lowest recommended amount of physical activity, which includes daily tasks. Therefore, in future we could measure exercise that takes longer and is more intensive, and pay particular attention to sedentary lifestyles. For a variety of reasons, we sit down for longer these days. This is, on its own, a risk factor for the development of chronic diseases. WHO recommends that adults limit the amount of time they spend sitting down during the day (90). To increase benefits to health, periods spent sitting down should be alternated with periods of physical activity of whatever level of intensity. In such cases, the WHO recommends that adults try to take more daily and weekly exercise of moderate to high intensity than is recommended if they wish to enjoy a positive impact on their health. Enough physical activity s a factor that indirectly increases the number of healthy years of life, which is a basic objective of the Slovenian Development Strategy Up to 2030, the Strategy for a Long-Lived Society and the 'Together for a Healthy Society' resolution. They significantly reduce the burden of disease and the economic costs incurred by a number of sectors; above all, they increase the quality of life of the population as a whole (91). Given that, during the first four waves of the SI-PANDA research study (NIJZ, 2021), almost half of the adult population reported that they were less physically active than they had been before the COVID-19 pandemic, the differences in the physical activity levels of different population groups will have to be carefully monitored and further measures planned to increase physical activity and the population's physical capacities (92).

CONSUMPTION OF FRUIT AND VEGETABLES

Author: Mojca Gabrijelčič Blenkuš

The daily consumption of fruit and vegetables is an important part of a healthy diet. To improve general health and reduce the risk of certain diseases, the World Health Organization recommends the consumption of more than 400 grams of fruit and vegetables per day across all meals (93), (94). The inclusion of fruit and vegetables in a person's diet can reduce the risk of certain chronic diseases, including cardiovascular diseases and certain cancers, and could prevent weight gain and reduce the risk of obesity. Moreover, they are a rich source of vitamins and minerals, dietary fibre and numerous beneficial non-nutrients, such as plant sterols and flavonoids.

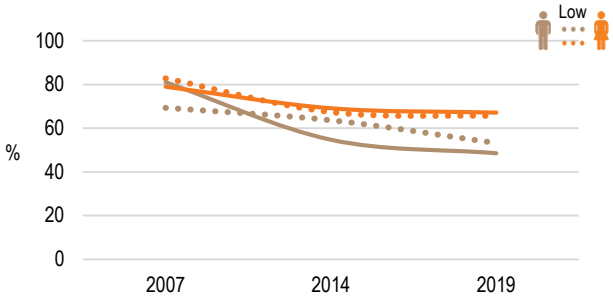

Fig. 2.41: Proportion of people over the age of 25 who consume vegetables at least once a day, by gender and educational attainement, 2019

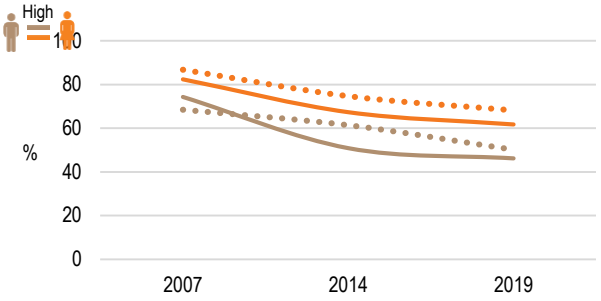

Fig. 2.42: Proportion of people over the age of 25 who consume vegetables at least once a day, , by gender and educational attainement, 2007, 2014 and 2019

In the period observed, the consumption of fruit and, more particularly, of vegetables fell among men and women in all educational attainment groups. Women eat more fruit and vegetables than men. The educational gap in the consumption of vegetables is changing significantly, but in reversed directions in 2014 and 2019, in relation to 2007. In 2014 and 2019, vegetables were consumed more often by men with lower levels of educational attainment. This is a reversal of the gap seen in 2007, when it was men with higher levels of educational attainment who consumed vegetables on a more frequent basis. The biggest fall in vegetable consumption can be seen among middle-aged men with higher levels of educational attainment (aged 45–64). Among women, the differences in vegetable consumption between educational attainment groups are less pronounced and vary by age.

We can see an increase in the educational attainment gap in terms of fruit consumption primarily between 2007 (1.7%) and 2014 (9.9%), with a slight reduction in that gap between 2014 and 2019 (7.5%). Although fruit consumption is falling in all educational attainment groups and among both sexes (except in 2014 among men with lower levels of educational attainment), the gap is increasing mostly on account of a fall in consumption among men with higher levels of educational attainment (and among women as well). Only among men aged over 65 do those with higher levels of educational attainment consume more fruit

It has been estimated that, every year, 3.9 million deaths worldwide can be attributed to insufficient consumption of fruit and vegetables (94). Based on calculations, it was also estimated that, at a global level, 14% of deaths from gastrointestinal cancer, approximately 11% of deaths from ischemic heart disease and approximately 9% of deaths from stroke could be attributed to insufficient fruit and vegetable intake. Figures from 2002 for Slovenia show a similar picture (11% cancer, 11% ischemic heart disease and 6% stroke) (95), (96).

There was an increase in fruit and vegetable consumption in Slovenia in the years up to 2010, when activities under the first national food policy programme were fully under way (97). The 'Dober tek, Slovenija 2015–25' programme (6 Dober tek SL) contains ambitious intersectoral objectives (7 Dober tek SL 10): to increase the consumption of fruit (at least once a day by 5%) and vegetables (at least once a day by 10%), with a special emphasis on vulnerable socioeconomic groups, and to reduce the differences between the sexes (98), (99). We see that fruit and vegetable consumption has fallen in the last ten years among young people and adults alike. If the effectiveness of measures in a certain area is to be maintained, those measures must be continually and actively upgraded on an intersectoral basis. The EU's Beating Cancer Plan, whose objectives also include an increase in the inclusion of plant-based foods in the diet, with particular focus on increased consumption of fruit and vegetables, has great potential to intensify policies in the area of food and diet (100). Alongside this, the European Commission highlights the importance of including lower socioeconomic and vulnerable groups in healthy lifestyle activities. Support for activities at EU and national level together is provided by EU's new F2F (Farm to Fork) strategy, too.

OBESITY

Author: Mojca Gabrijelčič Blenkuš

Excessive weight and obesity are defined as the excessive accumulation of fat leading to a deterioration in health. BMI is used to categorise excessive weight and obesity among adults. It is defined as a person's weight in kilograms divided by their height in metres squared (kg/m2): People who are overweight have a BMI of 25 or over, while obesity is defined as a BMI of 30 or over. BMI is a useful measurement because it is the same for men and women and for all ages in adulthood. However, it must be taken as a rough measurement because individuals with the same BMI might not have the same type and degree of overweightness or obesity (101) (Fig. 2.44).

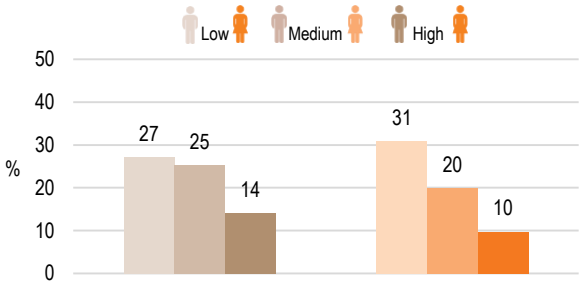

Fig. 2.43: Proportion of obese people (BMI > 30), by educational attainment and gender, 2019

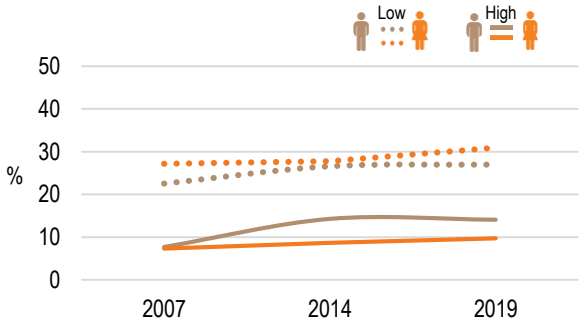

Fig. 2.44: Proportion of people with a BMI of 30 or more, by gender and educational attainment, 2007, 2014 and 2019

Between 2007 and 2019, obesity in the Slovenian population rose significantly, with significant increase also being seen among men. In terms of educational attainment, the most significant increase was seen among those with secondary school education (from 19.2% in 2007 to 23% in 2019). Obesity is lowest among those with higher levels of educational attainment, lower among women than men, and highest among those with lower levels of educational attainment (where it is lower among men than among women). In 2019, the proportion of people with a BMI of over 30 was 18 percentage points lower for those with higher education than it was for those with lower levels of education. If the whole population had the same level of obesity (as measured by BMI) in 2019 as those with the highest levels of educational attainment or the most privileged group, the level of obesity in the population as a whole would be 44.9% lower. Between 2007 and 2019, the trend in relation to obesity was towards a narrowing of the gap between the educational attainment groups, more on account of men than women. The proportion of people with obesity among those with lower levels of educational attainment was 3.41 times higher than the proportion of people with higher education in 2007 (2.45 times higher in 2014 and 2.54 times higher in 2019).

According to the WHO, there are significant socioeconomic differences in Europe and Slovenia when it comes to the distribution of obesity between population groups (102). In Europe, inequalities in educational status can be attributed to 26% of the obesity among men and 50% of the obesity among women. As our data shows, people from lower socioeconomic groups are two to three times more likely to become obese, and are therefore at greater risk of developing type 2 diabetes and ischemic heart disease and of suffering from strokes. A large portion of premature mortality and loss of years of healthy life in lower socioeconomic groups can be explained by diseases linked to obesity. According to the OECD, excessive weight and the chronic diseases associated with it reduce life expectancy in OECD countries by an average of 2.7 years. In the next 30 years, OECD countries will spend 8.4% of their health budget on treating the consequences of excessive weight (103). Theoretically, almost half of this amount could be saved if the obesity of the general population could be brought down to the level of obesity found among those with the highest levels of educational attainment. Excessive weight reduces a worker's employability and productivity, particularly in lower educational attainment groups. Economic losses include healthcare costs, the costs of lost or reduced productivity at work, lost working days, mortality and permanent disability. Due regard should also be paid to the wider socioeconomic impact of obesity, for example the increase in social transfers. Owing to these factors, obesity reduces GDP by an average of 3.3%, in OECD countries as well as in the EU-28.

HIGH BLOOD PRESSURE

Author: Blashko Kasapinov

Treating high blood pressure involves lifestyle changes and drug-based treatment. As hypertension is one of the strongest predictors of cardiovascular risk, treating high blood pressure is an important way of preventing cardiovascular morbidity. This indicator shows the ratio between the number of people who received at least one drug prescription to lower their blood pressure in the calendar year observed and the total population in the middle of that year by level of educational attainment.

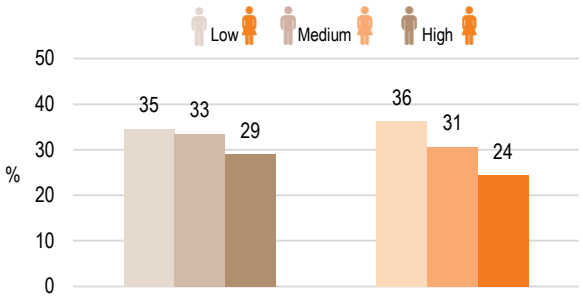

Fig. 2.45: Share of recipients of high blood pressure drugs aged 25 or over, by gender and educational attainment, 2019

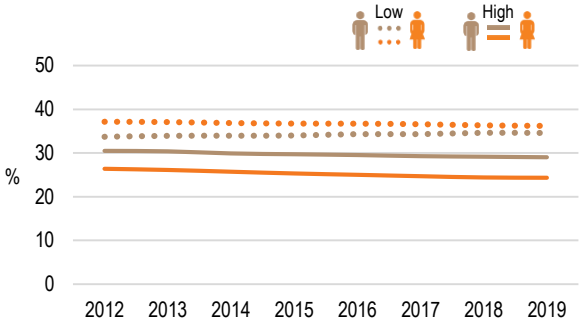

Fig. 2.46: Trend in the share of recipients of high blood pressure drugs aged 25 or over, by gender and educational attainment, 2012-2019

In 2019, 32.7% of men and 30.8% of women in Slovenia aged 25 or over received at least one prescription drug to treat high blood pressure. The proportion of recipients increases with age among men and women alike. There is an educational gradient in both sexes that shows that the proportion of recipients of drugs falls as the level of educational attainment gets higher. Between 2012 and 2019, the proportion of drug recipients to reduce high blood pressure increased among men with lower levels of education, and fell among men with higher education and among women of all educational attainment groups. This has led to a widening of the gap between men with low and high levels of educational attainment from 3.2% to 5.5%. The gap is wider among women than men. The fall in the proportion of drug recipients was greater among women with higher levels of educational attainment, which meant that the gap between women with low and high levels of educational attainment increased further (from 10.8% to 11.9%). The drug prescriptions to men and women aged between 60 and 64 and with lower levels of educational attainment contributes the most to the educational attainment gap in high blood pressure regulating drugs among both men and women.

High blood pressure (or arterial hypertension) is a disease and, at the same time, one of the most significant risk factors in the occurrence of chronic diseases, particularly cardiovascular diseases, which are the leading cause of death and premature mortality in the world (including Slovenia). Unhealthy lifestyle (smoking, excessive salt intake, insufficient consumption of fruit and vegetables, excessive alcohol consumption, excessive weight and obesity, insufficient exercise) has a significant impact on increasing blood pressure. Research shows that lower socioeconomic status, particularly lower levels of educational attainment, increase the incidence of high blood pressure (104). Our data shows that a greater proportion of the population with lower levels of educational attainment are treated with anti-hypertensive medication, which reflect the higher prevalence of hypertension in this particular educational attainment group. Slovenian data on hospitalisations, mortality and premature mortality from cardiovascular diseases shows that while the rate declined between 2012 and 2019, a significant educational gap remains, as all rates are higher among men and women with lower levels of educational attainment. While most of the excess mortality can be explained by the presence of known risk factors among those with lower levels of educational attainment, improvements to adherence to a regular regime of appropriate drugs is exceptionally important if anti-hypertensive treatment is to be effective and for preventing sudden cardiovascular events (105), (106). It is important to monitor actual use of medication in the general population as research highlights the importance of socioeconomic inequalities, i.e. the level of awareness of hypertension, treatment and successful management of blood pressure within normal limits is higher among more affluent individuals (107), (108).

DIABETES

Authors: Ivan Eržen, Aleš Korošec

This indicator is defined as the number of people who have ever been diagnosed as having diabetes and who have taken drugs to reduce their blood glucose levels in the last 12 months (ATC: A10). This includes all types of diabetes. The source of the data is the Health Insurance Institute's database of medications prescribed, which provides information on the use of prescription drugs by the relevant individuals. In line with the methodology set out in a separate sub-section, this data provides information on the prevalence of use of medications within different population groups, broken down by gender and level of educational attainment.

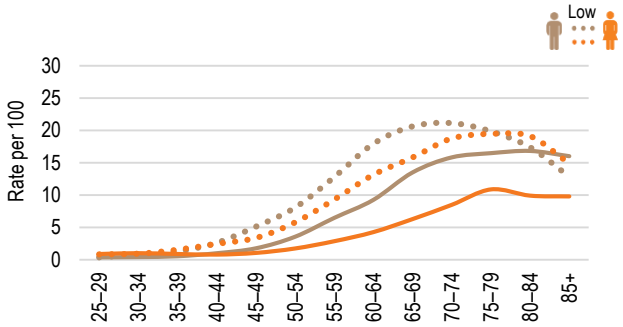

Fig. 2.47: Prevalence of diabetes, by educational attainment and age, 2019

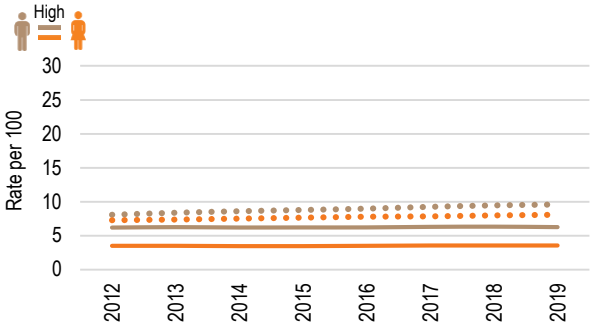

Fig. 2.48: Trend in diabetes, by gender and educational attainment

The ASPR for diabetes among men with lower and medium levels of educational attainment is similar (Fig 2.47). However, the latter are, on average, around five years older when they encounter diabetes. The age-standardised prevalence rate is significantly lower among men with higher education. The disease starts between five and ten years later in this group, and is significantly less common than in the other two groups. Diabetes appears differently in relation to education among women than it does among men (Fig. 2.47). In all age groups there is a clear significantly greater morbidity among women with lower levels of educational attainment, and there is slightly lower prevalence among women with medium levels of educational attainment. The likelihood of developing diabetes increases more quickly among men with lower levels of educational attainment than among those with higher education (Fig 2.48). There has been a noticeable widening of the gap between those with lower and higher levels of educational attainment. Over an eight-year period, the likelihood of developing diabetes has increased by 30% among men with lower levels of educational attainment. In relation to the likelihood of developing diabetes, the trend is towards a widening of the gap among women as well (Fig. 2.48), with that gap having increased by 20% over an eight-year period. It is characteristic of the female population that the differences in the prevalence of diabetes between those with lower and higher levels of educational attainment are greater than they are among men.

The data presented is otherwise slightly deficient as it does not include all individuals with diabetes, and is limited only to those who have received treatment to regulate their blood sugar levels. Nevertheless, there is reason to trust the trend in the occurrence of diabetes because the method of obtaining data remained the same throughout the entire period observed. Women develop diabetes at a later stage of life than men. This naturally affects the ASPR for diabetes, which is considerably lower for women than men. Moreover, women (and especially women with higher levels of educational attainment) are almost half as likely to develop diabetes as men. The age-standardised prevalence rate is 2.6% for women with higher education and 4.8% for men. Researchers from other countries have reported the same findings (109). From the point of view of measures, it is important for particular attention to be focused on men in the forthcoming period, in the areas of both disease prevention and early detection (110).

NECK CHRONIC DISORDER

Author: Ticijana Prijon

Neck pain and other chronic neck disorders are the second most common musculoskeletal disorder (MSD). These diseases are generally the consequence of the protracted, repetitive and ostensibly moderate use of force that causes muscle fatigue and the degenerative impairment of the cervical spine (111).

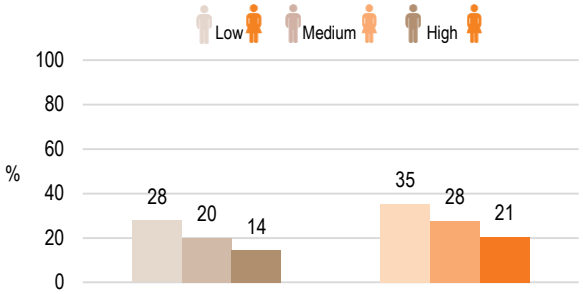

Fig. 2.49: Proportion of people with neck chronic disorder, by gender and educational attainment, 2019

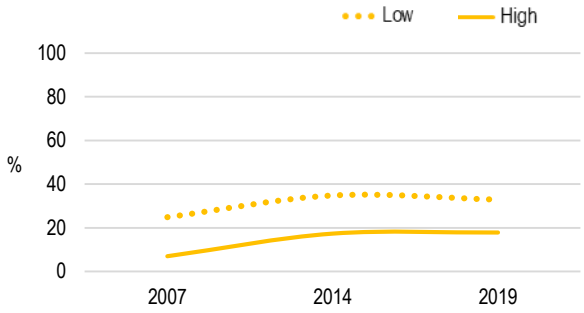

Fig. 2.50: Proportion of people with neck chronic disorder, by educational attainment, 2007, 2014 and 2019

The proportion of people suffering from neck pain or another chronic neck disorder has risen sharply in recent years. By 2019, the prevalence of MSD of the neck across the population as a whole had increased by 68% in comparison with 2007 (from 14% to 24%), with significant differences being observable between men and women. The proportion of men with pain and other chronic neck disorders increased by more than 100%. This figure was just under 49% among women. In the period observed, the highest increase in prevalence was recorded in the 25–44 age group (an increase of nearly 200%). There was a 66% increase in the 65+ age group. The incidence of MSDs of the neck is increasing mainly among people with the highest levels of educational attainment. In 2007, the proportion of people suffering from neck pain and other chronic neck disorders among people who had completed primary school education or lower was 3.5 times higher than among people who had completed post-secondary education or higher. In 2019, it had been only 1.8 times higher. Owing to the significant increase in MSDs of the neck among those with higher levels of educational attainment, the gap between the most highly educated and the lowest educational attainment group of the population narrowed significantly in the period observed. As with back disorders, the biggest upward trend among people suffering from neck pain or another chronic neck disorder was detected among men aged between 25 and 44 who had completed post-secondary education or higher.

Neck pain and other chronic neck disorders are among the most common work-related MSDs. Many mechanisms affect their development and, in combination with risk factors, place excessive strains on the cervical spine and cause structural and functional impairments. The most significant non-work-related risk factors for the occurrence of MSDs of the neck are age and gender. Although the incidence of pain and other chronic neck disorders is significantly higher among women, we have noticed an increase in these disorders mainly in the male population in recent years. The differences between men and women are most likely the consequence of the characteristics of the work performed by women and, to a lesser extent, of differences in body structure (112). Pain and other chronic neck disorders often appear as a result of protracted periods of sedentary work, in work in forced postures with heavy mechanical loads placed on the neck and in work involving frequent repetitive motions. A lack of commitment to ensuring an ergonomically designed workplace and to adhering to the guidelines on the correct way of working and on occupational health and safety increases the risk of the occurrence of MSDs of the neck (113). Similarly to other MSDs, the incidence of MSDs of the neck has increased in recent years mainly among the younger population and among people with the highest levels of educational attainment. We can link these changes in the prevalence of chronic neck disorders to the growth in sedentary work and the increased amounts of leisure time spent in front of the television or a computer screen.

BACK CHRONIC DISORDERS

Author: Ticijana Prijon

Spinal pain or other chronic back disorders are the most common type of musculoskeletal disorder (MSD), with between 25% and 45% of the adult population per year reporting pain or another chronic back disorder, and between 70% and 80% of people having these types of health problem at least once in their lives. Figures showing that MSDs of the back are the most common cause of absence from work among the population aged over 45 and the second most common reason for visiting a doctor are an indication of the scale of the problem (114).

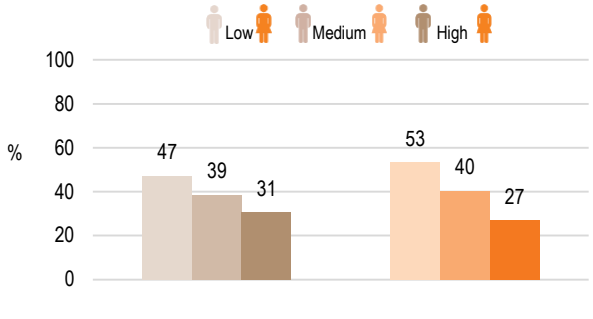

Fig. 2.51: Proportion of people with back chronic disorders, by gender and educational attainment, 2019

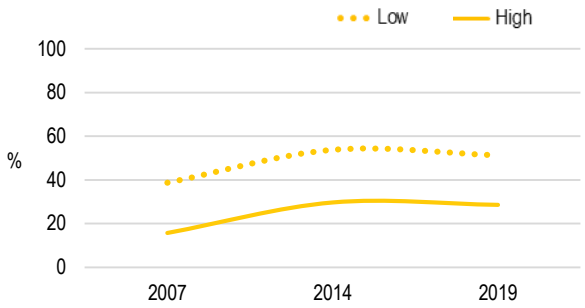

Fig. 2.52: Proportion of people with back chronic disorders, by educational attainment, 2007, 2014 and 2019

The figures show that the incidence of pain and other chronic spinal disorders has been on the rise in recent years, with fluctuations observable between specific years. The prevalence of MSDs of the back increased by 51% in 2019 relative to 2007 across the whole population (from 29% to 39%). The prevalence of back disorders increased by 60% among men and 43% among women, with the proportion of people suffering from pain or another chronic back disorder also increasing in all age groups. The highest increase was seen in the 25–44 age group, where the prevalence of MSDs of the back more than doubled (from 12% to 26.1%). In the period observed, the incidence of chronic back disorders increased mainly among people with higher education. In 2007, the proportion of people suffering from back pain or other chronic back disorder among people who had completed primary school education or lower was 2.5 times higher than among people who had completed post-secondary education or higher. In 2019, the ratio of prevalence fell significantly as a result of the rise in the proportion of the disease among people with higher education (1.8). The biggest upward trend in the period observed among people suffering from back pain or another chronic back disorder was recorded among men aged between 25 and 44 who had completed post-secondary education or higher.

Problems arising from MSDs of the back appear relatively early and increase markedly with age. Psychophysical strains at work and in the wider social environment play a major role in the development of MSDs. Work-related and other tasks involving heavy physical labour, long periods spent in a forced posture, the manual handling of loads and the operation of vehicles, with vibrations being transferred to the whole body, are responsible for a marked increase in the risk of developing back pain and other chronic back disorders. Negative ergonomic conditions at the workplace that cause excessive strains on or stretching of the back also play a role in the rise in incidence, as does pregnancy (115). Additional risks of the occurrence of back pain and other chronic back disorders include lack of care for one's health combined with unhealthy lifestyles, stress and other psychosocial strains at the workplace. We have been seeing an increase in MSDs of the back, particularly among workers under 45 years of age, for several decades. In recent years, the proportion of MSDs has been increasing mainly among people with the highest levels of educational attainment, i.e. those who are not directly exposed at work to heavy physical loads (as they usually perform intellectual tasks and physically less strenuous work). Changes in the prevalence of MSDs of the back by age group and level of educational attainment are most likely the result of changes to the method and intensity of work. To a large extent, we can link it to the decline in physical activity in the population generally and to the obesity epidemic in particular (116).

INCIDENCE OF ALL CANCERS COMBINED

Author: Ana Mihor

The age standardised rate (ASR) incidence of all cancers combined is around one third higher among men than among women. It stagnated among men in the most recent ten-year period (2008–2017), but continued to rise to a statistically significant extent among women (117). It is important to note that cancer is not one but a large number of different diseases, each with its own risk factors (118). The cancers in which modifiable risk factors play a large role exhibit an association with socio-economic status. The direction of the association can differ among different cancers and is either positive or negative (119). It is therefore not surprising that the incidence of all cancers is not a particularly useful indicator when looking at educational inequality. This is because it conceals inequalities in incidence of specific cancers with opposite directions of association or rather is predominantly a reflection of inequality in cancer incidence of cancers that occur most frequently in the population as a whole.

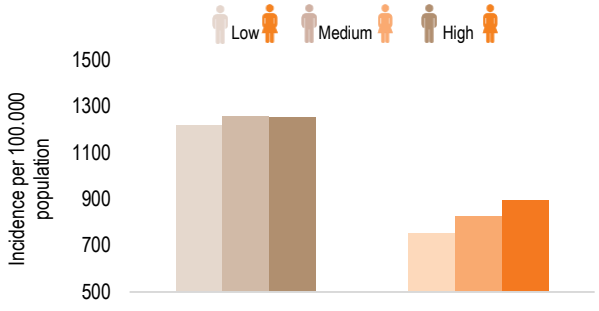

Fig. 2.53: ASR of all cancers combined incidence (C00–C96) by educational attainmentand gender (25+ years), average for 2012–2017

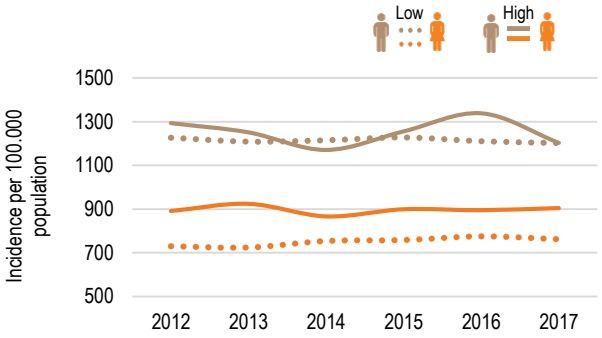

Fig. 2.54: ASR of all cancers combined incidence (C00–C96) in low and high levels of educational attainment by gender (25+ years), three-year moving average

Men and particularly women with lower levels of education have a lower incidence of all cancers than those with higher levels of education. The incidence rate ratio between those with lower and higher levels of education is 0.97 among men and 0.8 among women. The population attributable fraction of low education is -0.9% among men and -11.8% among women. In the period under analysis (2012–2017), incidence increased among women largely on account of an increase in incidence among those with lower levels of education, although the absolute gap between those with higher and lower levels of education, expressed as a three-year moving average for the age-standardised incidence rate, did not change in either sex to any statistically significant extent. The age-specific rates by education level are similar for men up to an advanced age, while for women there is a higher incidence of cancer with higher levels of education starting in middle-age.

In 2017, non-melanoma skin cancer and breast cancer were the two most common cancers among women, and non-melanoma skin cancer and prostate cancer the two most common cancers among men (117). All three are linked to higher socio-economic status almost everywhere in the world and are more common among those with higher levels of educational attainment in Slovenia as well (119), (120). This is the reason why, in the 2012–2017 period, we can detect a higher incidence of all cancers among those with higher levels of education in both sexes (but more markedly among women than men), whereas a smaller educational gap is seen among women when we analyse all cancers excluding non-melanoma skin cancer, with the gap among men even reversing, i.e., we see a slightly higher incidence among men with lower levels of education. Activities to reduce inequalities in cancer incidence should, as is the case for cancer control in general, be aimed at primary prevention of cancers attributable to modifiable risk factors (smoking, alcohol, diet, physical activity, exposure to sun, carcinogens at the workplace, infections, air pollution, etc.) and secondary prevention of cancers that can be detected and treated at the precancerous stage or when the cancer is in its early stages(121).

INCIDENCE OF LUNG CANCER

Autor: Ana Mihor

Lung cancer is the third most common cancer for both sexes in Slovenia. The age-standardised incidence rate is more than two times higher among men than among women. Among men, it saw statistically significant declines in the most recent ten-year period (2008–2017), whereas it increased among women (117). Tobacco use is the main risk factor for the development of lung cancer, accounting for around 80% of all cases worldwide. A smaller contribution to lung cancer incidence is made by indoor and outdoor air pollution, radon, asbestos and some other carcinogens (118).

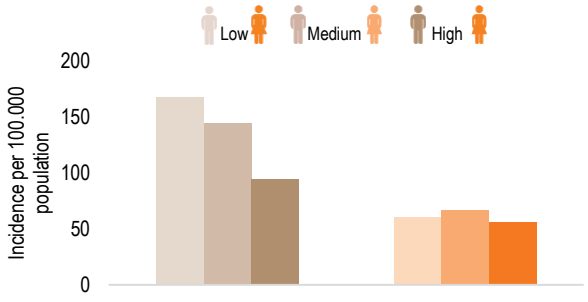

Fig. 2.55: ASR of lung cancer incidence (C33–C34) by educational attainment and gender (25+ years), average for 2012–2017

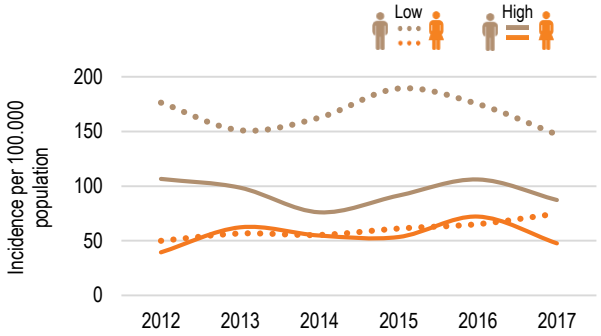

Fig. 2.56: ASR of lung cancer incidence (C33–C34) in low and highlevels of educational attainment by gender (25+ years), three-year moving average

Men with lower levels of education have a greater incidence of lung cancer than men with higher levels of education. There is no clear educational gradient in incidence among women, with the highest rates occurring among those with medium levels of educational attainment. The incidence rate ratio between those with lower and higher levels of education is 1.9 among men and 1.1 among women. The population attributable fraction of low education is 33.1% among men and 5.7% among women. There has been a year-by-year increase in incidence among women with lower and medium levels of education, but no statistically significant change in the absolute gap in incidence between those with higher and lower levels of education in this period in either sex. However, one should stress that the highest incidence among women in this period was among those with a medium level of education, and that a statistically significant gap between those with medium and higher levels of education can be observed in the most recent three-year period. Moreover, age-specific incidence rates for lung cancer in women by educational group indicate a gradual reversal of the educational gradient with increasing age, as the peak of incidence among those with a lower level of education is between 50 and 60 years of age, among those with a medium level of education between 60 and 80 years of age and among those with a higher level of education between 75 and 85+ years of age. Therefore, we see an increasing gradient in lung cancer incidence with decreasing educational level among younger women, while in the middle-aged age group the highest incidence is among those with a medium level of educational attainment, and incidence among older women is highest among those with a higher level of educational attainment. In men, this reversal of the educational gradient can be seen only among the oldest age groups.

While smoking patterns in society are linked to socio-economic status, the link has changed over time (the so-called ‘smoking epidemic’): the proportion of smokers was originally higher among people with a higher socio-economic status, a situation that was subsequently reversed. This reversal in smoking, from higher to lower socio-economic statuses, occurred later among women (78). These findings coincide completely with the analysis of age-specific incidence rates of lung cancer by education and reflect the smoking epidemic in Slovenia. We can expect a negative educational gradient to appear in future also among women as a whole group (i.e., not only in the young). The results are in line with findings of previous Slovenian studies that examined the association between socio-economic status and lung cancerusing the European deprivation index, as well as the results of numerous studies around the world; to a large extent, these indicate an increased risk of lung cancer among those with a lower socio-economic status, particularly in men (119), (120), (122), (123). Activities important for reducing inequalities in lung cancer incidence are closely linked to initiatives to reduce the prevalence of and inequalities in smoking.

INCIDENCE OF GASTRIC CANCER

Author: Ana Mihor

Gastric cancer is the eighth most common cancer in Slovenia (seventh among men and ninth among women). The incidence rate is more than two times higher among men than among women. There was a statistically significant decrease in both sexes in the most recent ten-year period (2008–2017), similar as in other high-income countries (117), (118). Infection with Helicobacter Pylori, which the International Agency for Research on Cancer (IARC) has classified as carcinogenic to humans (Group 1), is strongly associated with the development of gastric cancer. Incidence of infection-related cancers on the other hand is strongly associated with lower socio-economic status.

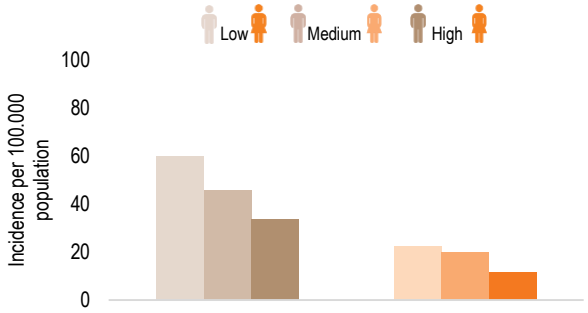

Fig. 2.57: ASR of gastric cancer incidence (C16) by educational attainmentand gender (25+ years), average for 2012–2017

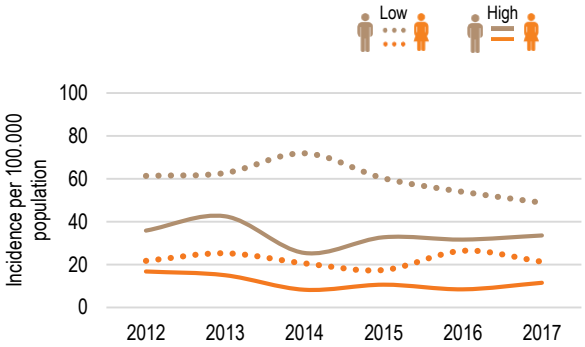

Fig. 2.58: ASR of gastric cancer incidence (C16) in low and highlevels of educational attainment by gender (25+ years), three-year moving average

In both sexes, the age-standardised incidence rate increases with decreasing levels of education. The incidence rate ratio between those with lower and higher levels of education is 1.8 among men and 1.9 among women. The population attributable fraction of low education is 28.6% among men and 43.5% among women. Incidence among men in all educational groups is decreasing year by year – more markedly among those with medium and lower levels of education, and statistically significantly only among those with a medium level of education. The absolute gap between those with higher and lower levels of educational attainment, expressed as a three-year moving average of incidence, is wider in men than in women. While it has narrowed in men in the most recent period, it has not done so to a statistically significant extent. Because of the lower number of cases, the trends over time are not particularly indicative as far as women are concerned.

Risk of infection with H. pylori is greater among those in poor living conditions, where there is poor hygiene and overcrowding, which is characteristic of those with a lower socio-economic status (119). Moreover, the risk of developing cancer is greater if infection occurs in childhood, which means that the socio-economic status of the environment and of parents, the effects of which continue into adulthood, can be a decisive factor in cancer inequality. We do not have data on the prevalence of infection in relation to socio-economic status in Slovenia. However, infection in itself is not a sufficient reason for the occurrence of cancer; among women, for example, oestrogen is said to play a protective role against infection.

The second most important risk factor is unhealthy lifestyle (smoking and unhealthy diet, including excessive salt intake and consumption processed meats, lack of fresh fruit and vegetables, and unsafe food preservation), which is also linked to lower socio-economic status (119), (120). There is an evident gap in the incidence of gastric cancer to the detriment of those with a lower socio-economic status in Slovenia at both the individual (educational) and regional (European deprivation index) levels (122), (123). Although the relative gap (the incidence rate ratio and the population attributable fraction of low education) is slightly lower among men, the absolute gap is, because of the much higher incidence, almost three times wider among men than among women. The decrease in incidence in all educational groups most probably reflects the general improvement in living conditions and food safety, as well as the introduction of treatments for infection using a combination of antibiotics and drugs to inhibit gastric acid secretion (119). Good access to treatment for the infection could also be the reason for the noticeable reduction in the absolute educational gap in incidence among men. As with other forms of lifestyle-related cancers, primary prevention activities aimed at those with a lower socio-economic status are also important.

INCIDENCE OF BREAST CANCER

Author: Ana Mihor

Breast cancer is the second most common cancer in women in Slovenia after non-melanoma skin cancer. As has been the case for at least the last 50 years, there was a statistically significant increase in incidence over the most recent ten-year period (2008–2017) (117). The gap showing that there is more breast cancer among those with higher levels of education is in line with findings from other worldwide and European studies, as well as with previous Slovenian studies that examined the association between socio-economic status and breast cancer using the European deprivation index (119), (120), (122), (123).

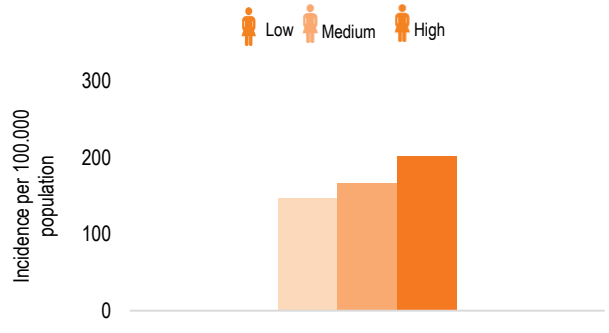

Fig. 2.59: ASR of breast cancer incidence (C50) by educational attainment (25+ years), average for 2012–2017

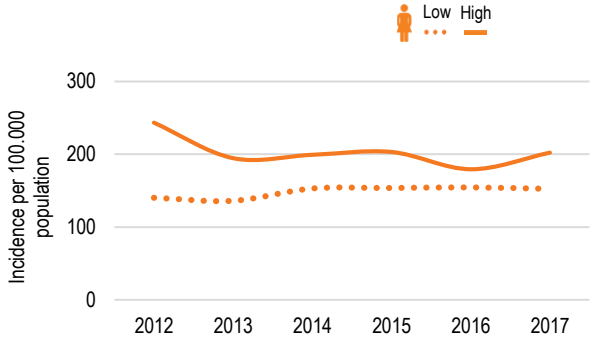

Fig. 2.60: ASR of breast cancer incidence (C50) in low and high levels ofeducational attainment (25+ years), three-year moving average

The incidence of breast cancer is higher among women with higher levels of education. The incidence rate ratio between those with lower and higher levels of education is 0.7, and the population attributable fraction of low education is -21.3%. There has been a year-by-year decrease in incidence among women with higher levels of educational attainment, although the decrease is not statistically significant. There has been a reduction in the absolute gap between those with higher and lower levels of education, expressed as a three-year moving average of incidence, although (again) the change was not statistically significant.

Breast cancer comprises a group of different types of disease, although a large majority of cases are hormone-dependent cancers. We know that hormone-dependent breast cancer is linked to unfavourable reproductive factors, such as early menarche, late menopause, advanced age at first birth, fewer births or nulliparity (women who have never given birth) and absence of breastfeeding. These factors are generally more typical of women with a higher socio-economic status and explain the large majority of inequalities observed in breast cancer incidence. Breast cancer is dependent to a lesser extent on lifestyle factors (e.g. smoking, alcohol consumption, unhealthy diet, overweight and obesity), which have an association with socio-economic status that is the reverse of the association as it relates to reproductive factors (118), (119), (120). Figures for 2016–2018 from Slovenia's National Perinatal Information System show that, up to the age of 40, the share of pregnant women with a lower level of educational attainment is decreasing with increasing age, while the share of pregnant women with a higher level of educational attainment is increasing. The data also show that women in Slovenia with higher levels of educational attainment have fewer children and at a more advanced age, which explains the observed educational inequality (124). It is crucial that all women, regardless of education, have equal access to and adequate information on family planning, that external factors (economic standing, loss of career opportunities, cultural pressures) do not play a decisive role in a woman's decision whether or not to have a child, that we encourage women to adopt healthy lifestyles, and that we inform them of the importance of hereditary forms of breast cancer and of self-examination as well as screening. Organised breast-cancer screening cannot detect precancerous lesions, which is why screening cannot have an impact on incidence of this disease in the long term. Our aim, however, is to reduce the mortality rate for this form of cancer (125).

INCIDENCE OF MELANOMA SKIN CANCER

Author: Ana Mihor

Melanoma skin cancer, the most dangerous form of skin cancer, is the sixth most common cancer in both sexes and overall. Incidence was slightly higher among men than among women, and there was a steady, statistically significant increase among men in the most recent ten-year period (2008–2017). By contrast, incidence among women stagnated in this period (117). Melanoma skin cancer has the strongest association with high intermittent exposure to UV radiation from the sun, which the IARC classifies as carcinogenic to humans (118), (119).

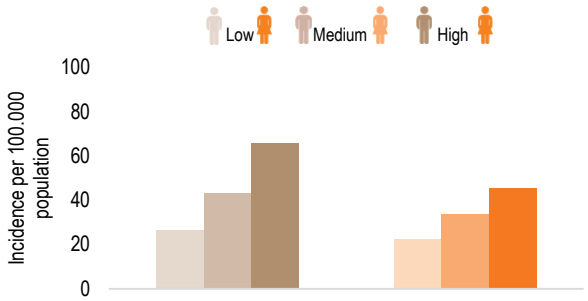

Fig. 2.61: ASR of melanoma skin cancer incidence (C43) by educational attainment and gender (25+ years), average for 2012–2017

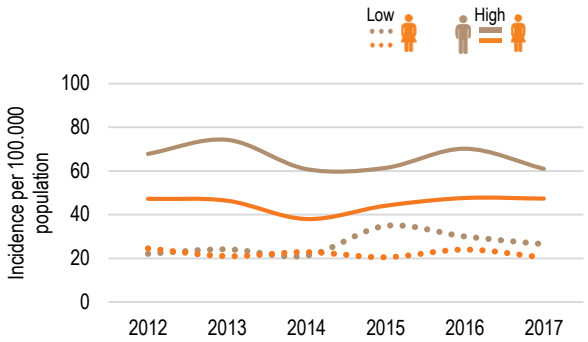

Fig. 2.62: ASR of melanoma skin cancer incidence (C43) in low and high levels of educational attainment by gender (25+ years), three-year moving average

The incidence of melanoma skin cancer is higher among men and women with higher levels of education. The incidence rate ratio between those with lower and higher levels of education is 0.4 among men and 0.5 among women. The population attributable fraction of low education is -52.0% among men and -40.7% among women. There has been no statistically significant year-by-year difference among men or women in any educational group. The absolute gap between those with higher and lower levels of education, expressed as a three-year moving average of incidence, is wider in men than in women, and has narrowed in men in the most recent period (but not to a statistically significant extent).

High intermittent exposure to UV radiation is more frequent among people with a higher socio-economic status, as it is associated with activities such as sun holidays and outdoor recreation. The finding that the Slovenian population with higher levels of educational attainment also have a higher incidence of melanoma skin cancer is thus expected, being in line with findings elsewhere in the world, as well as with previous Slovenian studies that examined the association between socio-economic status and melanoma skin cancer using the European deprivation index (119), (120), (122), (123). Overdiagnosis, –when through intensive examination we detect cancers that would otherwise never have endangered the individual's life – is one further reason why incidence could be greater among those with a higher socio-economic status and in general. Moreover, some benign forms of melanoma are difficult to distinguish from malignant forms (119). People with a higher socio-economic status are probably better informed about skin cancer and make more frequent use of mole screening, which is often subject to out-of-pocket payment. To reduce inequality, primary preventive activities must be continued, above all in relation to sun exposure protection. This is particularly important because, with the increase in the financial accessibility of activities involving such high exposure and/or the socio-economic status dependent patterns of protective behaviour, the burden of high, unprotected exposure could in the future shift to people with lower socio-economic status.

INCIDENCE OF HEAD AND NECK CANCER

Author: Ana Mihor

Head and neck cancer is a group of cancers that occur in the upper part of the digestive and respiratory tracts, and most commonly in the oral cavity, pharynx and throat (118). It is the fifth most common cancer in men and the fourteenth most common cancer in women in Slovenia. The incidence rate is four times higher among men than among women. In the most recent ten-year period (2008–2017), it saw statistically significant declines among men, but stagnated among women (117).

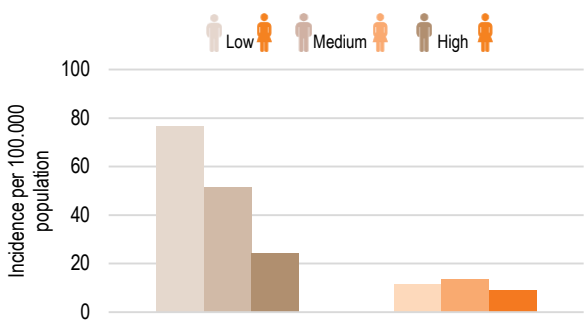

Fig. 2.63: ASR of head and neck cancer incidence (C00–C14, C30–C32) by educational attainment and gender (25+ years), average for 2012–2017

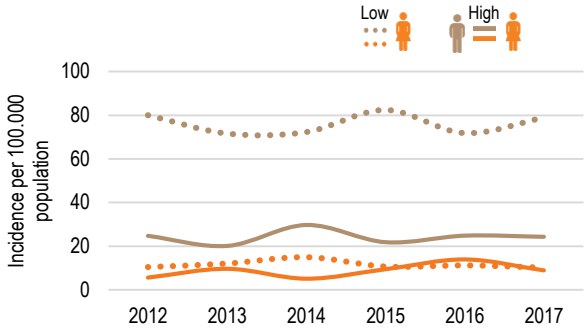

Fig. 2.64: ASR of head and neck cancer incidence (C00–C14, C30–C32) in low and high levels of educational attainmentby gender (25+ years), three-year moving average

The incidence of head and neck cancer is higher in men with lower levels of education. Among women, the number of cancers is too small for a valid analysis, though it seems that women with higher levels of education have a lower incidence than those with medium and lower levels of education, with the former being most at risk. Among men, the educational gradient is most pronounced in middle age (45–69 years). The incidence rate ratio between those with lower and higher levels of education is 3.2 among men and 1.3 among women. The population attributable fraction of low education is 53.2% among men and 23.7% among women. There has been no statistically significant year-by-year difference among men or women in any educational group, nor are there any statistically significant differences in the absolute gap, expressed as a three-year moving average of incidence, between those with higher and lower levels of education.

There is a pronounced association between head and neck cancer and socio-economic status; the relative risk of disease among those with lower and higher levels of education is often even higher than for lung cancer, as confirmed by past studies of the link between socio-economic status and the development of cancer in Slovenia, as well as by the present study (119), (120), (122). The incidence rate ratio in men is less than two for lung cancer and more than three for head and neck cancer. The risk factors for developing head and neck cancer are chiefly linked to unhealthy lifestyle, particularly concurrent alcohol and tobacco use, and the synergistic impact of the two substances. Further factors include insufficient consumption of fruit and vegetables, poor oral hygiene, and infection with the Epstein-Barr virus (EBV) and certain human papillomaviruses (HPVs). HPV-related head and neck cancers are a special entity linked to socio-economic status differently to cancers associated to smoking and alcohol consumption, and account for a low share of head and neck cancer (118). Slovenian figures from the National Survey on Tobacco, Alcohol and Other Drugs for adults aged between 25 and 64 show the following: i) there are approximately 2.8 times and 1.4 times as many smokers among those with lower levels of education than among those with higher levels of education (figures for men and women respectively); ii) there are approximately 1.7 times and 1.4 times as many excessive drinkers among those with lower levels of education than among those with higher levels of education (figures for men and women respectively); and iii) that simultaneous smoking and hazardous alcohol consumption is statistically significantly associated with lower levels of education as well as male sex (78). This means that, in Slovenia, it is men with lower levels of education who most often smoke and engage in hazardous alcohol consumption at the same time. Therefore, it is not surprising that we found such a pronounced association between educational attainment and the incidence of head and neck cancer in this group. It should be stressed once again that primary preventive activities promoting a healthy lifestyle are key to reducing inequalities.

SYMPTOMS OF DEPRESSIVE DISORDERS

Author: Matej Vinko

The indicator shows the proportion of the Slovenian population aged 25 or over who experienced depressive symptoms during the time period the research data was obtained. The source of the data is the National Survey on Health and Healthcare. The presence of depressive symptoms is self-rated.

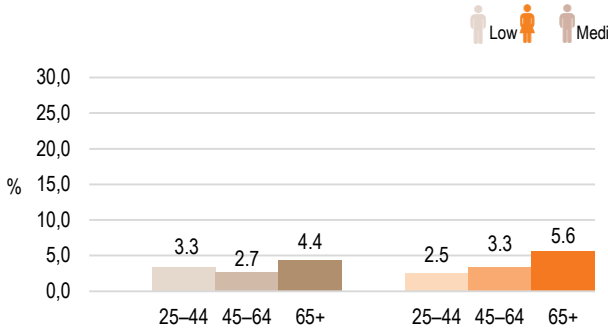

Fig. 2.65: Proportion of people with symptoms of a depressive disorder, by gender and educational attainment, 2019

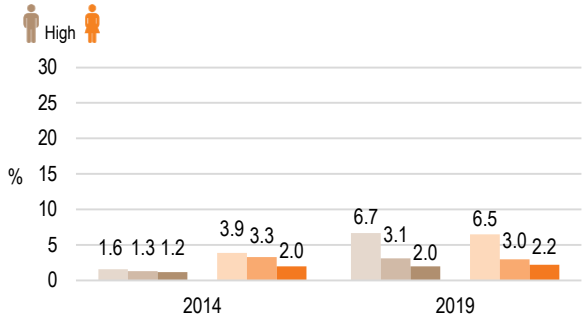

Fig. 2.66: Proportion of people with symptoms of a depressive disorder, by educational attainment in 2014 and 2019

In 2019, 3.5% of the Slovenian population had depressive symptoms. The differences between men and women were minimal and not statistically significant. With both sexes, the highest share of people with depressive symptoms was among those aged 65 or over. This was particularly the case with women, where the share of depressive disorders is higher than among younger women to a statistically significant extent. People with lower levels of educational attainment accounted for highest proportion of the population with symptoms of a depressive disorder (Fig. 2.66). The proportion of depressive disorders rose among men with lower levels of educational attainment in 2019 relative to 2014. A statistically significant increase in the proportion of people with depressive symptoms can also be seen among men with medium levels and women with lower levels of educational attainment.

For a number of years, researchers have been noticing the occurrence of health inequities between different socioeconomic classes as regards the prevalence of depressive disorders with Slovenian data showing a similar picture (126). The basic determinants of socioeconomic position are education, employment and income. In Slovenia, depressive symptoms are present in similar proportions among men and women, while foreign research suggests that women account for a higher proportion in most other European countries (127). If the proportion of people with symptoms of a depressive disorder had been the same among the general Slovenian population as it was among those with higher education in 2019, that proportion would have been 39.7% lower. The figures show that inequalities in this area are increasing, as that figure would have been only 28.3% in 2014. The greater burden of depressive disorders among lower socioeconomic classes can be attributed to factors such as differences in cognitive abilities, strategies for dealing with stress, the knowledge of and values and attitudes towards mental health, the utilisation of mental health services, pressures at the workplace, the imbalance between effort invested in work and the satisfaction derived from it, lower incomes and differences in social standing (128).

HELP-SEEKING FROM MENTAL HEALTH PROFESSIONALS

Author: Matej Vinko

The indicator shows the proportion of the Slovenian population aged 25 or over who have sought professional help from a psychiatrist, psychologist or psychotherapist in the last year. The data was obtained from the National Survey on Health and Healthcare - EHIS 2019, which contains a representative sample of adult Slovenian population (Fig. 2.68).

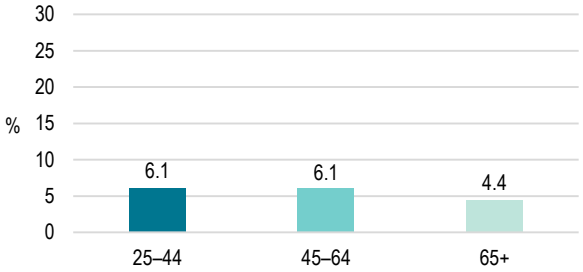

Fig. 2.67: Help-seeking from mental health professionals, by age group, 2019

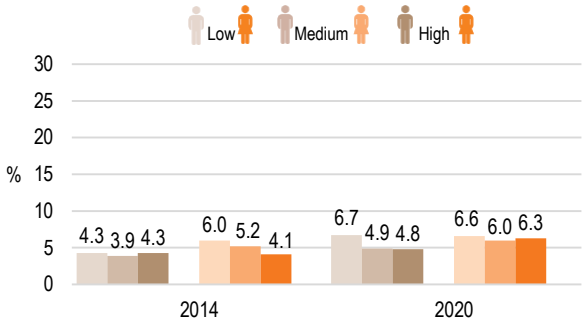

Fig. 2.68: Proportion of the Slovenian population aged 25 or over who have sought professional help from a psychiatrist, psychologist or psychotherapist in the last year, by educational attainment

A total of 5.7% of the Slovenian population sought help from mental health professionals (psychiatrists, psychologists or psychotherapists) in 2019. People aged 65 or over sought help less regularly and to a statistically significant extent (4.4% of that age group versus 6.1% of the 25–64 age group (Fig. 2.67)). A presentation of the figures by educational structure shows that those with primary school and lower levels of education accounted for the biggest single share of people seeking professional help in 2019. Men sought help less often than women (with the exception of men with primary school and lower levels of education). A comparison between 2014 and 2019 shows that the search for professional help increased most among women with higher levels of education and men with primary school and lower levels of education (Fig. 2.68). This change among women is statistically significant, while the changes among men merely approach the limit of statistical significance.

The proportion of the Slovenian population that sought help from a mental health professional increased between 2014 and 2019 (by 1.1% across the population as a whole). The data available does not allow us to estimate the extent to which the rise can be attributed to an increase in need or in the acceptability of professional help among those with mental health problems, or to changes in any of the other factors that decide whether a person seeks help. The ratio between the proportions of men and women seeking help are roughly the same as the ratio between the proportions of men and women suffering from mental health disorders (129). Those with primary school and lower levels of education account for the biggest proportion of those seeking professional help; this is true of men and women alike. This finding differs from the findings produced in research abroad, although the comparability of the findings is limited because of significant differences in the way mental health services are arranged (130), (131). One should also point out that research abroad has found that people with a higher socioeconomic status make use of professional help to a greater degree or more often than people with a lower socioeconomic status (131). The indicator shown does not provide us with an insight into this facet of the search for professional help. The older population account for the lowest proportion of those seeking professional help. Research conducted abroad has found that older people seek help for mental health problems more often from their general practitioner than from mental health professionals, which could explain our findings (132). In line with findings from abroad as well as from Slovenia, we see that men, and particularly men with medium or higher levels of educational attainment, seek help less often (133). The less frequent search for professional help for mental health problems is often correlated to the high suicide rate among men. It would therefore make sense to direct more funds into examining and removing the barriers to seeking professional help.

PREMATURE MORTALITY BEFORE THE AGE OF 75

Author: Tatjana Kofol Bric

There is a robust link between lower socioeconomic status and the increased risk of premature death. Premature mortality by educational attainment (all-cause mortality) is shown using the age-standardised mortality rate between the ages of 25 and 75. The averages for three consecutive years are used.

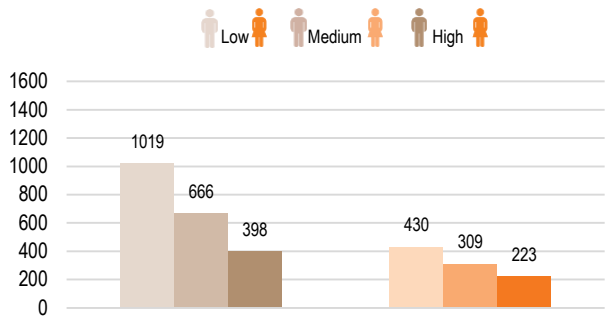

Fig. 2.69: Mortality before the age of 75, by educational attainment and gender, Slovenia, 2017–2019 (ASR)

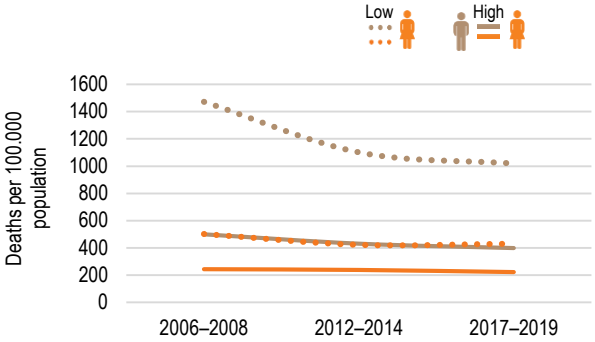

Fig. 2.70: Mortality before the age of 75, by educational attainment and gender inthree time periods (ASR)

There were significant educational differences in premature mortality between the ages of 25 and 75 in the 2017–2019 period, as well as in previous periods. Men below the age of 75 and with lower levels of educational attainment have a mortality rate 2.6 times higher than men with higher education. The gap is narrower among women than men. A calculation of the population attributable fraction shows that 42.5% of deaths in men up to the age of 75 could be avoided if the mortality of the population as a whole were the same as the mortality of those with higher levels of educational attainment. Among women, this proportion stands at 31.9%. Of the causes of death observable in Slovenia, causes of death directly attributable to alcohol consumption best reflect the educational attainment gap in Slovenia.

In the periods observed, there was a narrowing of the gap between men with low and high levels of educational attainment, while among women (and the population as a whole) the educational attainment gap remained the same. Across the Slovenian population as a whole, premature mortality continues to fall. This applies to men and women alike, and to all educational attainment groups.

Although a fall in premature mortality attributable to socioeconomic status has long been one of the main objectives in improving public health, only very rarely efforts to reduce the gap between different educational attainment groups have been successful (134). Indeed, there have been marked increases in the gap in several European countries (135). The reasons for the appreciated reduction in the educational attainment gap in male mortality in Slovenia between 2012 and 2014, a reduction that did not continue into the next period, should also be researched with reference to the impact of the return to their countries of origin during the economic crisis of people with lower levels of educational attainment. Population migrations have a strong impact on socioeconomic gaps in mortality. Several inter-regional comparative studies have attempted to eliminate this impact by focusing only on the home-grown population (136). In the UK, one in three premature deaths are linked to socioeconomic inequalities, which researchers highlight as the reason why inequalities should be regarded as the top priority for public health. Priority must be given to interventions that address the underlying systemic factors of socioeconomic inequalities, such as social deprivation, exposure to risk factors and social justice (134). In addition to addressing income inequalities, the Marmot Review on health inequalities set out six policy objectives: give every child the best start in life; enable all children, young people and adults to maximise their capabilities and have control over their lives; create fair employment and good work for all; ensure a healthy standard of living for all; create and develop healthy and sustainable places and communities, and strengthen the role and impact of ill-health prevention (137).

LUNG CANCER MORTALITY

Author: Helena Koprivnikar

In 80% of cases, lung cancer is the result of tobacco smoking, which in Slovenia is one of the leading preventable risk factors for death and years lost due to ill-health (138). Due to the differences in prevalence of smoking by socioeconomic status, the consequences of smoking differ between groups with different socioeconomic status. The consequences of smoking are among the most significant causes of health inequalities, inequalities in total mortality and mortality from individual causes (76), (77), (78), (120), (139), (140), (141). Inequalities in lung cancer mortality are an important factor in inequalities in total mortality, particularly among men (140), (142).

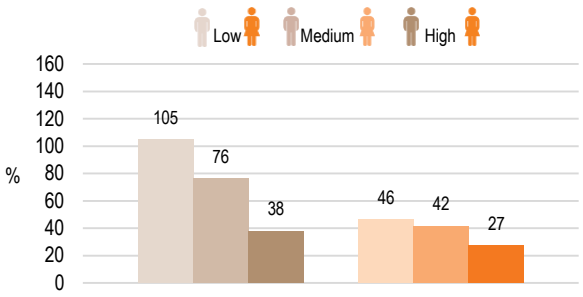

Fig. 2.71: Age-standardised lung cancer mortality rate in population aged 25-74, by gender and educational attainment, 2017–2019

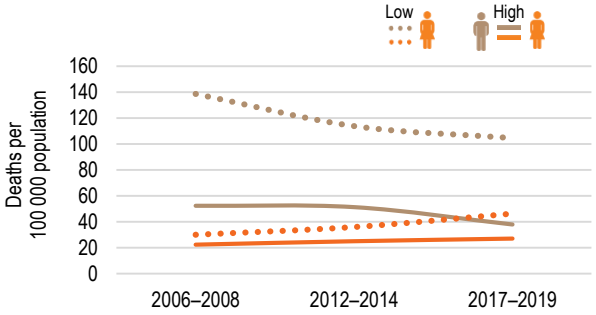

Fig. 2.72: Age-standardised lung cancer mortality rate in low and high level of educational attainment, by gender across three time periods

In the period 2017-2019, the average age-standardised lung cancer mortality rate decreases with increasing level of education, the gap is more pronounced among men than women. The mortality rate in men with the primary education is 2.7 times higher than in those with tertiary education, and in women 1.7 times. If the mortality rate among all educational attainment groups was reduced to the level of those with tertiary education, it would decrease by half among men and by a little less than one third among women. Among men, the relative inequalities indicate the higher mortality of those with lower levels of educational attainment, while in women it is the opposite (men: RII = 1.08, women: RII = 0.7).

In all periods observed, the average lung cancer mortality rates for both men and women were higher among those with primary education. The average mortality rate has decreased among men with primary and tertiary education and consequently there has been no change in the gap by education. As far as women are concerned, in the periods observed, the lung cancer mortality rate increased among those with primary education and did not change among those with tertiary education, the gap therefore increased.

In Slovenia, inequalities in lung cancer mortality by education are present. As in other European countries, these inequalities are more pronounced among men than women (140), (142). In all age groups of men, lung cancer mortality rates are higher among those with lower levels of educational attainment, while among women over the age of 70 we record the highest rate among those with higher levels of educational attainment, which is also reflected in the relative inequalities and is in line with phases of the smoking epidemic (139), (140), (142). The education-related gap in lung cancer mortality has not changed among men in the periods observed, while among women it has widened. The fact that inequalities in the lung cancer mortality between those with primary and tertiary education (rate ratio) are higher in younger age groups (both sexes) and also that smoking inequalities are currently highest in the 25–44 age group (also among both sexes) indicates that inequalities in lung cancer mortality will likely increase in Slovenia in the future.

Reducing smoking inequalities is key to reducing inequalities in mortality from lung cancer and other diseases attributable to tobacco. The measures to reduce smoking inequalities are described in the section on smoking prevalence.

MORTALITY DIRECTLY ATTRIBUTABLE TO ALCOHOL

Author: Sandra Radoš-Krnel

The World Health Organization classes alcohol consumption as one of the key factors in premature mortality and the burden of disease, and one that also makes a major contribution to health inequalities of populations as a whole. Alcohol consumption plays an important role in the incidence of more than 200 diseases, injury and poisoning conditions (143). The 'mortality directly attributable to alcohol' indicator shows the number of deaths per 100,000 people from diseases, injuries and poisonings directly (100%) attributable to alcohol. As the analysis uses data from different years, the calculation of the indicator was adjusted to the age structure of the population in a given year to ensure comparability (age-standardised mortality rate).

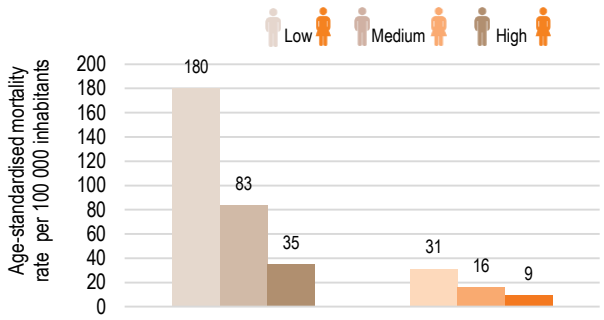

Fig. 2.73: Age-standardised mortality rate directly attributable to alcohol, 25–74 age group, by educational attainment and gender, 2017–2019

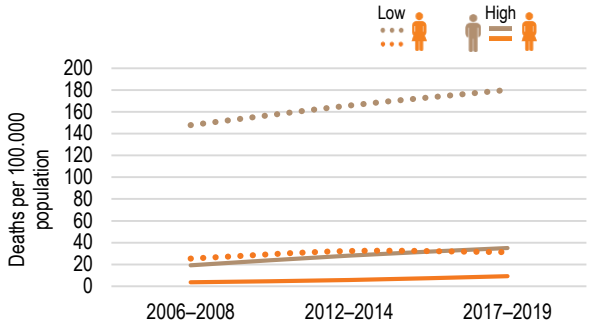

Fig. 2.74: Age-standardisedmortality rate directly attributable to alcohol, by educational attainment and gender across three time periods

Between 2017 and 2019, there were statistically significant differences in the rate of mortality directly attributable to alcohol among men according to their level of educational attainment. The mortality rate was highest among men with lower levels of educational attainment and lowest among men with higher education. The same pattern of differences in the mortality rate was observable among women. These were also statistically significant in relation to level of educational attainment (Fig. 2.73). Between 2006 and 2019, the rate of mortality directly attributable to alcohol increased to a statistically significant extent among men regardless of their level of educational attainment. At the same time, there was an increase in the difference in the rate of mortality directly attributable to alcohol between men with higher and men with lower levels of educational attainment. This difference was also statistically significant ($p = 0.039$). Among men with lower levels of educational attainment, the rate of mortality directly attributable to alcohol was between five and almost eight times higher than among men with higher levels of educational attainment (Fig. 2.74). In the same period, we have also seen a statistically significant increase in the mortality rate from causes directly attributable to alcohol among women (in the lower and higher educational attainment groups alike). However, there has been no statistically significant change in the difference between individual educational attainment groups. The mortality rate among women with lower levels of educational attainment was between 3.36 and 7.07 times higher than among women with higher education (Fig. 2.74).

Between 2017 and 2019, the rate of mortality directly attributable to alcohol was 4.6 times higher among men than among women. The highest mortality rate among men was in the 65–69 age group and among women in the 75–79 age group. With both men and women, mortality directly attributable to alcohol is higher among those with lower levels of educational attainment, although the inequalities are less pronounced for women. Between 2006 and 2019, the gap in mortality in relation to education grew among men and did not change significantly among women. Studies and reports from a variety of countries show that people with a lower socioeconomic status suffer greater consequences from alcohol use even if they consume the same or even lower quantities of alcohol (144). Researchers offer several reasons for what is known as the 'alcohol-harm paradox'. These include differences in the way alcohol is consumed, the particular frequency of highly risky intoxication, the fact that several risk factors are often present among more vulnerable individuals and that a lack of resources could mean that they are less able to avoid harmful consequences, and the frequently less favourable levels of access to healthcare services and other sources of help (85), (145), (146). It is therefore crucial that we incorporate elements that promote justice and the recommendations or guidelines for reducing health inequalities into the formulation of harm-reduction policies, interventions and programmes (146), (147).

ADULT MORTALITY FROM INJURIES CAUSED BY ACCIDENTS

Author: Mateja Rok Simon

Injuries caused by accidents are one of the main causes of mortality among adults in Slovenia. As a result of population ageing, injuries from falls have already become the most common cause of death from accidents, followed by injuries sustained in road accidents. Men have a mortality rate from accidents four times higher than that of women, mainly because of riskier behaviour on the road.

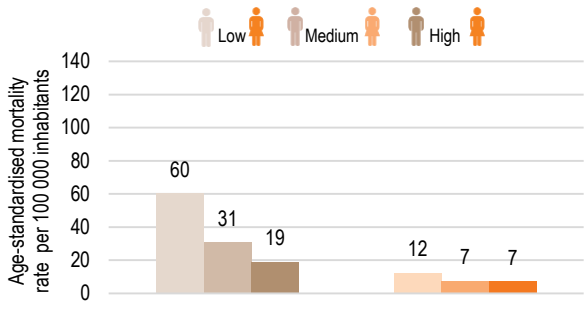

Fig. 2.75: Age-standardised mortality rate (per 100.000) of adults aged between 25 and 74 caused by accidents, by gender and educational attainment, Slovenia, 2017–2019

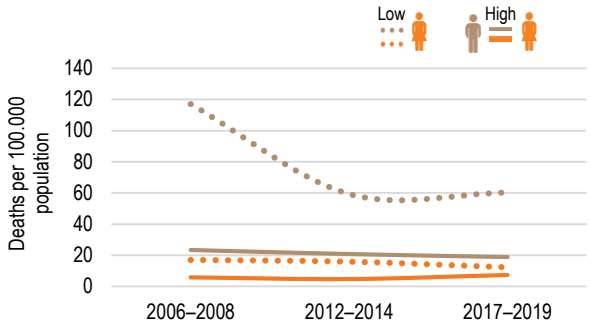

Fig. 2.76: Age-standardised mortality rate(per 100.000) of adults aged between 25 and 74 caused by accidents, by gender and educational attainment, Slovenia, 2006–2019

Between 2017 and 2019, the mortality rate from accidents was higher among adults with lower levels of educational attainment than among those with higher levels of education. This difference was statistically significant (Fig. 2.75). The difference in mortality between adults with lower and higher levels of education was 1.3 times higher than their average mortality from accidents. If the lower adult educational attainment group had the same mortality rate from accidents as the higher adult educational attainment group, the overall mortality rate from accidents would fall by 40%. Men with lower levels of educational attainment had higher (statistically significant) mortality than men with higher levels of educational attainment. The difference in the mortality rate between men with lower and higher levels of educational attainment was 1.4 times higher than the average mortality rate from accidents among men. Among women, a difference in mortality by education could not be confirmed.

Between 2006 and 2019, mortality from accidents fell to a statistically significant extent mainly among adults with lower levels of educational attainment. There was therefore also a statistically significant reduction in the mortality gap between adults with lower and higher levels of educational attainment (Fig. 2.76).

In recent years, adults with lower levels of educational attainment had higher mortality from accidents than those with higher levels of educational attainment, both from road accidents and falls. The inequalities were statistically significant only in relation to men, as other researchers have found (148), (149), (150). The riskier behaviours of those with lower levels of educational attainment (e.g., the non-use of seat belts and other protective equipment in vehicles, excessive driving speed, drink-driving and lower levels of access to new vehicles for reasons of affordability (151), (152). People with higher levels of educational attainment also have healthier lifestyles (better diet, more physical activity, lower levels of smoking and alcohol consumption) and a greater ability to obtain information on preventing and treating falls (153), (154). The gap in mortality between those with lower and higher levels of educational attainment narrowed throughout the entire period, mainly on account of a large fall in road accident mortality during the economic crisis among men with lower levels of educational attainment, as reported in other countries as well (155). In particular, the number of kilometres driven fell during the crisis as a result of the increase in unemployment, as did the intensity of freight transport by heavy goods vehicles and the density of traffic on urban radial roads. This in turn also reduced the number of serious road accidents (156), (157). Since the economic crisis, the reduction in inequalities in mortality from accidents has been maintained, with a simultaneous further reduction in the gap in mortality from road accidents and an increase in the gap in mortality from falls.

MORTALITY OF ELDERLY PEOPLE FROM FALLS

Author: Mateja Rok Simon

Falls are the main cause of accident-related mortality among people aged 64 or over, with the most serious consequences of falls occurring from broken hips. Owing to the ageing of the population, falls are becoming a major public health problem: they are expensive for the healthcare system, usually have serious consequences and lead to irreversible deterioration in the ability to function post-injury and to institutionalisation and death.

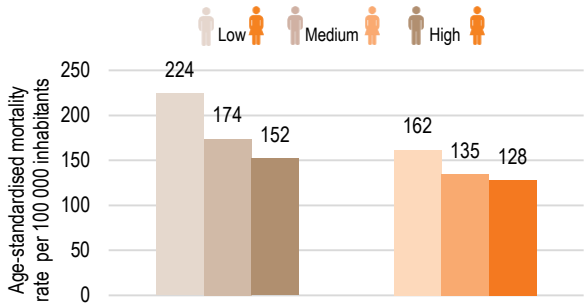

Fig. 2.77: Age-standardised mortality rate (per 100.000) of adults aged 64 or over resulting from falls, by gender and educational attainment, Slovenia, 2017–2019

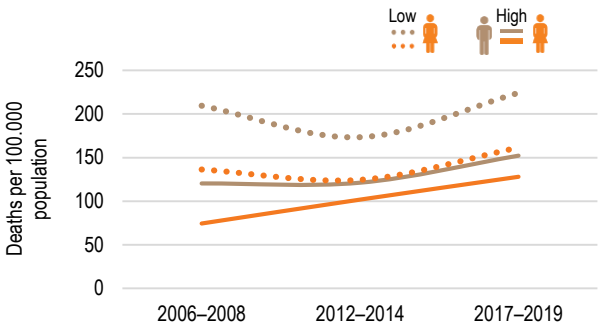

Fig. 2.78: Age-standardised mortality rate (per 100.000) of adults aged 64 or over resulting from falls, by educational attainment, Slovenia, 2006–2019

Between 2017 and 2019, the mortality rate from falls was higher among older adults with lower levels of educational attainment than among those with medium and higher levels of education. This difference was statistically significant (Fig. 2.77). The difference in mortality between adults with lower and higher levels of educational attainment was 31% of their average mortality from falls. If the lower educational attainment group of elderly people had the same mortality rate from falls as the higher educational attainment group of elderly people, the overall mortality rate of elderly people from falls would be reduced by 13%. Differences in mortality relative to level of educational attainment were greater among men than among women. Men with lower levels of educational attainment had higher (statistically significant) mortality from falls than men with medium and higher levels of educational attainment. The difference in mortality between men with lower and higher levels of educational attainment was 52% of the average mortality of elderly men from falls. Among women, a difference in mortality by education could not be confirmed.

Between 2006 and 2019, mortality from falls grew to a statistically significant extent among adults with lower and higher levels of educational attainment, but changes in the gap in mortality between those two educational attainment groups could not be confirmed (Fig. 2.78).

In recent years, elderly people with lower levels of educational attainment have had higher mortality from falls than those with higher levels of educational attainment. While this only applies to men, other researchers have established inequalities among elderly women of different educational attainment profiles as well (158), (159). People with higher levels of educational attainment also enjoy better health because of better diet, more physical activity, and lower levels of smoking and alcohol consumption. They also have a greater ability to obtain the relevant information on preventing falls and broken bones, and take the prescribed medication (e.g. bisphosphonates) more consistently, which is connected with lower mortality (153), (154), (160), (161). The gap in mortality from falls did not change to a statistically significant extent during the period as a whole, with mortality rising to a statistically significant extent simultaneously among elderly people with lower and higher levels of educational attainment, particularly among women (as other researchers have reported (162). During the economic crisis, the gap narrowed on account of a simultaneous fall in mortality among those with lower levels of educational attainment and a rise in mortality among elderly people with higher levels of educational attainment. During the crisis, people with lower incomes reduced the number of times they left home, particularly for shopping, social gatherings and other events linked to financial cost, and therefore reduced their risk of falls. On the other hand, those with higher incomes saved money by walking more and using more expensive means of transport, such as cars or public transport, to a lesser extent (156).

SUICIDE MORTALITY RATE

Author: Matej Vinko

The indicator shows the number of deaths by suicide per 100,000 inhabitants. As the analysis uses data from different periods, the calculation of the indicator was adjusted to the age structure of the population in a given year to ensure comparability.

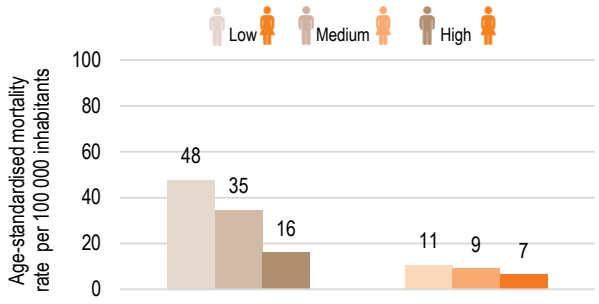

Fig. 2.79: : Age-standardised suicide mortality rate in the 25–74 age group, by educational attainment ang gender, 2017–2019

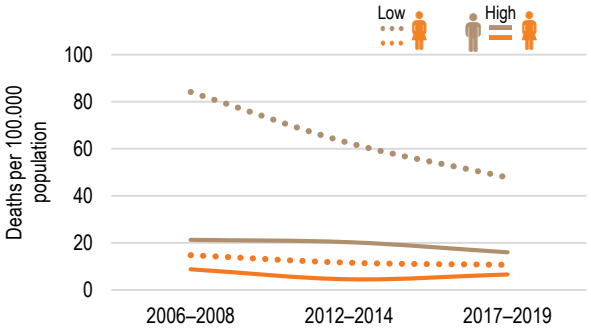

Fig. 2.80: Age-standardised suicide mortality rate per 100,000 inhabitants, by educational attainment and gender across three time periods

Between 2017 and 2019, there were statistically significant differences in the suicide mortality rate between men according to their level of educational attainment. The mortality rate was highest among men with lower levels of educational attainment and lowest among men with higher education. While there was a similar pattern of differences among women, these differences were not statistically significant (Fig. 2.79). Although the absolute difference in the suicide mortality rate among men has reduced over the years, the ratio of mortality rates between men with higher and lower levels of education has not changed significantly. In the periods observed (between 2006 and 2019), the suicide mortality rate was three to four times higher among men with lower levels of educational attainment than among men with higher education (Fig. 2.80). In the periods observed, the differences in the absolute difference and the relative suicide mortality rate were lower among women than among men. The mortality rate among women with lower levels of educational attainment was between 1.6 and 2.6 times higher than among women with higher education.

Between 2017 and 2019, the mortality rate among men was 3.8 times higher than among women. The suicide mortality rate is higher among men and women with lower levels of educational attainment, although the inequalities are slightly less pronounced among women. These findings are similar to those produced by researchers abroad (163). In Slovenia in recent years, we have seen a statistically significant fall in the suicide mortality rate among people with lower levels of educational attainment. As men are more likely to take their own lives, this fall is also evident from the reduction in the absolute gap in suicide mortality among men. Due to decreasing numbers of deaths from suicide among those with higher levels of educational attainment, the suicide mortality rate ratio remains high among men and women alike. In the period following the economic crisis of 2008, we did not detect any rise in the suicide mortality rate in the Slovenian data. This is comparable with the findings of a number of other research studies conducted abroad (164), (165). If we wish to see a continuation in the downward trend in the number of people committing suicide and address existing inequalities in particular, we must raise mental health awareness and literacy, with an emphasis on suicide, secure access to help and treatment for those at risk of suicide and reduce access to the means of suicide (166).

2.3.2 Socioeconomic determinants of health

Authors: Martina Trbanc, Mateja Nagode (both IRSSV)

AT-RISK-OF-POVERTY RATE OF CHILDREN (0–17 YEARS OF AGE) IN DIFFERENT WORK INTENSIVE HOUSEHOLDS

Authors: Martina Trbanc, Mateja Nagode

The at-risk-of-poverty rate of children is the proportion of children (0–17 years of age) who live in households whose income is below the relative at-risk-of-poverty threshold. The at-risk-of-poverty threshold is set by agreement at 60% of the median equivalised available net income of all households (taking into account the OECD-modified equivalence scale). A household's work intensity is the ratio between the number of months in the reference year in which the adult members of the household (persons aged 18 to 64, excluding dependent children) were capable of and actually working (employed or self-employed) and the number of months in which adult members capable of work could have been working. In jobless households (no work intensity), none of the adult members capable of work were actively working for a single month of the year, while in very high work-intensive households adult members capable of work were actively working throughout the year. Partly work-intensive households are households in which at least one of the members capable of work was actively doing so for at least part of the year.

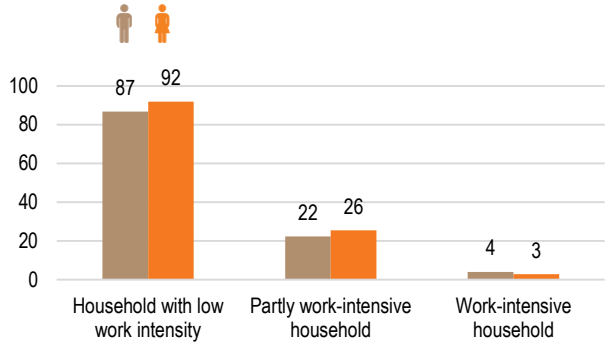

Fig. 2.81: At-risk-of-poverty rate of children (0–17 years), by gender and household work intensity, 2019
Source: SURS, SI-STAT.

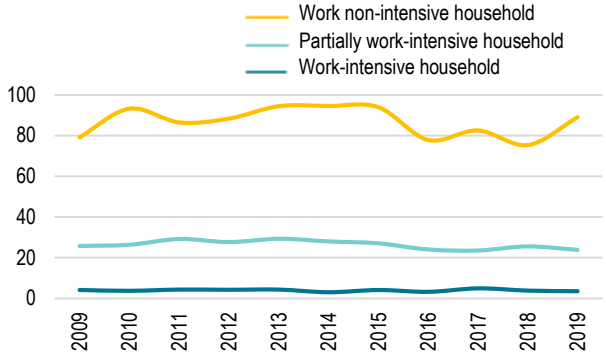

Fig. 2.82:At-risk-of-poverty rate of children (0–17 years), by household work intensity (2009–2019)
Source: SURS, SI-STAT.

The at-risk-of-poverty rate of children is explicitly linked to the work intensity of the household in which they live. Children who live in households with no or very low work intensity, i.e. households in which the adults capable of work are not actively doing so, have extremely high at-risk-of-poverty rates. In 2019, just over 89% of children from households with no work intensity were at risk of poverty. Even when adult members of a household are working to the extent of less than half the normal work activity rate in the reference year, more than half the children from such households are at risk of poverty. A low risk of poverty is ensured primarily by having the adult members of a household in full-time work. This means, in reality, that a lower risk of poverty of children cannot be secured merely by having parents (adult members of a household) who are working; rather, those parents must be in full-time work throughout the whole of the reference period. Children from households in which the parents perform temporary work, fixed-term work or part-time work, have periods of unemployment or perform other forms of precarious work between periods of employment are at greater risk of poverty than children from households in which the parents are fully employed. There are no noticeable differences in the at-risk-of-poverty rate of girls and boys.

Children are a potentially vulnerable group on its own as they are unable to influence the circumstances in which they live. Monitoring the at-risk-of-poverty rate of children is therefore one of the basic indicators for highlighting the extent of the risk of children in material, social and health terms, as a lack of household income can affect diet, patterns of activity and the use of leisure time, living conditions and life opportunities. Particularly when such situations persist long term, the poverty risk also indicates the danger of possible social exclusion of children and the intergenerational transmission of poverty. In 2019, 4.6% of children were at long-term risk of poverty, i.e. risking poverty at least two of the last three years (7.4% of people in the population as a whole), with more girls than boys affected. It is therefore vital to design measures to enable all children to enjoy equal opportunities regardless of their families' material situation.

The at-risk-of-poverty rate of children in Slovenia in the last ten years was, in the majority of those years, lower than the general poverty risk in the population, with the exception of the 2011–2014 period, when a general deterioration in the social situation (as a consequence of the economic crisis and conditions on the labour market) was also reflected in children's social position. The at-risk-of-poverty rate of children was 1.1 percentage points higher than the general poverty risk in the population in 2011, at the same level in 2012, and higher once again in 2013 and 2014 (by 0.2 and 0.3 percentage points respectively). The at-risk-of-poverty rate of children in Slovenia is relatively low compared to the EU average and is explicitly linked to whether the adult members in their household (parents) are working (employed or self-employed) and to what extent. Almost nine in ten children who live in households in which none of the adult members are working (even though they are otherwise capable of work and are of working age) are at risk of poverty; this compares with 3.5% poverty risk of children (2019 figure) who live in households with adults who are fully working. Single-parent households are at greatest risk of poverty (26.1% in 2019), which shows that children from such families are particularly vulnerable.

AT-RISK-OF-POVERTY RATE OF ADULTS (18 YEARS OR OVER)

Authors: Martina Trbanc, Mateja Nagode

The at-risk-of-poverty rate is the basic and most commonly used indicator for showing the proportion of the population with income below the relative at-risk-of-poverty threshold. The at-risk-of-poverty threshold is set by agreement at 60% of the median equivalised available net income of all households (taking into account the OECD-modified equivalence scale). It is therefore a relative indicator of income poverty. In accordance with the EU methodology, the at-risk-of-poverty threshold is calculated for each year relative to income for the previous year.

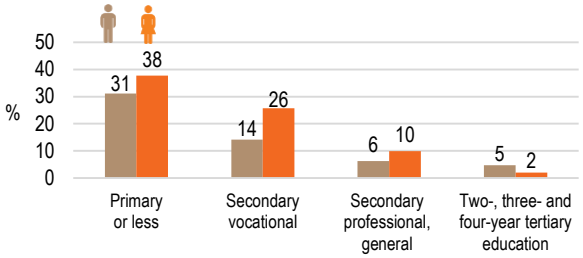

Fig. 2.83: At-risk-of-poverty rate of elderly people (65 or over), by education, 2009

Source: SURS, SI-STAT.

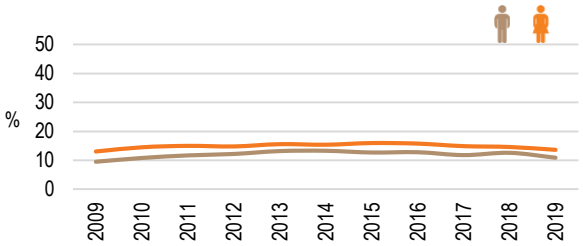

Fig. 2.84: At-risk-of-poverty rate of adults (18 or over), by gender, 2009–2019

Source: SURS, SI-STAT.

In general, women in Slovenia are at a higher risk of poverty than men. The difference in the poverty risk between men and women has remained relatively constant, with the smallest difference being recorded in 2018. Poverty risk is also linked to age, with exposure to this risk in Slovenia being more common among elderly people aged 65 or over. The link between poverty risk and educational attainment is marked, as those with lower levels of education are several times more likely to be exposed to the risk of poverty than those with higher levels of education. The poverty risk of those with low educational attainment rises noticeably after the age of 65 but is relatively low among aged 65 or over with higher educational attainment (the poverty risk even falls among women with higher levels of education after the age of 65). Evidently, the exposure to the poverty risk increases with age among those with lower educational attainment (primary school education or lower), among women with lower levels of education more markedly than among their male counterparts. An increase in the poverty risk after the age of 65 is also evident among those with a vocational education, again more markedly among women than men.

The at-risk-of-poverty rate in population has fluctuated between 12% and 14.5% over the last ten years. The highest at-risk-of-poverty rates were recorded between 2009 and 2015 and were related to adverse economic and labour market conditions and, as a consequence of this, to the lower available household incomes (increase in unemployment, change to social legislation, austerity measures) and the slight increase in income inequalities in those years (167). The at-risk-of-poverty threshold (as well as the proportion of households whose available income falls below that threshold) is dependent on the level and distribution of income within households, and on the number and age of the household members (adults, children). Viewed comparatively, Slovenia has been below the EU at-risk-of-poverty average for each of the last ten years.

Poverty risk correlates strongly with whether adults are in employment, as unemployed people have the highest poverty risk, particularly unemployed men (49.5% in 2019), followed by retired people (21.8% of retired women were exposed to a risk of poverty in 2019) and other inactive people (20.1% of other inactive women). Of those actively working, the self-employed are considerably more exposed to poverty risk than employed people (in 2019, 14% of self-employed and 3.4% of employed people). This is particularly pronounced among women (in 2019, 15.5% of self-employed women and 2.7% of employed women were risking poverty). In 2019, 4.5% of actively working people aged 18 or over were exposed to the risk of poverty (in-work poverty), men more than women (5.3% vs. 3.6%).

In terms of sociodemographic characteristics, exposure to the risk of poverty is linked to sex, age and education. Older people (aged 65+) are more often at risk of poverty, which can be explained by the clear proportion of low pensions (i.e. pensions below the at-risk-of-poverty income threshold). In 2019, the at-risk-of-poverty threshold for a single person was EUR 703 a month, while pensions below EUR 700 a month were received by more than half (54.5%) of old-age pension recipients and 61.5% of recipients of all pensions (168). General medium-level and higher education (which is usually linked to the profession or type of work a person performs, to the level of remuneration from work and, among older people, to their pension level as well) is an important factor reducing poverty, particularly among people aged over 65.

MATERIAL AND SOCIAL DEPRIVATION RATE

Authors: Martina Trbanc, Mateja Nagode

The material and social deprivation rate shows deprivation in relation to normal (i.e., socially expected) activities and assets. It represents the percentage of people who live in a household without at least 5 out of 13 measured elements of deprivation (because of limited household funds rather than as a result of choice or habits). The data was collected from the EU-SILC Eurostat survey (169). The indicator has been calculated since 2014 and its elements constitute an expansion of the set of material deprivation indicators. In future, the indicator will replace the material deprivation indicator. The elements of deprivation that are part of the indicator relate to inability to: 1) meet regular mortgage or rent payments, regular housing costs and loan repayments; 2) keep their home adequately warm; 3) settle unexpected expenses; 4) afford a meal with meat, or vegetarian equivalent, every second day; 5) afford a one-week annual holiday for members of the household; 6) afford a car; 7) replace worn-out or damaged furniture; 8) replace worn-out clothes with new ones; 9) have at least two pairs of shoes for different weather conditions; 10) meet friends/family/relatives for a drink/meal at least once a month; 11) take part in regular paid-for leisure activities; 12) afford to spend a small amount of money on themselves on a weekly basis; 13) have home internet access.

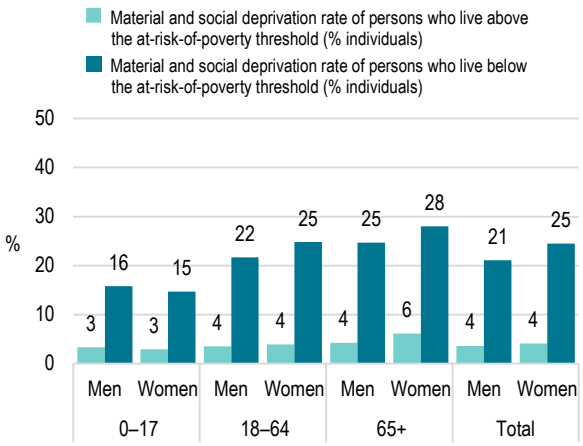

Fig. 2.85: Material and social deprivation rate, by gender and age relative to the at-risk-of-poverty threshold, 2019

Source: SURS, SI-STAT.

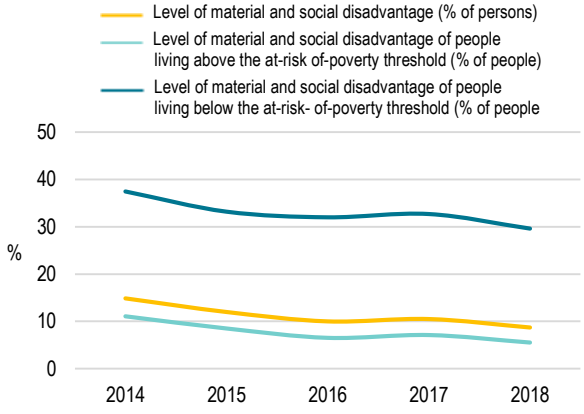

Fig. 2.86: Material and social deprivation rate relative to the at-risk-of-poverty threshold, 2014–2019

Source: SURS, SI-STAT.

The material and social deprivation rate is most strongly related to a household's available income, i.e., whether the household has income that places them below or above the at-risk-of-poverty threshold. People from households whose income places them below the at-risk-of-poverty threshold have a material and social deprivation rate several times higher than that of people who live in households whose income places them above that threshold. While the gap narrowed after 2017, the difference in the material and social deprivation rate between people from households with available income above the at-risk-of-poverty threshold and households with available income below that threshold was still 19.1 percentage points in 2019. One should highlight the fact that 4.1% of households with income above the at-risk-of-poverty threshold nevertheless experienced material and social deprivation in 2019.

The material and social deprivation rate is linked to a person's sex and age. Women are deprived in material and social terms slightly more often than men, with the differences by sex being small among children and the active population and higher among older people (aged 65+). In 2019, 11.1% of older women and 6.8% of older men were materially and socially deprived. Differences in the material and social deprivation rate increase with age between people who live in households whose income places them below the at-risk-of-poverty threshold and those whose income places them above that threshold. This is particularly marked among women: just over 28% of women aged 65 or over who live in households whose income places them below the at-risk-of-poverty threshold are materially and socially deprived, as opposed to 6.1% of women in the same age group who live in households whose income places them above that threshold.

The material and social deprivation rate reflects the extent of deprivation in relation to normal, socially expected assets and activities constituting the normal (expected) standard of life within the society. It is explicitly linked to the available income of the household in which a person lives in the sense that a serious lack of available income, particularly over the long term, leads to a higher level of material and social deprivation, or to a lower standard of living and less involvement in various activities. The material and social deprivation rate in Slovenia is relatively low when compared to the EU average (in 2019, 6.1% in Slovenia compared to the EU average of 12.1%). In all EU countries, it is typically connected to education, i.e. those with lower educational attainment are more likely to be materially and socially deprived.

The material and social deprivation rate is gradually decreasing in Slovenia – indeed, it more than halved (from 14.9% to 6.1%) between 2014 and 2019. It fell most (by 9.7 percentage points) in the active population (18–64 years of age). Across the whole of the observed period, the least materially and socially deprived of all age groups were children, and the most materially and socially deprived were the elderly (particularly elderly women). The figures also show that the link between the material and social deprivation rate and available household income above and below the at-risk-of-poverty threshold is a pronounced one and that it increases with age.

Regardless of the lower material and social deprivation rate in Slovenia compared to the EU and the positive downward trend in that rate in Slovenia, we cannot overlook the fact that certain groups of the population are nevertheless at risk of material and social deprivation, including people with low incomes, people with lower educational attainment and the elderly (particularly women).

2.3.3 Access to health care and long-term care

Authors: Eva Zver (UMAR), Mateja Nagode (IRSSV), Andrej Srakar (IER)

UNMET NEEDS FOR MEDICAL EXAMINATION

Author: Eva Zver

Unmet needs for medical examination due to financial reasons, waiting times and/or geographical distance are among the key access to health care indicators. The consequences of unmet needs are reflected in the health of the individual and of the population as a whole. People who are more socially vulnerable are generally more likely to have unmet needs, which can increase health inequalities within society as a whole (4). An indicator based on EU-SILC or EHIS surveys is most commonly used in the EU, although one problem lies in the fact that the surveys do not cover certain population groups (the homeless and partly also migrants and people in institutional care settings), while cultural differences can also affect the responses. There used to be a problem with the translation of the EU-SILC survey questions in Slovenia, which means that the data has only been suitable for use since 2017 (170) . The indicator must be used in combination with other access to healthcare indicators, such as insurance coverage, out-of-pocket expenditure and actual utilisation of healthcare services (4).

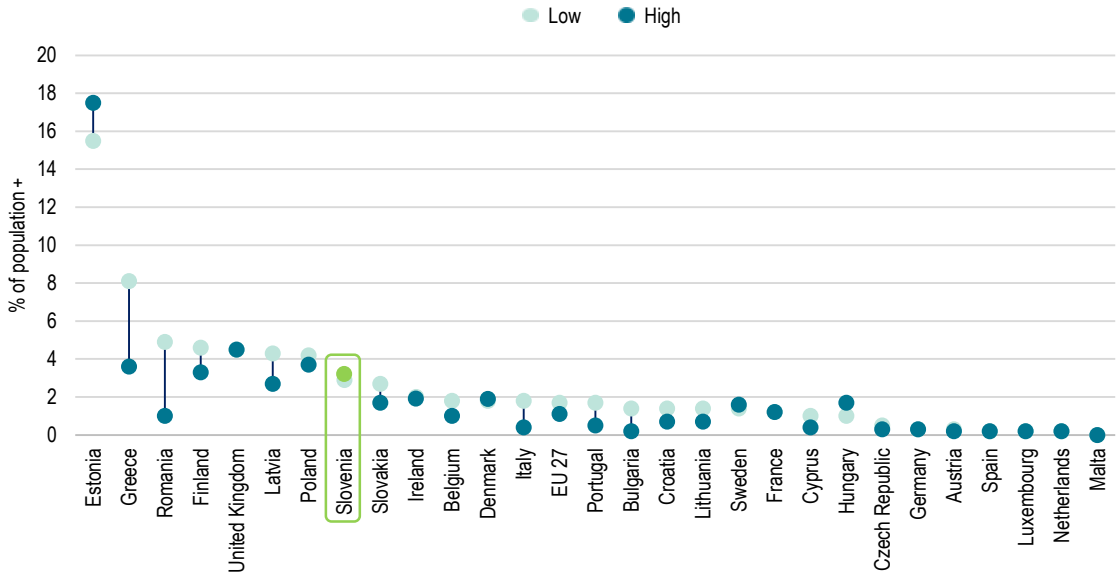

Fig. 2.87: Unmet needs for medical examinations due to waiting times, financial reasonse or geographical distance, and the income gap, Slovenia and the EU, 2019

Source: Eurostat 2020.

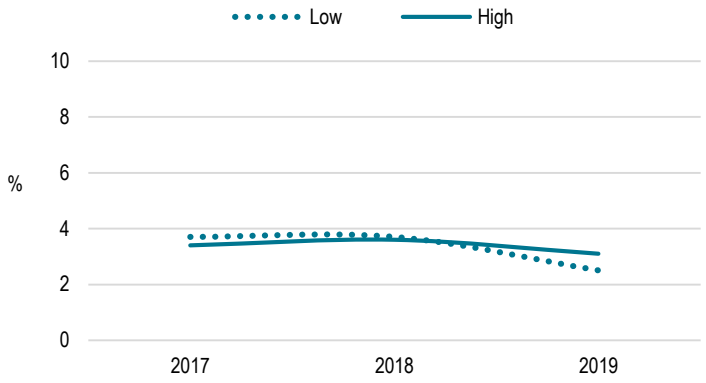

Fig. 2.88: Unmet needs for medical examinations due to waiting times, and the education gap, Slovenia, 2017–2019

Source: SURS, Eurostat.

In 2019, 2.9% of the adult population had unmet needs for medical examination due to waiting times. The percentage remained the same even when one took into account the unmet needs for financial and geographical reasons. This means that unmet medical care needs in Slovenia are mainly the result of long waiting lists. In all three years, the gap between the first and fifth income quintiles was very narrow (less than one percentage point) (Fig. 2.13 in *section 2.2: Health inequalities – international comparisons*) as was the gap between those with lower and higher levels of educational attainment (Fig. 2.88). The average income gap in the EU is significantly higher, with socially more vulnerable people being four times more likely to have unmet needs than the more affluent. These indicator for Slovenia confirms the level of affordability of medical care is good, as is the level of financial protection for more socially vulnerable groups. The relatively low levels of out-of-pocket expenditure are also an indication of this (glej kazalnik Neposredni izdatki za zdravstveno varstvo). The main reason for this lies in the very wide benefits basket covered by public compulsory and (partly) complementary private health insurance.

In all EU countries, women typically report a higher proportion of unmet needs than men. In Slovenia, the average gap between men and women between 2017 and 2019 was 1.1 percentage point, which was the same as the EU average. However, the gap in the proportion of unmet needs in relation to age was higher in relative terms in Slovenia: between 2017 and 2019, the gap in unmet needs between those aged over 65 and the 16–24 age group was, on average, 1.8 percentage points (the average gap in the EU was only one percentage point). This means that while waiting times affect all population groups in Slovenia, those aged over 65 are the most affected.

Despite the fact that unmet needs for medical examination due to financial reasons do not exist in Slovenia, an OECD study from 2020 finds that there is a relatively wide gap in the utilisation of health care services between socially more vulnerable and more affluent people with essentially comparable needs (4). The gap was particularly high in relation to the utilisation of specialist medicalcare services: 17 percentage points between the first and fifth quintiles (OECD: 12 percentage points). The differences were considerable in relation to the first visit to a specialist in particular but were significantly smaller in relation to the number of subsequent visits. The results are very likely connected with long waiting times and the fact that high-income individuals often resolve their healthcare issues by visiting private medical practitioners or by using personal connections within the public healthcare network.

UNMET NEEDS FOR DENTAL EXAMINATIONS

Author: Eva Zver

Unmet needs for dental examinations due to financial reasons, waiting times and/or geographical distance are an important access to healthcare indicator. In the majority of countries, dental care is only partly publicly funded (or is even entirely without public funding for adults). Unmet needs in this area, frequently for financial reasons, are therefore considerably higher than for medical examinations, which leads to inequalities in access and health inequalities. An indicator based on EU-SILC or EHIS surveys is most commonly used in the EU (170). The problem with the EU-SILC indicator lies in the fact that it includes survey respondents who did not require dental care. The indicator is used in combination with other indicators of access to dental care, such as insurance coverage, volume of out-of-pocket expenditure and actual utilisation of dental care services (4).

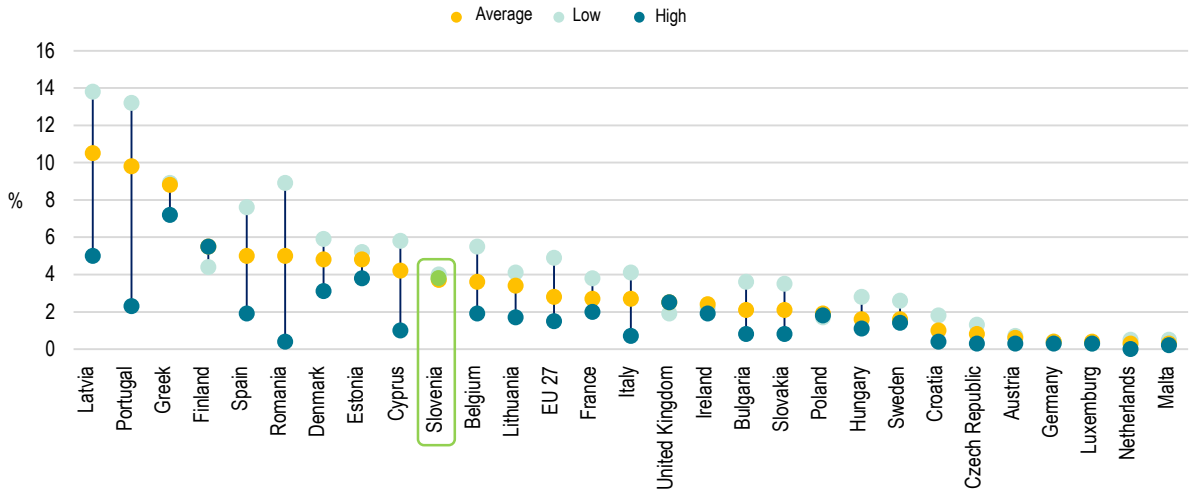

Fig. 2.89: Unmet needs for dental examinations due to waiting times, financial reasons or geographical distance, and the income gap, Slovenia and the EU, 2019
Source : Eurostat. Note: by EU-SILC.

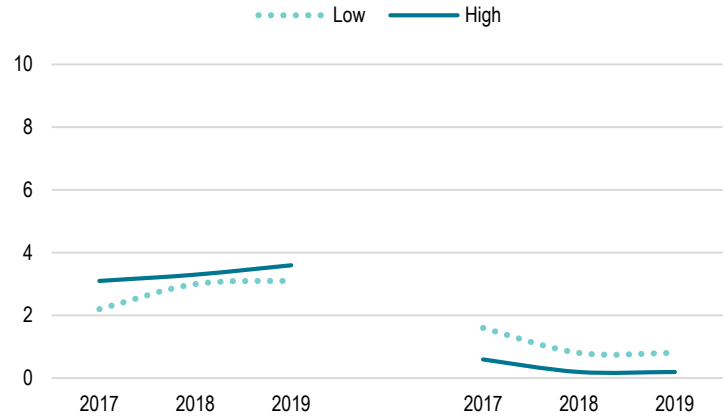

Fig. 2.90: Unmet needs for dental examination due to waiting times, and the education gap, Slovenia, 2017–2019
Source: SURS, Eurostat.

In 2019, 3.7% of the adult population had unmet dental care needs, which is higher than the EU average (2.8%). In contrast to the majority of EU Member States (with the exception of Finland), the main reason for unmet needs in Slovenia lies in the length of waiting lists and not the high cost of treatment (Fig. 2.90). Moreover, the gap between the first and fifth income quintiles is minimal (Fig. 2.89). This is probably connected with the fact that adult dental care is partly included in health benefit basket covered partly by public compulsory and partly by complementary private health insurance. However, this benefit is subject to a considerable restrictions due to long waiting times. As a result, over a quarter of the population do not have their own assigned dentist (171). These people either do not visit a dentist or else use the services of private dental practitioners. It is interesting to note that people with higher levels of educational attainment report more unmet needs for denta care as a result of waiting times (Fig. 2.90). It is the opposite case with financial reasons, which otherwise account for a very low proportion of unmet needs. As expected, unmet needs for financial reasons are more common among people with lower levels of educational attainment.

Women report a higher proportion of unmet needs than men. The gap between men and women is lower in relation to dental care than to healthcare generally (only 0.4 percentage points on average between 2017 and 2019). In Slovenia, persons aged over 65 had more unmet needs than young age groups, which was the opposite to the EU average. The persons aged over 65 are most affected by waiting lists for dental care, as they are by waiting lists for healthcare generally.

An OECD analysis from 2020 shows that the likelihood of a higher-income individual visiting a dentist is almost 24 percentage points higher than for lower-income individuals with comparable dental treatment needs (4). These wide income-based inequalities arise chiefly because of long waiting times, as higher-income individuals can finance their own treatment outside the public system.

The number of dentists in Slovenia is increasing and is comparable with the EU average. In 2018, 1,492 dentists were employed in the Slovenian healthcare system, which is 20% more than ten years earlier and 29% more than in 2000. In 2018, there were 0.7 dentists per 1,000 inhabitants, which is the same as the EU average (172). Despite this, waiting lists are not coming down.

OUT-OF-POCKET PAYMENTS FOR HEALTH CARE

Author: Eva Zver

Out-of-pocket payments for health care (OOPs payments), also called direct payments expenditure on healthcare, includes formal and informal expenditure by individuals as a means of paying directly for healthcare goods or services whose primary aim is to improve or preserve the health of an individual or group (41), (54), (172). This expenditure is always borne by the person who requires healthcare, and this applies most often to older members of the population. As it is unforeseeable and usually considerable, it can have a strongly adverse effect on an individual's financial security. Out-of-pocket payments for health care is used as the main indicator of affordability of the healthcare system and the financial protection of the population (41). It is also one of the key indicators for measuring progress in achieving the UN's sustainable development objectives as regards access to healthcare. Out-of-pocket expenditure is monitored by using the System of Health Accounts (SHA) methodology and/or on the basis of the Household Budget Survey when we wish to examine the OOP born by different socio-economic groups of the population[1].

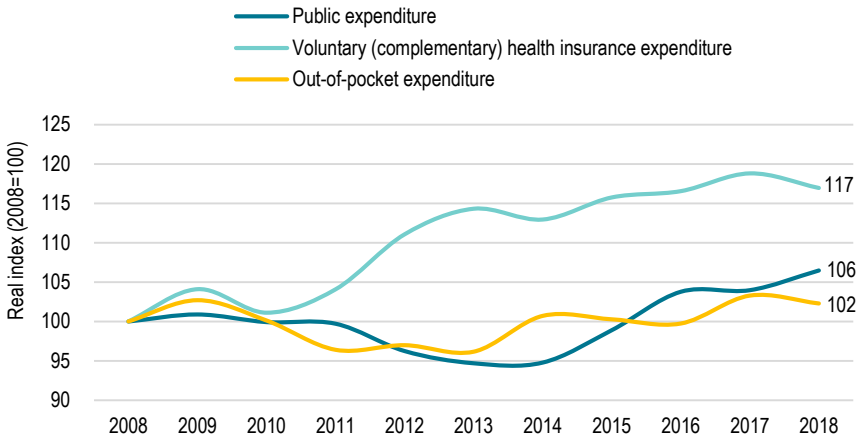

Fig. 2.91: The growth of health expenditure by financing schemes, 2008-2018
Source: SURS and OECD Stat 2021, calculations UMAR.

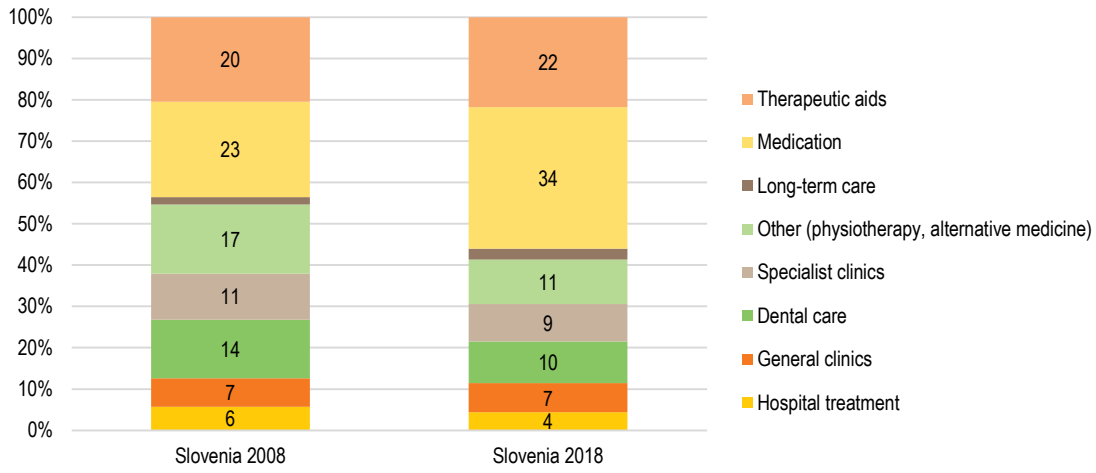

Fig. 2.92: Structure of out-of-pocket payment for healthcare, 2008 and 2018
Source: SURS and OECD Stat 2021, calculations UMAR. Note: by SHA.

[1] The national accounts calculate the share taken by out-of-pocket expenditure in final household spending slightly differently to the way it is calculated as a share of overall household spending in the Household Budget Survey; this is because, with the former, final household spending also includes all private insurance. Moreover, final household spending is calculated not only on the basis of the Household Budget Survey but also of other sources of data (final accounts, tax sources and other studies and surveys).

According to the Health Accounts data, per capita OOP expenditure on healthcare was EUR 219 (or EUR PPP 262) in 2018. The EU average was almost twice that figure at EUR PPP 496 (172). The reason for the relatively low direct out-of-pocket expenditure lies in the wide benefits basket covered by the combination of public compulsory and complementary private health insurance in Slovenia. This ensures a good level of affordability and financial security on the part of the population as a whole, as the survey indicator of unmet needs for medical examinations confirms (see also indicator: *Unmet needs for medical examination*). In countries with high direct OOP expenditure on health, access to healthcare is financially limited, places the social security of individuals at risk and increases health inequalities. Between 2008 and 2018, out-of-pocket expenditure increased in real terms by 2,3%, which is considerably lower than in the majority of EU Member States. There was significantly higher growth in expenditure on voluntary health insurance (17%), which compensated for the fall in public sources of funding during the economic crisis, with growth in public expenditure (6,5%) outstripping the growth in out-of-pocket expenditure (Fig. 2.91).

In the majority of countries, pharmaceuticals and medical devices account for the highest share within the structure of direct OOP expenditure on healthcare (56% in Slovenia: 34% for pharmacuticals, mostly non-prescription drugs, and 22% for medical devices, with a large share attributable to corrective lenses for spectacles), followed by outpatient medical services at 27% (11% of which comprises various alternative medical services), dental services at 10%, long-term healthcare (excluding social care) at 3% and hospital treatment at 4%. In the EU-27 on average, a higher share goes towards dental services (13%), long-term healthcare (11%) and hospital treatment (10%), and a lower share towards pharmaceuticals and medical devices (44%). The differences between countries are considerable and are linked to differences in benefit basket provided by compulsory health insurance, as well as to the scope of private health insurance schemes.

OUT-OF-POCKET PAYMENTS FOR HEALTH CARE BY HOUSEHOLDS CONSUMPTION

Author: Eva Zver

Out-of-pocket paymentsfor health care relative to household consumption can be analysed using the Household Budget Survey (Fig. 2.93). The approach has been developed by the World Health Organization as an indicator of the financial protection of the population. Catastrophic expenditure on health is calculated using Household Budget Survey data and the WHO methodology (Fig. 2.94). Out-of-pocket payments for health care are catastrophic for a household whenever it is greater than 40% of a household's capacity to pay expenses above the minimum living costs or after its basic needs, which include food, other necessary consumer goods and housing costs, have been met. Under the new WHO methodology, three groups are regarded as households with catastrophic out-of-pocket expenditure: 1) households at risk of impoverishment afterout-of-pocket health expenditure; 2) households impoverished afterout-of-pocket health expenditure; and 3) households further impoverished after out-of-pocket health expenditure (41).

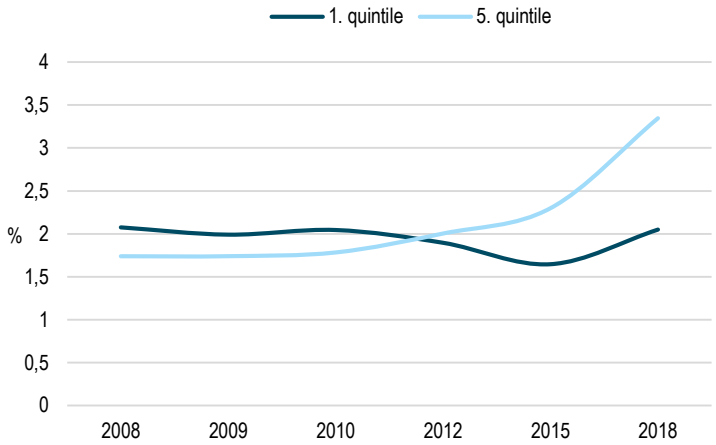

Fig. 2.93: Out-of-pocket payments as a share of total household consumption by 1. and 5. quintile, Slovenia 2008 -2018
Source: SURS 2021. Household Budget Survey; calculations Zver et al 2019 (173) and Zver et al 2021.

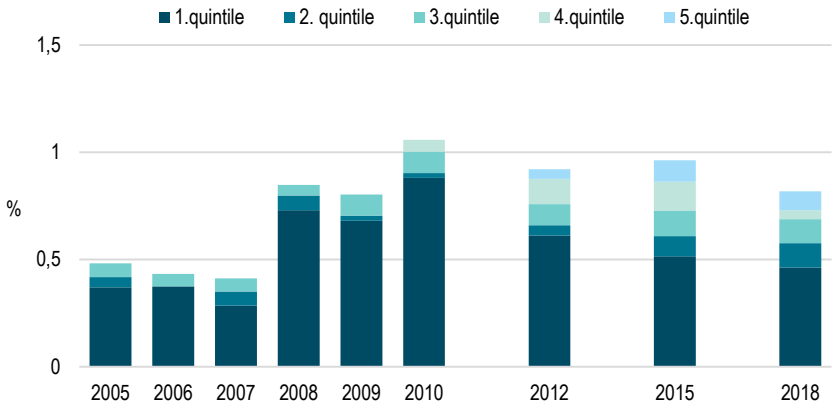

Fig. 2.94: Share of households with catastrophic expenditure, by consumption quintile, Slovenia, 2005–2018
Source : SURS, Household Budget Survey; calculations by Zver et al 2019 (173) and Zver et al 2021.

Note: According to WHO methodology the calculation is made by consumption quintiles and not by income quintiles.

In 2018, an average of 2.9% of total household expenditure went on health. In the last ten years, this figure has risen by 0.8 percentage points, with the biggest rise taking place after 2015 (Fig. 2.93). In 2008, the proportion of expenditure on health was higher in the first quintile (2.1%) then in the fifth quintile, between 2008 and 2018, more affluent households gradually increased the share of expenditure on health and by 2018 almost doubling it (from 1.7% in 2008 on 3,3% in 2018), while the shares in the lowest quintilesstood on almost the same level (around 2,0 %) during all period. The situation was the opposite in respect of the amounts in the absolute values per member of the household: the ratio in expenditure between the first and fifth consumption quintiles increased significantly, from 1: 4.2 in 2008 to 1: 5.9 in 2018. Which means that the gap between the first and fifth quintile has widened sharply due to a significant increase in health spending in the wealthiest households. We also analysed differences in households OOPs consumption for health according to income quintiles. In this case, too, the trends in OOP health spending were similar, but the gap was slightly smaller. In 2008, the ration in the first and fifth quintiles was 1:2.3 and in 2018 1:3.8. The increase in the expenditure on health by more affluent households can be linked in part to the growth in expectations and care regarding one's own health but is more likely a reflection of the rapid lengthening of waiting times in the public healthcare system and the increasing use of private practitioners. It means that ong waiting times therefore also lead to an increase in out-of-pocket expenditure on health, however, in particular for households with higher incomes or higher consumption, i.e. those that can afford that out-of-pocket direct expenditure. This also leads to an increase in health inequalities.

For most households in Slovenia, OOPexpenditure on health is not so high to expose them to poverty. That said, the share of households with catastrophic expenditure doubled between 2005 and 2015 and then it felt slightly during 2015 -2018 (on 0.8%) (Fig. 2.94). In 2018, 16.600 people lived in households which had spent more than 40% of their entire consumption on OOP for health if we exclude basic living needs. Between 2015 and 2018, the share of households in the first quintile with catastrophic expenditure fell again however it increased in the second quintile (Fig. 2.94). The most of all catastrophic expenditure in Slovenia goes towards dental services, but in the period from 2015 to 2018 the share of catastrophic expenditure further increased for hospital treatment, which are in second place (27%), purchase of therapeutic devices (17%), diagnostics (6%) and outpatient services (6%). While in most other countries in the European region of the WHO, catastrophic expenditure is connected mainly with co-payments for medicines.

EXPENDITURE ON VOLUNTARY HEALTH INSURANCE

Author: Eva Zver

We usually analyse the scope of voluntary health insurance[2] using data based on the System of Health e Accounts . However, by using the Household Budget Survey, we can examine the extent to which households are adversely affected by private health insurance premiums as a proportion of their income and in relation to their other socioeconomic characteristics.

In Slovenia, voluntary complementary health insurance is designed to cover co-payments up to the full price of healthcare services and medicines included in the benefits package covered by the compulsory health insurance. These co-payments range from 10% to 90% of the full price. The Health Care and Health Insurance Act (ZZVZZ) therefore defines that complementary health insurance is a public benefit designed in accordance with the principle of mutuality[3]. This means that the premiums are equal for all insured persons regardless of age and state of health (flat rate).

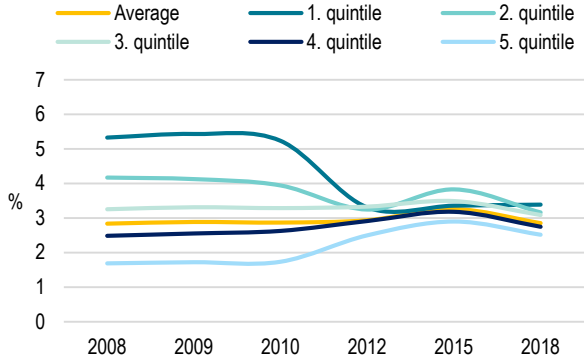

Fig. 2.95: The share of expenditure on voluntary health insurance in total household consumption by income quintiles, 2008–2018

Source : SURS 2020.

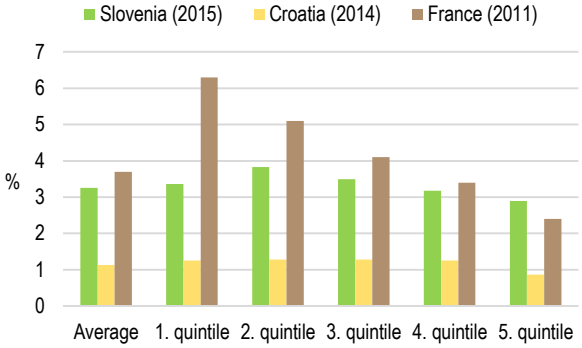

Fig. 2.96: ce in total households consumption by quintiles, Slovenia, Croatia and France

Source : WHO Regional Office for Europe 2019.

Complementary health insurance premiums amounted to an average of EUR 34 a month or EUR 408 a year in 2020. Despite the relatively high increase in premiums in the last few years, the coverage of the population has remained high for a number of years. This is crucial for ensuring that the principle of mutuality between the healthy and sick insured persons (and between young and old) is maintained. In Slovenia 95%of people liable to co-payment, or 73% of the total population, are insured. Despite the high levels of insurance, around 5% of liable persons (around 75,000 individuals) remain uninsured. These are most commonly people from the most vulnerable social groups who nevertheless are not the recipients of financial social assistancely (recipients of social assistance are exempt from co-payments and therefore do not need complementary health insurance).

While these individuals do mostly have compulsory health insurance, their lack of complementary health insurance makes it difficult for them to access healthcare because the co-payments are too high for them.

Using data from the Household Budget Survey, we find that households spent an average of 2.8% of their total consumption on voluntary health insurance, mostly complementary health insurance (96%), in 2018 (Fig. 2.95). In all income quintiles with the exception of the first, this share fell in 2018 relative to 2015, despite the fact that complementary health insurance premiums rose in that period, mainly as a result of economic growth and increased household spending for other purposes.

[2] In Slovenia, complementary health insurance accounts for just over 96% of voluntary health insurance. In addition to complementary health insurance, the Health Care and Health Insurance Act (ZZVZZ) defines three other forms of voluntary health insurance: **supplementary** health insurance (for healthcare services and materials of a higher standard); **substitute** health insurance (which can be contracted for all services that are otherwise covered by compulsory health insurance by those who are not permitted to have compulsory insurance in Slovenia) and **parallel** health insurance (for healthcare services to which a person is otherwise entitled under compulsory health insurance, but which are provided under different conditions, a category that includes also insurance for quicker access to services).

[3] ZZVZZ (1992), Article 62.

On average, the proportion of expenditure on complementary health insurance remained at roughly the same level (2.9%) between 2006 and 2018 (Fig. 2.95). The regressive nature of this source of health funding fell sharply in 2012 when new social legislation was introduced that automatically covered social assistance recipients' complementary payments in full from the central government budget.[4] The burden of expenditure on complementary health insurance was therefore lifted considerably from households in the first (and partly also the second) quintile; on the other hand, the share increased for households in the fourth and fifth quintiles in 2012, which was related to the economic crisis and the fall in consumption for other purposes. The gap between the first and fifth quintiles in terms of the share of expenditure on voluntary health insurance was at its narrowest in 2015 (173), (174).

The main weakness of complementary health insurance lies in the fact that the premium is equal for all income groups. However, a WHO study found (2019) that this source of financing health care has been significantly less regressive in Slovenia than in France since 2012, although it remains slightly more regressive than in Croatia (more groups of the population entitled to have co-payments covered on their behalf). France and Croatia are the only two countries in the world with complementary health insurance systems similar to Slovenia's (Fig. 2.96) (41). The study further points out that these three countries have achieved almost universal coverage with voluntary health insurance, which covers the high co-payments for a wide range of goods and services in the benefits package and thereby contributes to the overall social security of the population.

There has been a rapid increase in enrolment in other forms of voluntary health insurance in Slovenia in recent years. This is particularly true of supplementary health insurance, which gives access to health services provided by private practitioners. Long waiting times in the public healthcare system are the main reason for the growth in these types of insurance. In 2019, 26% of the population already had a supplementary or parallel health insurance policy, up from 5.6% in 2011 and 18.9% in 2015. However, these premiums still account for a small proportion of the total sum of all voluntary health insurance premiums (4.5%, or EUR 26.1 million, in 2019)[5]. For supplementary voluntary health insurance, the level of the premium depends on the insured person's age and state of health. Therefore, it is generally individuals from higher income classes or with higher levels of educational attainment who are able to afford them. According to the WHO, 2019, supplementary voluntary health insurance have in many countries, led to an increase in inequities in access to healthcare and to health inequalities (41).

[4] This entitlement was introduced at the end of 2009, but was not automatically linked to acquisition of the right to social assistance until 2012.

[5] This figure was only 1.6% in 2013, rising to 2.6% in 2015 (EUR 12.2 million) (Slovenian Insurance Association, 2020).

POPULATION COVERAGE FOR HEALTH CARE

Author: Eva Zver

The coverage of the population for health care is related to the achievement of the basic objective of the healthcare system, which is to ensure that all individuals enjoy equal access to healthcare. There are three dimensions to coverage for health care: 1) the breadth of coverage, which should be universal and is measured by the share of proportion covered for health care, 2) the depth of coverage (the scope of goods and services included in the benefits package and 3) the height of coverage from public financing and private health insurance. These three dimensions together can determine how comprehensive healthcare coverage is and provide a basis for an assessment of access to health care.

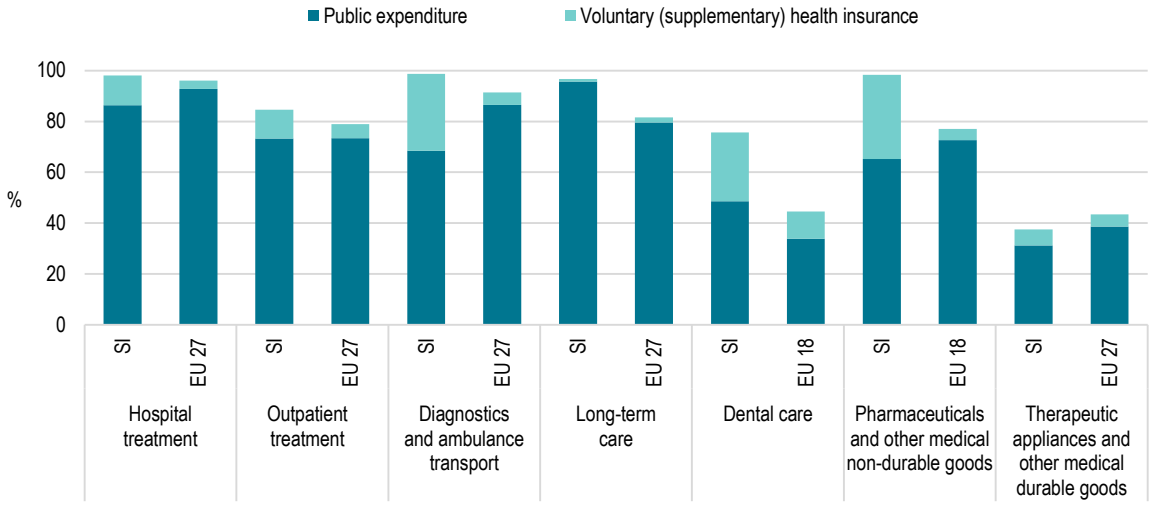

Fig. 2.97: Level of coverage of the range of entitlements from public funds and private insurance, by purpose, 2018

Source: Eurostat 2021 and OECD Stat 2021. Note: Expenditure and purposes are presented in accordance with the healthcare accounts system (OECD, WHO, Eurostat, 2017).

All individuals in Slovenia are formally included in the compulsory health insurance system, which means that, from the point of view of breadth of coverage, we realise the principle of universality (or almost 100% coverage of the entire population). Most of the EU-27 also ensure 98–100% coverage by public funds[6] (54). Despite the formal universality of coverage, uninsured persons do present a problem in Slovenia. That said, their numbers have halved in the last ten years, with the biggest fall coming in 2012, when the Exercise of Rights from Public Funds Act came into force. This automatically enrolled recipients of social assistance in the compulsory insurance system; at the same time, they were exempted from co-payments, which relieved the burden of paying for complementary health insurance premiums from socially more vulnerable individuals (see also indicator: *Expenditure on voluntary health insurance)*. In 2012, owing to the increase in the number of uninsured people during the last financial crisis, the Health Insurance Institute of Slovenia (ZZZS) also began actively calling on uninsured people to arrange their health insurance (175). In 2020, there were approximately 3,000 people (0.2% of the population) who had had no insurance for two months or more. This did not represent an increase on the year before, despite the COVID-19 pandemic (176). The most common reason for a lack of health insurance is the failure to arrange permanent residence, which is a precondition for enrolment in the compulsory health insurance system. People with temporary residence cannot enrol in the compulsory health insurance system and are only entitled to urgent healthcare services; these are usually foreign nationals without permanent residence, with the costs of urgent services being covered for them from the central government budget. In addition to uninsured persons, a further problem in terms of access is presented by insured persons who have not paid their contributions for compulsory health insurance and may therefore only claim urgent treatment. There were 18,221 such people at the end of 2019, including 6,434 people whose

[6] Public financing can come from social health insurance or the central government budget. Compulsory health insurance is usually public social insurance, but may also be provided by private insurers. In the Netherlands, enrolment in a private health insurance scheme is compulsory, while in France enrolment in supplementary health insurance has been compulsory for all employees since 2016 (enrolment must be arranged by the employer).

rights had been suspended for more than one year. Self-employed people are the single biggest category within this group.

In Slovenia, 95% of people liable for co-payments have voluntary complementary health insurance that covers those payments up to the full price of healthcare services and medicines. The high risk of having to make co-payments is the reason why insurance coverage is so high in Slovenia. Around 75,000 people have no voluntary complementary health insurance; these are most commonly people from the most vulnerable groups in society (see indicator *Expenditure on voluntary health insurance*).

In order to assess the access to healthcare, due regard must be paid to the health care benefits package, in terms of both the depth (set of goods and services) and the hight (to whom the rights are guaranteed and for what amount of expenditure), in addition to the breath or the share of the coverage of the population. There are major differences between EU countries in relation to these dimensions, although all of them exempt some vulnerable groups from the requirement to make co-payments, either wholly or in part (in a certain percentage relative to income or by franchise), or else they cover services for these population groups from public funds[7] (177). In Slovenia, the depth of the benefits package is very wide and also covers certain services that are often wholly or partly exempt in some EU countries (e.g., dental services for adults, physiotherapy, orthodontic treatment for children, hearing aids, dietary supplements, speech therapy, alcohol or drug rehabilitation services, the treatment of injuries sustained during extreme sports, home care and non-emergency ambulance services). In many countries, these services are accessible only by directout-of-pocket payments or co-payments from voluntary insurance policies (177). In Slovenia, some of these services are only covered to the extent of 10% from compulsory health insurance, with the remaining 90% covered from complementary health insurance. This is reflected in the heigth of coverage of benefits packega, broken down by purpose as shown in Fig. 2.97. In Slovenia, total coverage from public funds and voluntary complementary health insurance is higher than the EU average in all areas except for therapeutic aids. For dental care and prescription medicines, it is even significantly higher than the EU average, which is also reflected in Slovenia's very low out-of-pocket expenditure (see also indicator: *Unmet needs for medical examination*) and low level of unmet needs for financial reasons. However, the picture is different if one only takes public funds into account. In this case, coverage would be higher in Slovenia than in the EU only in relation to dental care. The height of coverage of costs for goods and services within the health benefits package is therefore very high in Slovenia only if the individual has complementary voluntary health insurance (Fig. 2.97). As the WHO found in 2019, healthcare is more affordable in Slovenia than in other European countries for the majority of the population covered by compulsory as well as complementary health insurance (41).

[7] In Slovenia and virtually everywhere else, children and school-aged children, socially at-risk individuals and those disabled during military service are exempted from making co-payments. In some countries, pregnant women and retired people are also exempted. In all EU countries except Slovenia, institutions for Health Technologies Assessment (HTA) are already in operation and charged with making decisions on which services, treatment procedures, medications and medical devices should be included in the basic benefits package , and the sco-payments (as a percentage) that should be applied to them.

UNMET NEEDS FOR LONG-TERM CARE

Authors: Eva Zver, Mateja Nagode, Andrej Srakar

Access to long-term care can be measured in a variety of ways and with a variety of indicators; these include, among others, the affordability of services and their accessibility in terms of time and availability. We start by focusing on unmet needs for long-term care as one of the indicators of access to long-term care, before moving on to consider the number of recipients of formal care at home. Both indicators are shown based on the results of the longitudinal Survey of Health, Ageing and Retirement in Europe (SHARE), using data from the fourth, fifth and sixth waves of the survey (178). The indicator of unmet needs for long-term care covers people aged 50 and over who require help with at least one basic activity of daily living (ADL), but who do not receive any help. A standardised indicator for measuring unmet needs for long-term care has not yet been established at international level.

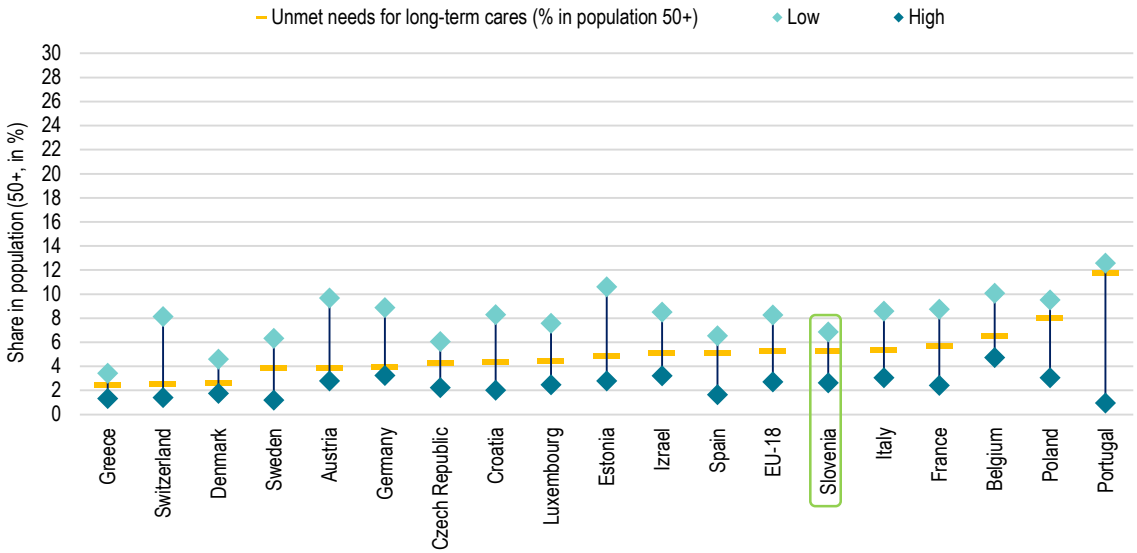

Fig. 2.98: Unmet needs for long-term cares, by level of education, Slovenia and the EU, 2017
Source: SHARE, sixth wave (2017); calculations IER.

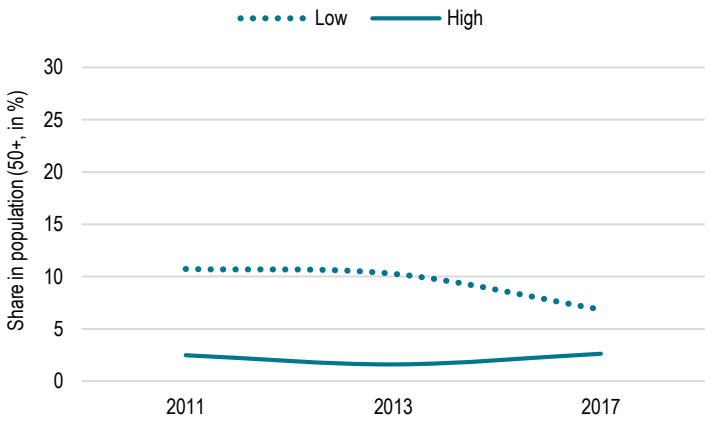

Fig. 2.99: Unmet neds for long-term care, by level of education, Slovenia, 2011, 2013, 2017
Source: SHARE, sixth wave (2017), fifth wave (2013), fourth wave (2011); calculations IER.

In Slovenia in 2017, 5.3% of people aged over 50 had unmet needs for long-term care, meaning that 44,500 people were not receiving any assistance within or outside the household even though they required help with at least one basic activity of daily living (ADL). This puts Slovenia at the level of the average for the 18 EU countries for which data is available. Italy, France, Belgium, Poland and Portugal had higher proportions of people aged over 50 with unmet needs, while Greece, Switzerland and Denmark had the lowest proportions of people with unmet needs.

In practically all countries, there is a difference in unmet needs between those with lower and those with higher levels of educational attainment, with the gap widest in Portugal and narrowest in Greece. In Slovenia in 2017, 6.9% of people aged over 50 and with lower levels of educational attainment, 5.7% of people aged over 50 with medium levels of educational attainment and 2.6% of people aged over 50 with higher levels of educational attainment had unmet long-term care needs, which indicates a relatively wide gap in unmet needs for long-term care by education (4.3 percentage points), but one that is narrower than the EU average (5.6 percentage points) (Fig. 2.98) (174).

RECIPIENTS OF ORGANISED HOME CARE (65+)

Authors: Mateja Nagode, Eva Zver, Andrej Srakar

We can also measure access to long-term care using the indicator of receipients of home care. We present it based on the results of the longitudinal Survey of Health, Ageing and Retirement in Europe (SHARE), using data from the fifth and sixth waves of the survey (178). The indicator of receipients of organised home care addresses people aged 65 or over who, owing to physical, psychological, emotional or memory problems, receive a professional or paid-for service at their home (e.g. help with personal care tasks, household tasks, other activities, food at home, etc.). The indicator does not include informal care.

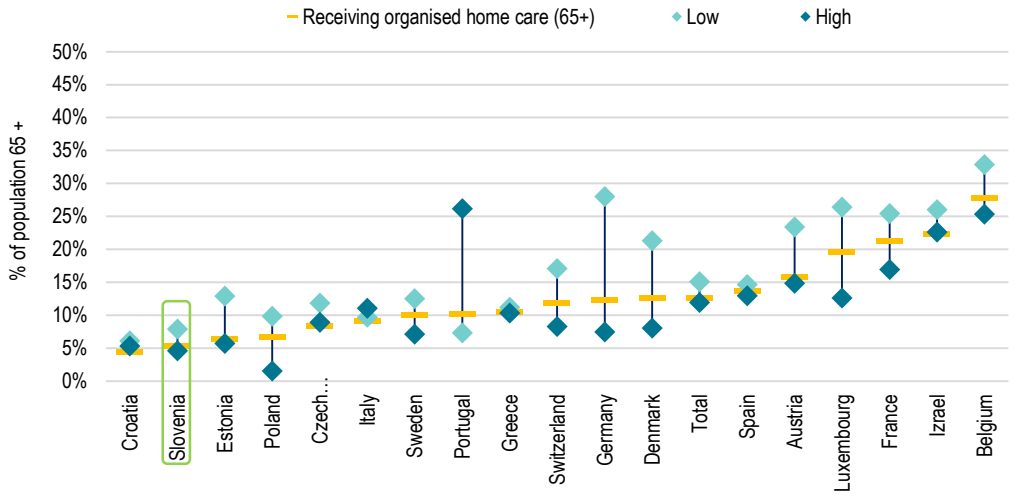

Fig. 2.100: Receipients of organised home care in relation to education, people aged 65 or over, Slovenia and European countries, 2017
Source: SHARE, sixth wave (2017), calculations IER.

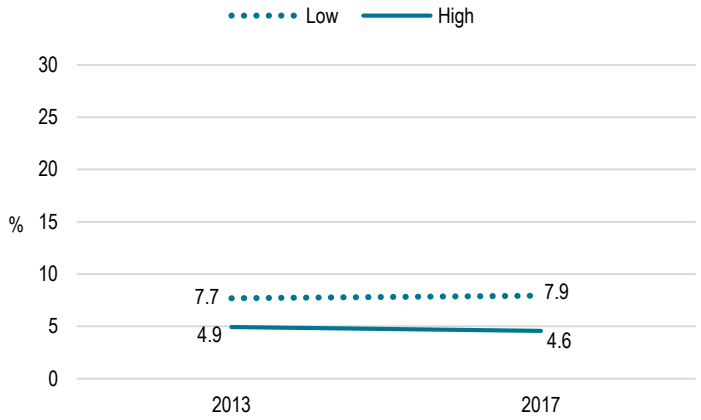

Fig. 2.101: Receipients of organised home care in relation to education, people aged 65 or over, Slovenia, 2013 and 2017
Source: SHARE, fifth wave (2013) and sixth wave (2017), calculations IER.

In Slovenia in 2017, 5.3% of people aged 65 or over received organised home care. This is a very low proportion compared to other European countries taking part in SHARE. Only Croatia had a lower percentage, with proportions lower than 10% also recorded in Estonia, Poland, the Czech Republic and Italy. At the other end of the scale is Belgium, with almost 30% of those aged 65 or over receiving organised home care in 2017. High levels of recipients (over 20%) are also seen in Israel and France (Fig. 2.100). If we compare recipients of organised home care in Slovenia in 2017 with the figure for 2013, we observe only a slight rise of just over half a percentage point (0.6).

In practically all countries, there is a difference in recipients of organised home care between those with lower and those with higher levels of educational attainment, where it is highest in Germany (28% vs 7.5%). It is generally the case in all countries that the lower educational attainment group contains a higher proportion of people receiving organised home care (15.1% across all countries) and the higher educational attainment group contains a lower proportion (11.9% across all countries). The exception is Portugal, where the proportions are reversed (7.3% vs 26.2%). While there is a gap by education in Slovenia (7.9% lower education and 4.6% higher education), it is one of the narrowest in comparison with other countries. Between 2013 and 2017, the difference in recipients, by level of educational attainment, rose slightly in Slovenia (from 2.8 to 3.3 percentage points), increasing slightly among those with lower levels and falling among those with higher levels of educational attainment (Fig. 2.101).

From the point of view of recipients of organised home care within the population, Slovenia does not score so highly, and is among those countries in which such services or care remain insufficiently developed and widespread despite the government's strategic intention to develop them. The OECD indicator of recipients of organised home care among the population aged 65 or over shows similarly. This indicator is not based on survey but on administrative data (for more on the calculation methodology, see (180)). With 5.9% of the population aged 65 or over receiving long-term care at home, Slovenia is roughly in the middle of the scale for the OECD indicator: at one end are the countries of Eastern and Southern Europe with a lower percentage of recipients (e.g. Estonia 3.5% and Portugal 0.7%) and at the other end are the Nordic countries (Sweden 11.8%, Norway 11.6% and Finland 6.8%) and some continental European countries (Germany 8.9%, Netherlands 13.1% and Switzerland 14.8%), where the share of persons aged over 65 receiving long-term care at home is high or highest.

While there are educational inequalities in the recipients of organised home care within the elderly population (65 and over) in Slovenia, they are not as great as in some European countries. Higher levels of recipients of organised home care on the part of persons aged over 65 with lower levels of educational attainment compared to those with higher levels of educational attainment could be the result, in general, of poorer levels of health and greater fragility among the former, leading to the need for healthcare as well as long-term care. Other associated indicators show a similar picture: life expectancy after the age of 30, for example, is shorter among those with lower levels of educational attainment in Slovenia (see also indicator: *Life expectancy at 30 years of age*), as is the incidence of premature mortality before the age of 75 (see also indicator: *Premature mortality before the age of 75*), while self-assessed health is worse among this population (see also indicator: *Self-assessed good or very good health*). These are all inequalities that must be addressed by health and social policy alike.

ACCESS TO LONG-TERM CARE

Author: Eva Zver

The share of public expenditure on long-term care is an indicator of the accessibility of formal forms of long-term care. More public expenditure on long-term care ensures greater financial protection on the part of the population against out-of-pocket expenditure on long-term care and unmet needs (43), (181).

Under the international System of Health Accounts methodology, long-term care includes the organisation and provision of health care and social care services to people who, because of a reduced level of independence and a reduced ability to lead an independent life, require assistance with daily living activities and/or are in need of some permanent nursing care over an extended period of time (182). Dependence on assistance can be the consequence of physical or mental limitations leading to an inability to carry out basic activities of daily living (ADL) (e.g., eating, dressing, bathing, using the toilet or getting in or out of bed or up from a chair, moving around and controlling bladder and bowel functions) or may be related to independent living (Instrumental Activities of Daily Living or IADLs), such as shopping, cooking, laundry, managing moneyand cleaning (180).

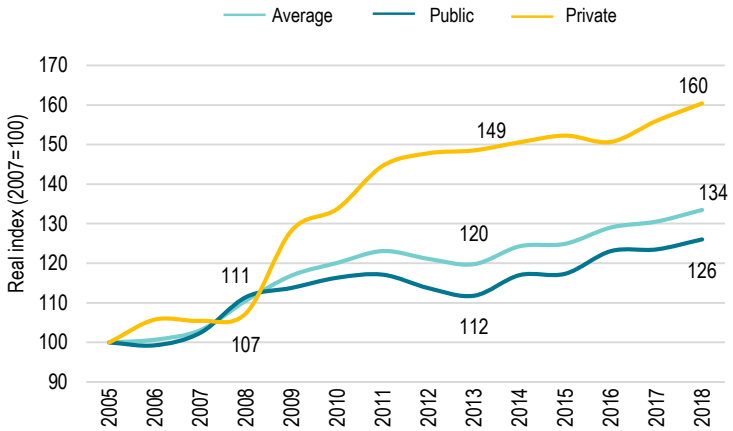

Fig. 2.102: Comparison of growth in public and private expenditure on long-term care, 2005–2018
Source: SURS 2020; calculations UMAR.

Overall, public and private expenditure on long-term care accounted for 1.3% of GDP in Slovenia in 2018. In the structure of funding sources, the share of public expenditure fell significantly between 2008 and 2018 (from 77% to 73%), while in the structure by purpose, the share of expenditure for the healthcare part of long-term care, which is predominantly financed from public sources, has been falling for a number of years, from 72% in 2008 to a mere 66% in 2018 (174), (183), (184).

Public expenditure on long-term care grew rapidly in Slovenia before the financial crisis, when new capacities were opened at elderly care homes. This was followed by more than ten years of very modest growth in public expenditure on long-term care, particularly on healthcare services in care homes and other social institutions, and on home care services. Conditions for residents have therefore deteriorated in recent years. Alongside this, private, direct out-of-pocket expenditure on long-term care services (Fig. 2.102), has risen sharply, and risen much more quickly in long-term care than in healthcare generally (39). The public funding of institutional care increased in 2020 as a result of the COVID-19 pandemic. Owing to a critical shortfall in staff, EUR 26 million was set aside for the recruitment of an additional 550 employees in 2020 and 2021.

There has been a decline in the affordability of long-term care for a number of years. Between 2005 and 2018, private expenditure on long-term care increased in real terms by 60%, while the growth in public expenditure was considerably lower (26%) (Fig. 2.102). In Slovenia, access to healthcare services as part of long-term care is fully covered by compulsory health insurance (in institutional care and community nursing). However, access to these is limited by waiting times for institutional care and by the fact that community nursing visits, which have been increasing from year to year, are designed only for the most severely limited. Access to social services within long-term care (accommodation and food in elderly care homes, home help services) are largely dependent on the user's income and that of their family or adult children[8]. If the amount paid by the

[8] Under the Decree on the criteria for determining exemptions from payment for social security services 2004, a social services centre is responsible for setting the maximum amount of the co-payment (203).

user and/or other persons liable to pay does not cover the costs of the service, the difference is covered by the local authority or central government budget. However, in this case the user must pledge their property as collateral (if they own property). A mortgage can be pledged as collateral for home help services only for property that is not the user's place of permanent residence. The average pension has been lower than the cost of institutional care since 2008. This gap continues to widen[9]. Co-payments for home help services differ markedly between local authorities (from EUR 0 to EUR 9 an hour)[10] (174).

[9] Association of Social Institutes of Slovenia, 2017.

[10] Social Protection Institute (IRSSV), 2019.

2.4 Health inequalities between regions

2.4.1 Regional aspects of selected indicators of health inequalities in Slovenia

Authors: Marina Sučič Vukovič, Metka Zaletel, Mojca Gabrijelčič Blenkuš, Maruša Rehberger, Marcel Kralj (all NIJZ)

Slovenia's regional policy has four general objectives over the next seven years; these are designed to boost the development strength of the regions based on their own development potentials and global opportunities. The first regional policy objective relates to increasing the quality of life in all regions. For many regions, reducing the gap with neighbouring regions, which is the second regional policy objective, is easier to achieve than getting closer to the EU average. Ensuring more harmonised regional development and reducing internal differences within regions and between municipalities and geographical areas is the third regional policy objective, while the fourth objective complements the other three by focusing on the forging of international inter-regional development connections and cooperation (185).

Although it is a small country, Slovenia contains considerable diversity in terms of geographical characteristics, landscape, climate, level of development, GDP and material wealth, cultural heritage, educational attainment, age structure and lifestyle; thus population health status differs considerably between regions.

Health status and health care indicators provide important support to regional development planning, and also serve as a means of monitoring and evaluating the results of the activities carried out. Moreover, a regional picture provides an insight into the specificities of individual regions and opens a number of questions. For several years, the National Institute of Public Health (NIJZ) has presented the health situation at regional and municipal level with the help of the 'Health in the Municipality' tool (obcine.nijz.si), which enables key regional development stakeholders to examine the inequalities that exist between regions and municipalities.

We have selected several indicators that are also available at the statistical region level from the set analysed at national level. The key data sources were the European Health Interview Survey (EHIS 2019), Causes of Death Registry, the perinatal information system and the Survey of Health, Ageing and Retirement (SHARE) for Slovenia.

LIFE EXPECTANCY

	Lowest value	Years	Highest value	Years	Slovenia Years
Life expectancyat age 30 – men	Pomurska region	47	Osrednjeslovenska region	50.8	49
Life expectancy at age 30 – women	Pomurska region	53	Osrednjeslovenska region	55.8	54.6

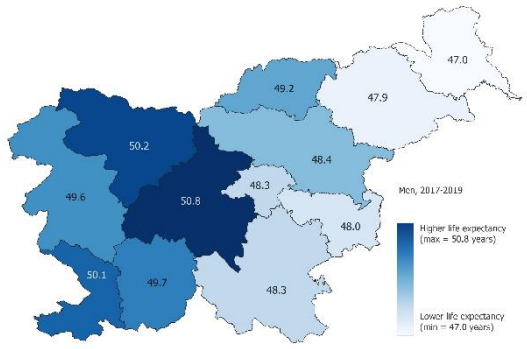

Fig. 2.103: Life expectancy at age 30 – men

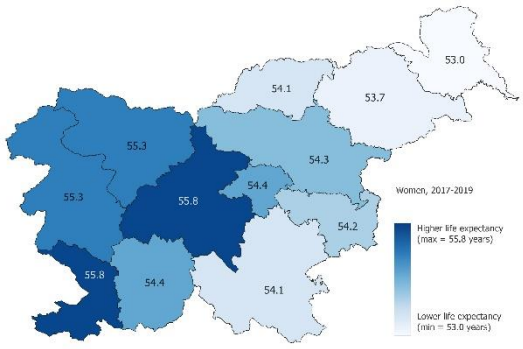

Fig. 2.104: Life expectancy at age 30 – women

Life expectancy at age 30 among both men and women typically follows an east-west gradient, with the highest values for both sexes recorded in the Osrednjeslovenska region. All eastern regions have low life expectancy values, with the lowest values being recorded in Pomurska region. The difference between the highest and lowest values is almost three years for both sexes (or just over 5% of the life expectancy for Slovenia as a whole).

SELF-ASSESSED HEALTH

	Lowest value	%	Highest value	%	Slovenia %
Proportion of people with good or very good self-assessed health	Pomurska region	57.4	Obalno-Kraška region	73	64.5

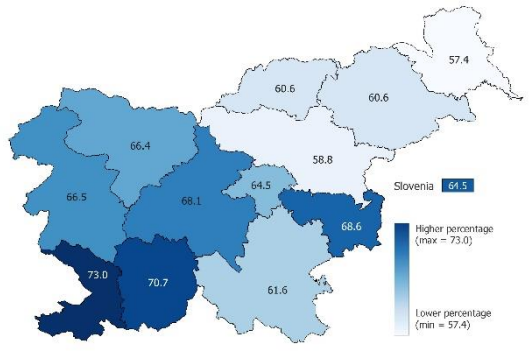

Fig. 2.105: Self-assessed good health

The proportion of the population reporting of their own health as good or very good was highest in the Obalno-Kraška region at 73%; this differed to a statistically significant extent from the values in Pomurska, Podravska, Koroška, Savinjska, and Jugovzhodna Slovenija region.

Second best was the Primorsko-Notranjska region, with 70.7% of the population reporting of their own health as good or very good. This was a statistically significant difference from the proportion recorded in the bottom-ranked Pomurska region (57.4%).

As with life expectancy, self-assessed health also follows an east-west gradient. The differences between the most eastern and most western regions are statistically significant, and the gap between the regions is wide (24% of the value for Slovenia as a whole). However, certain marked regional differences are evident within this gradient: for example, Posavska (in Eastern Slovenia) has a higher proportion of inhabitants reported of their own health as good or very good than Gorenjska and Goriška.

The proportion of inhabitants reporting of their own health as good is highest in the Obalno-Kraška region, where the socioeconomic position is good, but worse than in the Osrednjeslovenska region, for example. The Obalno-Kraška region has other advantages that can produce a positive effect on health.

Primorsko-Notranjska region was second best in proportion of respondents who reported of their own health as good or very good; this is despite the fact that this region has the lowest average monthly salary and below-average GDP, and also had an above-average proportion of inhabitants with primary-school education or lower in the period observed. It is interesting to compare Primorsko-Notranjska region with Pomurska region: both have unfavourable socioeconomic indicators but, in contrast to Primorsko-Notranjska, Pomurska region has the lowest proportion of inhabitants reported of their own health as good or very good. We see, in the case of both Obalno-Kraška and Primorsko-Notranjska regions, that there are clearly other types of factors at play (social, cultural, environmental and others), alongside that of economic capital, that affect the creation of a living environment, of interconnections between people and of lifestyles that contribute to good and very good self-assessed health.

PREGNANCY AND BIRTH

	Lowest value	%	Highest value	%	Slovenia %
Smoking habits of pregnant women	Goriška region	6.2	Jugovzhodna Slovenija	15.1	10.4
Attendance at preparation for birth and parenthood course (first pregnancy)	Primorsko-Notranjska region	49	Pomurska region	81.1	63.6

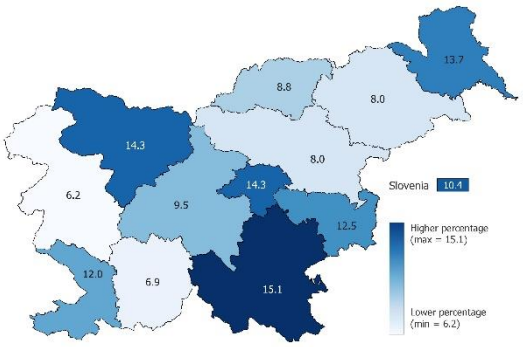

Fig. 2.106: Smoking during pregnancy

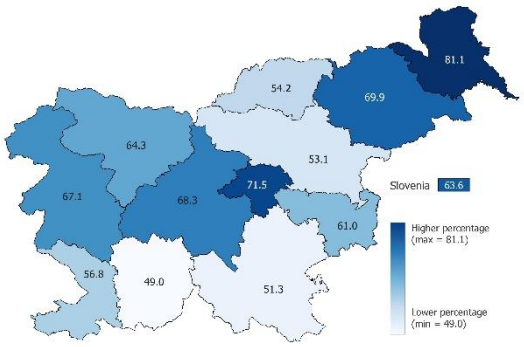

Fig. 2.107: Attendance at parenting school (first pregnancy)

The proportion of pregnant women who smoke is the highest in the Jugovzhodna region (15.1%) and lowest in Goriška region (6.2%). These figures constitute a statistically significant deviation from the figures in other regions, as well as from the national average. The indicator of pregnant smokers as well shows a big difference between the regions with the highest and lowest proportions (85% of the value for the country as a whole).

Preparation for birth and parenthood course in Slovenia are organised in a number of different ways and to differing extents. Future parents participation is influenced by accessibility, personal interests and certain other factors. The data shows that Pomurska region had the highest and Primorsko-Notranjska region the lowest proportion of pregnant women attending preparation for birth and parenthood course (81.1% and 49% respectively). These figures constitute a statistically significant deviation from the figures in other regions, as well as from the national average. The gap between the regions with the highest and lowest attendance at preparation for birth and parenthood course amounts to half of the value of the indicator for Slovenia as a whole.

SMOKING

	Lowest value	%	Highest value	%	Slovenia %
Proportion of smokers	Primorsko-Notranjska region	20	Podravska region	25.3	23.4

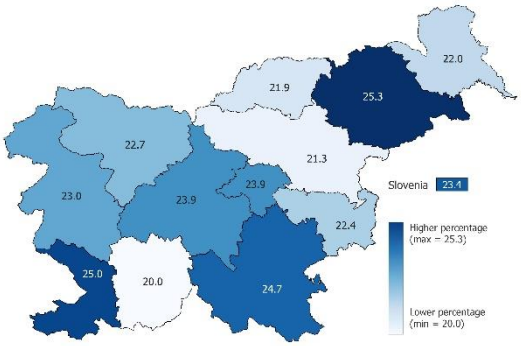

Fig. 2.108: Proportion of smokers

The proportion of smokers was the highest in Podravska (25.3%) and Obalno-Kraška (25%) regions, while the lowest proportion was found in Primorsko-Notranjska region (20%). The differences between the regions are not statistically significant.

OBESITY AND PHYSICAL ACTIVITY

	Lowest value	%	Highest value	%	Slovenia %
Proportion of people who are physically active for at least 30 minutes a day or 150 minutes a week	Koroška region	85.7	Posavska region	95.6	90
Proportion of people with a body mass index (BMI) 30 or more	Koroška region	23.9	Posavska region	34.6	28

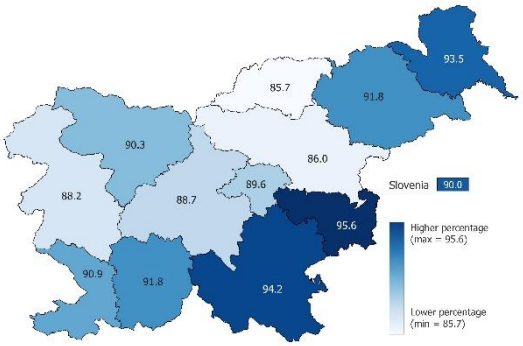

Fig. 2.109: Proportion of people who are physically active for at least 30 minutes a day or 150 minutes a week

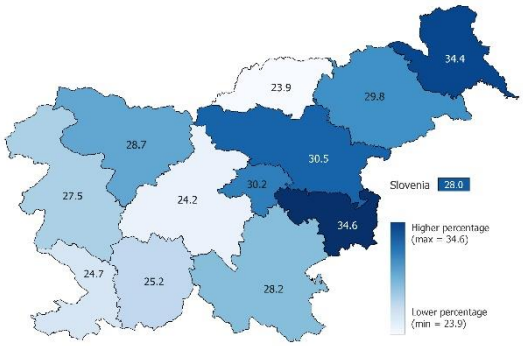

Fig. 2.110: Proportion of people with a BMI of 30 or more

Regular physical activity is an important life habit and has a positive effect on physical and mental health. The recommended amount of physical activity is at least 30 minutes a day. According to data from the EHIS 2019 research study, Posavska and the Jugovzhodna regions had the highest proportion of people physically active for at least 30 minutes a day (95.6% and 94.2% respectively). These figures differed from those recorded in Koroška, Savinjska, Osrednjeslovenska and Goriška regions to a statistically significant extent. The study also found that Koroška and Savinjska regions had the lowest proportions of people physically active for at least 30 minutes a day (85.7% and 86% respectively). The differences between the regions are very small, with the difference between the regions with the highest and lowest proportion of people physically active on a daily

basis for at least the recommended period of time amounting to only 8% of the value of the indicator for Slovenia as a whole.

Body mass index (BMI), a measure of overweight, was calculated using information on the height and weight of the survey respondents. A BMI of 30 or more is used as an indicator of obesity.

The lowest proportion of inhabitants with a BMI of 30 and more was found in Koroška (23.9%) and in the Osrednjeslovenska (24.2%) and Obalno-Kraška (24.7%) regions. Only in the Osrednjeslovenska region these figure differs to a statistically significant extent from the figures recorded in Pomurska, Podravska, Savinjska and Posavska regions.

This study found that Posavska region had the highest proportion of physically active inhabitants and, at the same time, the highest proportion of people with a BMI of 30 or more.

FORMAL AND INFORMAL CARE OF THE ELDERLY

Informal care is an important segment of long-term healthcare and social care, as it can play an important role in replacing or complementing formal forms of care (186). We set out below some of the data from the SHARE Slovenia study, which is part of an international survey of health, ageing and retirement that looks at the economic, health and social conditions of the persons aged over 50 in Europe.

	Lowest value	%	Highest value	%	Slovenia %
Informal caregiving outside the household	Zasavska region	3	Pomurska region	28.8	18.1
Informal caregiving within the household	Zasavska region	0	Pomurska region	8.5	4.1
Formal caregiving	Zasavska region	0	Obalno-Kraška region	5.8	3.2

Within SHARE, the inhabitants surveyed are divided into four categories:

- Inhabitants receiving no formal or informal care,
- inhabitants who received only informal care,
- inhabitants who received only formal care,
- inhabitants who received formal and informal care.

There were statistically significant differences between the Slovenian regions in respect of formal and informal caregiving. The proportion of inhabitants with informal care outside and within the household is higher than the national average in Pomurska and Gorenjska regions, and lower than the national average in Zasavska region.

Twenty-nine per cent of the Slovenian population received informal care. In Pomurska region, the proportion of inhabitants receiving informal care exceeded the national average at 35%. It was below the average in Gorenjska region (8%) and very considerably below the average in Zasavska region (2.9%).

The proportion of inhabitants receiving formal and informal care was low in Slovenia as a whole and on a region-by-region basis (2.5% nationally, 3.1% in Pomurska region and 4.5% in Gorenjska region). None of the inhabitants responded to survey in Zasavska region received formal and informal care. In Slovenia, the proportion of inhabitants receiving only formal care was 0.6%. In Gorenjska region, this figure was 0.7%. None of the inhabitants responded to survey in Pomurska or Zasavska regions received formal care only.

Conclusion

We already touched upon regional inequalities in the first publication on health inequalities (24). Despite this, differences persist and are significant in the majority of the indicators we have set out. Different living conditions, uneven economic and social development and differences in risk factors all, to a certain extent, lead to differences in the health status of the inhabitants of specific regions. We have identified a large number of factors that influence lifestyle and that consequently lead to differences in people's health status and in the assessments they make of their own health. We therefore propose that the interdependence and size of impact of these various factors within and between specific regions be further analysed using appropriate statistical methods. The results produced so far show the urgent necessity of promoting sustainable regional development in the widest possible sense.

2.4.2 Regional picture of risking poverty or social exclusion

Authors: Martina Trbanc, Mateja Nagode (both IRSSV)

The at-risk-of-poverty-or-social-exclusion rate is a composite indicator (i.e. a combination of three indicators) that shows a wider picture regarding the risk of income poverty, serious material deprivation or exclusion from the labour market within a population. The at-risk-of-poverty-or-social-exclusion rate is the percentage of people who live below the at-risk-of-poverty threshold (60% of the median equivalised available net income of all households, taking into account the OECD-modified equivalence scale) **or** are seriously materially deprived (in relation to at least four of the nine deprivation elements) **or** live in households with very low levels of work intensity (187).

The national at-risk-of-poverty-or-social-exclusion rate rose gradually between 2009 and 2014, i.e. during the economic crisis and the period of adverse conditions on the labour market, from 17.1% to 20.4%. It then began to fall. In 2019 it reached its lowest level (14.4%) for a decade; indeed, this figure was also lower than the figure recorded before the economic crisis. From the point of view of individual population categories, risking poverty or social exclusion is encountered to the greatest extent by the population aged over 65 (20.5% in 2019), and particularly by elderly women (25% in 2019).

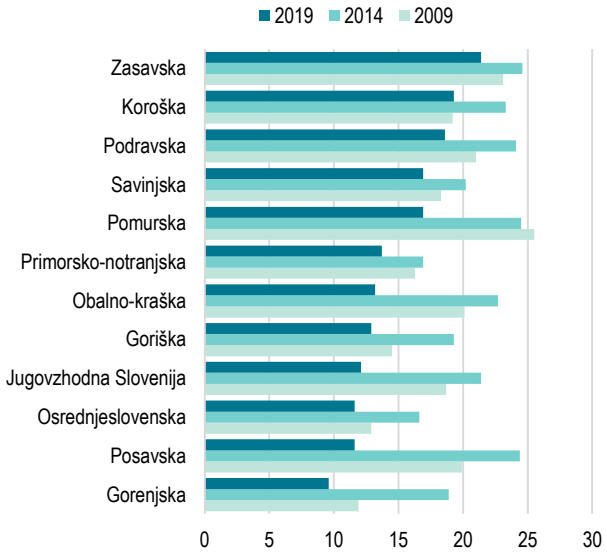

Fig. 2.111: At-risk-of-poverty-or-social-exclusion rate 2009, 2014 and 2019
Source: SURS, SI-STAT.

The at-risk-of-poverty-or-social-exclusion rate differs considerably from region to region, showing that there are marked differences between (statistical) regions when it comes to their inhabitants' social situation, and is the result of different factors at regional level, particularly the economic situation, employment and unemployment, and demographic conditions. The trend in the changes to the at-risk-of-poverty-or-social-exclusion rate in the last ten years differs from region to region. During the economic crisis (figures for 2014), the at-risk-of-poverty-or-social-exclusion rate was highest in Zasavska (24.6%), Pomurska (24.5%), Posavska (24.4%) and Podravska (24.1%) regions. Of these regions whose inhabitants faced the most challenging social situation during the economic crisis, the at-risk-of-poverty-or-social-exclusion rate had fallen most markedly by 2019 in Posavska (by 12.8 percentage points to 11.6%) and Pomurska (by 7.6 percentage points to 16.9%) regions. The fall was slightly lower in Podravska region (by 5.5 percentage points) but remained high in Zasavska region (it did fall by 3.2 percentage points but was still the highest figure recorded by any region in 2019).

Regardless of the downward trend in the at-risk-of-poverty-or-social-exclusion rate across the regions in the last decade, large differences remain between them. In addition to Zasavska region (21.4% in 2019), risking poverty or social exclusion was most common among the inhabitants of Koroška (19.3%) and Podravska (18.6%) regions, with the fewest at-risk inhabitants in Gorenjska region (9.6% in 2019), followed by Posavska (11.6%) and the Osrednjeslovenska (11.6%) regions.

2.5 Groups with vulnerabilities, barriers to healthcare access and overcoming those barriers

Author: Ivanka Huber (NIJZ)

2.5.1 Introduction

How do vulnerabilities and inequalities in health manifest themselves? What vulnerabilities do the inhabitants of Slovenia face? Who encounters these vulnerabilities most often? What barriers do they face when attempting to access healthcare and other public institutions? How do local environments respond to these barriers? How can we respond appropriately to vulnerabilities and inequalities, overcome barriers, and find systemic solutions? These were the key questions that lay at the heart of the 'Analysis of the vulnerability and inequalities in health in local communities' study (for more on this study and its results, see (188). It became clear to the members of the interdisciplinary working group that it would not be possible to find the right answers to the questions raised without engaging in extensive field research. With the exception of the research into health vulnerabilities and inequalities conducted as part of the 'Towards Better Health and Reducing Health Inequalities – Together Towards Health' project in 2014, little research had been done on vulnerabilities and inequalities in health in Slovenia prior to the current study (for more on the study of vulnerabilities within that project, see (189).

2.5.2 Research method

The qualitative field research (hereinafter: the *MoST* research project) arose gradually, and was conducted by the National Institute of Public Health between 2018 and 2020 as part of a project titled 'A Model of community approach to promoting health and reducing health inequalities in local communities – MoST', the aim of which was to provide support to the preventive programmes reform. This reform included 25 selected healthcare centres in 2018 and 2019 as part of the wider 'The upgrade and development of preventive care programmes and their implementation in primary healthcare and local communities' project, with a short title 'Health Promotion for All'. The upgraded project activities are already taking place in 2020 and 2021 under the terms of the General Agreement. For more on the course of this research, see A joint annex on methodology 6.3 – Linked to the 'Groups with vulnerabilities in Slovenia – On the *MoST* research project' article.

2.5.3 Results

The results of the *MoST* research project highlighted the vulnerability of many highly heterogeneous groups who are faced with a wide range of structural barriers, including barriers in access to healthcare and other institutions. Owing to the many different terms that appeared in answers to the question of *who the 'vulnerable' groups are or which persons/groups could be said to be in a vulnerable position in their local community*, we merged them into groups that we then treated as analytical categories and referred to according to how strongly they were represented in the field material (downwards from the most commonly to the most rarely mentioned). Interviewees labelled a particular group as 'vulnerable' at many points in the field material, which was obtained from 417 interviews with 629 interviewees. We sorted the groups with vulnerabilities (as defined by the interviewees) into 20 categories. The following were most commonly labelled as groups/persons with vulnerabilities:

- elderly persons;
- immigrants and foreign speaking residents;
- persons with various forms of disability;
- individuals and families in a socio-economically vulnerable position;
- children and adolescents with various vulnerabilities;
- unemployed persons;
- persons without health insurance (without compulsory and/or supplementary health cover);
- the Roma;
- persons with mental health problems;
- illicit drugs users;
- homeless persons;
- persons addicted to alcohol;
- victims of domestic violence;

- prison inmates and former prison inmates;
- women with various vulnerabilities;
- persons suffering from long-term illness;
- persons living in geographically remote areas;
- victims of economic violence;
- homosexuals;
- sex workers.

These 20 categories could not be placed on a common denominator because the interviewees did not always perceive them the same way. We therefore tried to follow the interviewees' 'linguistic code'. Based on the results of the *MoST* research project, we can divide each of the 20 groups with vulnerabilities into numerous sub-categories set out below, whereas we indicate the phrases used by the interviewees in inverted commas (for more on the results of the MoST research project in relation to groups with vulnerabilities, see (188)).

2.5.3.1 Groups with vulnerabilities in local environments

The group most often labelled as vulnerable was that of **elderly persons**. Interviewees formed a range of sub-categories and identified 'elderly persons' and 'elderly persons with low incomes, farming pensions or even no income at all' as *vulnerable*, followed by 'elderly persons who live in difficult-to-reach, remote and far-distant places', 'elderly persons who live alone and are without close family or relatives', 'elderly persons who are lonely', 'elderly persons who have no social network and are isolated and excluded', 'elderly persons with no means of transport' and 'immobile elderly persons'. The 'close family members of immobile persons' are also mentioned. Interviewees then went on to refer, as groups with vulnerabilities, to 'elderly widows', 'elderly widowers', 'single elderly persons' and 'elderly farming women'. The following were also identified as groups with vulnerabilities: 'elderly persons suffering from chronic non-communicable or other diseases', 'elderly persons suffering from dementia', 'elderly persons who have no information on how to obtain help', 'elderly persons who are ashamed of their position', 'elderly persons awaiting admission to a care home' 'care home residents' and 'the terminally ill'. Interviewees identified 'elderly unmarried men' who have remained on their own on their farms in small, geographically remote villages as a particularly vulnerable group of elderly persons.

In the course of the *MoST* research project, interviewees highlighted the vulnerability of **immigrants and foreign-speaking residents**, particularly 'immigrants from certain countries' (Albania, North Macedonia and Bulgaria), 'Albanian communities or immigrants' and 'Albanian women'. Interviewees highlighted 'children of immigrants', 'unaccompanied children and adolescents' and 'children from families without permanent residence/Slovenian citizenship' as particularly vulnerable. Furthermore, interviewees then referred to the vulnerability of 'refugees', 'migrants', 'applicants for international protection', 'foreign seasonal workers', 'foreign workers' and 'foreign workers' families', 'agency workers and their families from Bulgaria, Romania and North Macedonia (there are often three different agents between worker and employer)', 'immigrants from former Yugoslav republics', 'immigrant families', 'persons with international protection status', 'persons with the right to stay', 'foreign persons with a temporary residence permit', 'persons removed from the register', 'foreign persons on motorways who require urgent medical assistance', 'foreign students who come from countries with which there is no bilateral healthcare agreement', 'minor migrants' and 'unaccompanied minor refugees'.

Interviewees also identified **persons with various forms of disability** as a group of persons with vulnerabilities. In line with the United Nations Convention on the Rights of Persons with Disabilities (2017), we have placed persons with physical, mental, intellectual, or sensory impairments into the category of persons with various forms of disability. Persons with various forms of disability are persons hindered from full and effective participation in society due to various barriers. In Slovenia, these are persons identified as 'the disabled' or as 'disabled persons', although 'persons with disabilities' is the more suitable term. The Convention on the Rights of Persons with Disabilities (2017) defines such persons as 'persons with long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others' (190). Interviewees who took part in the *MoST* research project referred in their answers to 'disabled persons', 'persons with physical and mental developmental impairments', 'physically disabled persons', 'deaf persons', 'hearing impaired persons', 'blind persons', 'partially sighted persons', 'dyslexic persons', 'persons with sensory impairments' and 'persons with

speech and language impairments'. Alongside the group of 'persons with physical and mental developmental impairments', interviewees also identified 'the close family members of persons with physical and mental developmental impairments' as a group with vulnerabilities.

A large number of interviewees highlighted the group comprising **individuals and families in a socio-economically vulnerable position**, identifying a group with vulnerabilities that is 'economically weak and socially at-risk', and making particular mention of the problem of 'hidden poverty' and 'hidden homelessness'. They went on to highlight 'low-income families', 'recipients of social security', 'persons living below the poverty line', 'families with several children', 'young low-income families', 'single mothers', 'single fathers', 'single-parent families', 'families with poorly developed parenting skills and without a good social network', 'families with low work intensity', 'persons residing in poor living conditions', 'persons from dysfunctional families', 'persons with family relationship problems' and 'families with seriously ill members'.

Reference was made in numerous responses to the vulnerability of **children and adolescents**, with interviewees identifying the following as 'vulnerable': 'children' (in general), 'children and adolescents from socially at-risk families', 'children of separated/divorced parents', 'children of unemployed parents' and 'children with special needs'. In relation to the last-mentioned, interviewees also highlighted 'the parents of children with special needs' and 'the families of children with special needs'. This is closely connected to 'children with special needs' and belongs to the category of vulnerability connected to children and adolescents. 'Children in chaotic family settings', with mention made of at-risk children, poor living and social conditions, alcohol and violence, were also highlighted as a group with vulnerabilities. Interviewees went on to highlight 'children from disadvantaged social environments', 'children in emotional distress and suffering from social problems', 'neglected children', 'children suffering from long-term illness', 'obese children', 'children with behavioural/emotional disorders', 'children with disabilities', 'children with speech and language impairments', 'children with developmental impairments', 'young people outside education and the system', 'school drop-outs' and 'children not registered within the preventive (education) system'. 'Screen-addicted children', 'children with various addictions', 'children addicted to information and communications technology', 'child victims of violence', 'child victims of online abuse', 'victims of parents' religious extremism', 'children of parents with emotional development disorders', 'children with addicted parents' and 'children in foster care' were also identified as a group with vulnerabilities. Based on the interviewees' responses, we were able to draw a distinction between the vulnerability of children and that of adolescents, with responses highlighting the following as vulnerabilities particular to adolescents: 'young people', 'young people with no prospects for the future', 'young people with eating disorders', 'young people suffering from personality disorders', 'young victims of peer violence', 'young people taking dietary supplements (capsules, drinks, proteins)' and 'schoolchildren from single-parent families who have to work, alongside their schooling, to support the family'.

A large number of responses identified the vulnerability of **unemployed persons**. The results of the *MoST* research project testify to the multi-layered vulnerability brought about by unemployment. These are combined with other vulnerabilities stemming from mental health problems, socio-economic difficulties, alcohol addiction and other problems. Interviewees identified the vulnerability of 'difficult-to-employ persons or the long-term unemployed', 'young unemployed persons', 'unemployed persons with low or no education', 'self-employed persons', 'persons engaged in precarious work', 'illegal workers', 'unemployed disabled persons', 'unemployed persons with health impairments and persons whose businesses have failed' and 'persons who have suffered permanent injury or disability at work'. 'Vulnerable persons at the workplace', including 'manual labourers and field workers', were identified as a vulnerable group. They warrant closer research in the future.

A **lack of health insurance** has already been highlighted as an issue in the research conducted as part of the 'Together Towards Health' project (189). This research revealed the extent of the problem as it affected almost all vulnerable populations identified in the interviews. Interviewees identified persons either without compulsory or supplementary health cover (or both) as a vulnerable group, making reference to 'uninsured persons' and, within that group, highlighting 'children', 'Roma children', 'middle-aged persons suffering from alcoholism', 'casual or seasonal workers who do not arrange health cover', 'retired persons unable to afford supplementary health cover or unable to arrange it because of mobility problems', 'immigrant women without the requisite information and facing bureaucratic obstacles', 'young people over the age of 26', 'workers whose contributions are not paid by their employer', 'self-paying patients who are self-employed', 'farmers', 'subsistence farmers', 'women in rural areas', 'persons with no health cover for economic reasons and because of debts', 'addicts', 'former prison inmates', 'immigrant families (father between jobs)', 'persons not in receipt of social security',

'homeless persons', 'persons on low incomes', 'unemployed persons', refugees', 'penniless elderly persons', 'tourists' and 'foreign pupils and students'.

Interviewees frequently highlighted the vulnerability of the **Roma community** and of **Roma** individuals. Their responses referred to 'Roma', 'Roma children', 'Roma women', 'Roma families', 'elderly Roma', 'Roma inmates', 'Roma women who are victims of violence' and 'pregnant Roma women, including minors'.

Interviewees also identified **persons with mental health problems** as vulnerable, highlighting the suspected significant increase in mental health problems among children and young people ('young people with mental health problems' and 'suicidal persons'). Interviewees particularly highlighted psychiatric hospital patients or patients who were hospitalised in such institutions, referring to 'psychiatric patients' and 'young psychiatric patients'. Reference was also made to the 'close family members and children of psychiatric patients'.

The results of the *MoST* research project also pointed to the vulnerability of **illicit drugs users**, with particular emphasis being placed by interviewees on the vulnerability of young illicit drugs users and their close family members. 'Former addicts' were also mentioned as a vulnerable category, as were people with various addictions (interviewees referred to 'addicts'), such as 'smokers', 'non-substance addicts', 'gambling addicts', 'persons with a digital addiction', 'persons with a relationship addiction' and 'persons with hepatitis C'. Illicit drugs users frequently suffer from a series of several concurrent vulnerabilities and from highly complex vulnerability. The interviewees' responses indicate that users of illicit drugs often suffer from mental health problems, as well as other diseases, or are simultaneously 'addicts, homeless persons and psychiatric patients with a diagnosed illness'.

The responses also identified **homeless persons** as a vulnerable group. As with the vulnerable groups outlined above, their vulnerability is also multi-layered and complex in nature.

Alcohol addiction was identified in the responses gathered by the *MoST* project as a reason for vulnerability among several population groups, and one that existed alongside other forms of vulnerability. Alongside illicit drugs users, interviewees placed particular focus on persons ' addicted to alcohol', which is also the reason why we do not address such persons in combination with other addictions (the interviewees regarded these groups to be distinct in terms of their vulnerability). Interviewees highlighted the vulnerability of 'young persons addicted to alcohol' or 'young persons on the way to becoming addicted to alcohol', and 'alcoholics' close family members' and 'victims of alcoholism'. Addiction was identified as a category of vulnerability among several population groups and one that existed alongside other forms of vulnerability. As the interviewees' responses show, vulnerabilities stemming from alcohol addiction come in tandem with those stemming from unemployment, from a lack of education, from social environment and from a lack of public infrastructure (patchy public transport provision).

Interviewees identified **victims of domestic violence** as a vulnerable group and one that was extremely difficult to detect in comparison with other vulnerable groups. They highlighted 'female victims of domestic violence' and 'mothers in distress' as having complex and interconnected vulnerabilities.

Prison inmates and former prison inmates were also identified by interviewees in the *MoST* research project as a group with vulnerabilities and one that was heavily stigmatised. They also drew attention to foreign inmates.

Women with various vulnerabilities were identified as facing gender-based vulnerabilities. They highlighted 'women' (in general), 'women facing social, material and housing pressures', 'women who are financially dependent on their partner', 'women without funds and health cover', 'housewives', 'divorced women', 'young mothers', 'mothers with new-borns', 'women who have no access to a gynaecologist' and 'women on farms without the requisite status'.

The results of the *MoST* research project highlighted the vulnerabilities of **persons suffering from long-term illness**. The interviewees mentioned 'persons suffering from long-term illness' and 'persons with difficult-to-treat illnesses' (with an emphasis on those aged under 65 who, due to the legislation, are not permitted to reside in care homes).

Geographical distance can be a cause of vulnerability and one that places not only elderly people but also other population groups/**persons living in geographically remote areas** in a vulnerable position. These can include 'families in geographically remote areas', 'persons who live in geographically remote mountain areas', 'persons who live in geographically remote local communities', 'persons who live on isolated farms', 'farming families' and 'rural inhabitants'.

Interviewees highlighted **victims of economic violence** as a vulnerable group; these included mainly older persons whose funds have become a source of finance for other (younger, unemployed) family members.

With regard to vulnerability stemming from sexual orientation, interviewees highlighted '**homosexuals**', 'same-sex families' and 'LGBT groups'.

Interviewees also regarded '**sex workers**' ('prostitutes' and 'providers of sexual services') as vulnerable persons who are stigmatised at a number of levels.

2.5.3.2 Barriers to accessing healthcare or other forms of assistance

Vulnerability is a markedly dynamic and complex phenomenon. The vulnerability of an individual, a group or several groups at the same time is characterised by a host of factors in place at any one time. In the main, factors that are systemic in nature and that define access to health resources are those that cut across many vulnerable individuals and groups or that, in themselves, place individuals and groups in a vulnerable position.

In the study, we understand health vulnerability and inequalities to be social phenomena that have an impact on whether an individual or social group's access to social resources (and above all to health) is made difficult. The central part of the study therefore focused on barriers to accessing healthcare or other forms of assistance. We understand health, illness and treatment to be social phenomena that do not lie exclusively within the domain of healthcare but are dependent on a large number of factors (political, social, cultural, economic and so on). The results of the study show that access to health is largely conditioned by access to a range of social resources.

Here we focus on the key aspects of the barriers faced by vulnerable persons and groups:

- **Barriers are not features of an individual or a social group.** During our field work, we would often hear people say that the barriers faced by certain social groups could be attributed to the presumed intrinsic characteristics of those groups. We would be told that certain population groups did not know how to look after their health, that they did not adhere to the rules of the healthcare system and so on. Blaming the presence of barriers on a particular side (a user or a health service provider) is an unsustainable position, as illustrated by the following example: the fact that the patient does not speak Slovenian is as much a barrier to health treatment as the fact that a healthcare worker does not speak a patient's language (or that Slovenia does not yet have a systemic approach to overcoming linguistic and cultural barriers).
- **Barriers are a relational category.** Once we understand that barriers are not caused by certain individuals or social groups themselves, we are then able to see them as things that arise within the relationship between those individuals or groups and the health service in question (or something else). If a certain clinic, for example, has a ramp or lift for people with physical disabilities, those people will not encounter the problems they would encounter if the ramp or lift were not in place. Whether a certain phenomenon becomes a barrier or not is therefore a matter of the relationship between the different social actors involved – in our case, mainly between users of the healthcare system and the system itself.
- **Barriers are contextual.** It would be of little use to provide a mere list of the barriers, without context and explanation, as this could lead to an incorrect interpretation. Indeed, similar barriers can arise in different social contexts for different reasons. For example, two people could be faced with a lack of health cover for different reasons: the first because they are unable to repay their debts to the insurer because the business has gone bankrupt, and the second because the legislation regulating the area has not addressed the category into which that person falls.
- **Defining barriers depends on the position from which one speaks.** Each interviewee highlighted the barriers in their own way, in accordance with their own views and professional standpoints, their position within the relationships established with other actors in the local environment, and so on. Some might say that the key barrier faced by women in accessing healthcare in a certain area of the country is that area's lack of a gynaecological specialist, while others might see the main difficulty in a lack of well-developed transport links to a specialist in another area of the country. This is one further reason why we decided against generalising the barriers or merely cataloguing them in an uncritical fashion.

- **Barriers arise at different levels.** We should first draw attention to those barriers that stem from the relationship between an individual or a certain social group on the one hand, and the normative regulations of the state on the other. In short, these barriers could be described more than anything as a consequence of an individual's absence from those administrative categories that would entitle them to make use of a specific package of services, type of service or financial transaction. In the first case, a frequent administrative barrier is that certain statuses are not addressed in the legal bases for admission into, for example, the compulsory health insurance system (for more on this, see the chapter titled 'Exclusive universality: Uninsured persons in the Slovenian healthcare system and the effect of the economic crisis on health insurance') (188). In the second case, a barrier arises when an individual does not meet all the criteria that would grant them entitlement to certain specific services, such as a visit from a community care nurse. The third case, as common as the first two, involves an individual exceeding the threshold for entitlement to social security payments despite poverty and an actual shortfall in the resources available to them. All these barriers have this fact in common: that they hinder access to certain resources from the very start, i.e., at the 'declarative' level. In this sense, they can be understood as more systemic in nature, which means that they exist over and above all the other barriers that may arise for those people who, at least at the declarative level, have access to certain resources.
- **We can view the emergence of barriers from the point of view of the 'chronology'** of access to certain healthcare resources, i.e., whether a barrier appears before or after access to them. The barriers that we have outlined in the paragraph above definitely appear before an individual is even able to properly access a certain service – that is, access is blocked at the declarative level already. By contrast, people encounter a host of other barriers that arise when they have already gained access to healthcare services. Some illicit drugs users, for example, have access to dental services, but the stigma attached to them can lead health workers to refuse to provide them with those services. Problems can also arise in the provision of continuous access to a certain service, which the literature often refers to by using the term 'drop-out' – for example, some people with mental health problems do not access psychiatric services because of previous experiences with those services that they regard as negative.
- **Barriers are often interconnected** (in the same way that vulnerable groups can be), with causes and consequences that are frequently multi-layered rather than uniform in nature. Individuals may simultaneously encounter barriers to accessing services or assistance for socio-economic reasons and for reasons related to their state of health, as well as barriers to accessing health insurance cover.

2.5.3.3 Overcoming barriers

In tandem with the numerous barriers that groups or persons with vulnerabilities encounter when attempting to access healthcare or other forms of assistance, the results of the *MoST* research project also pointed towards the many ways in which those barriers might be overcome. The ways in which they can be overcome are as varied as the vulnerable groups themselves and, with the exception of the systemic solutions already introduced, are specific to individual local environments. Although it is not possible at this juncture to mention all forms of and methods for overcoming barriers, we can use the results of the *MoST* research project to summarise some of the main aspects of the practices observed for overcoming barriers to accessing healthcare and other forms of assistance.

The first group can be defined as **practices introduced at the systemic level**. These are regulations, policies and programmes/services that address the needs of those who encounter barriers when attempting to access healthcare. At the regulatory level, for example, this includes all legislation, in the widest sense, that relates to health and social security, the environment and the world around us. As far as policies are concerned, we can say that these are various (strategic) documents, resolutions and expert working groups dealing with or addressing the barriers faced by groups or individuals with vulnerabilities, while only those services/programmes financed by the system are included among those practices introduced at the systemic level.

The results of the *MoST* project highlighted the **social nature of local environments** and institutions, and their formal (and informal) cooperation. On many occasions when out in the field, we observed the selflessness of healthcare and other workers who performed their tasks outside working hours to provide individuals with the necessary care – care that they would otherwise not have been able to access. On occasions, this selflessness could be perceived not only among individual employees, but among entire teams and organisations. Elsewhere, special groups have been organised in local environments to aid vulnerable persons.

Furthermore, there are quite a few **programmes and projects** (funded from various sources, whether foreign, national or local) that address the vulnerabilities and needs of specific groups. This includes healthcare services that are financed on a project-by-project basis and are not yet part of the system, social security programmes aimed at specific groups, programmes that provide humanitarian and material assistance, and so on. While these responses are not always narrowly focused on expanding access to healthcare, they can have that effect. These practices are mainly the domain of the non-governmental sector, which means that they are not regarded as 'systemic' (as they are subject to the system of application-based funding and project-based operation).

A large amount of **informal assistance** is also available. Some people take elderly neighbours to a medical appointment by car, thereby guaranteeing access to treatment, while other social movements and activist groups help people arrange their rights and access to healthcare.

Other **market-based services** are perhaps the least well-researched, and we assume that interviewees in the field did not talk extensively about them precisely because such types of assistance remain financially inaccessible to the most vulnerable.

Last but not least, the healthcare centres [11] within 'The upgrade and development of preventive care programmes and their implementation in primary healthcare and local communities – Health Promotion for All' project, with the professional support of the National Institute of Public Health, carried out activities in 2018 and 2019 to address vulnerability and help people overcome some of the barriers encountered in the local environment. These included the 'Open Door to Health' initiative and activities conducted by health promotion centres in the local community; health counselling services in the local community provided by graduate nurses from the community care service; two self-assessment exercises at healthcare centres in relation to guaranteeing equality in healthcare to vulnerable groups, which featured the planning and implementation of measures; assessments of whether facilities and communication measures at healthcare centres were fit for purpose for persons with physical and sensory impairments, and the fitting of hearing induction loops and/or purchase of portable hearing induction loops; the presence of an intercultural mediator during preventive treatment; participation in an analysis of the vulnerability and inequalities in health in local communities, and in the 'Developing Cultural Competencies for Health Workers' and 'Approaches to Reduce Health Inequalities of Persons with Disabilities' education programmes; and the establishment of and participation in local health promotion groups, which signalled the implementation of a community-based approach to health (one of the most effective ways of addressing vulnerability, reducing inequalities and improving the health of all). These project-based activities for addressing vulnerability were carried out at 25 selected healthcare centres in 2018 and 2019, and can therefore be classed as 'programmes and projects' financed from a variety of sources. These activities were also carried out in 2020 (with proposals made for their continuation in 2021), and are financed by the General Agreement on Healthcare. The fact that they are not yet being carried out at all healthcare centres means that they cannot be regarded as being entirely financed by the 'system', and that we cannot therefore class them as 'practices introduced at the systemic level'.

Conclusion

In this chapter we have presented the heterogenous groups with vulnerabilities based on the results of the *MoST* research project. Vulnerabilities have been shown to be highly complex and multi-layered, and to cut across numerous groups at once. Indeed, large differences can exist within a single group with vulnerabilities; similarly, one barrier can be common to several groups with vulnerabilities. Barriers can be interconnected, with causes and consequences that are in no way straightforward or uniform. It is not possible to hierarchise groups with vulnerabilities, or the barriers they face when attempting to access various services or forms of assistance, nor is it possible to press those groups into uniform, hermetically sealed categories.

The results of the *MoST* research project have highlighted the numerous groups with vulnerabilities and the host of barriers they face to accessing healthcare and other resources and services, as well as the fact that local communities are not unaware of vulnerability of individuals or groups and that they have, in tandem with the systemic solutions in place, created their own practice for overcoming barriers, whether through different projects and activities or through cooperation with institutions or stakeholders in the local environment. Efforts to introduce systemic practices for overcoming barriers have also been observed. The qualitative research

[11] These are 25 selected healthcare centres in whose areas the 'Analysis of the vulnerability and inequalities in health in local communities' study was also carried out.

approach has enabled us not only to observe the various vulnerabilities and the heterogenous groups with vulnerabilities, but also the specificities of the environments examined.

We are aware that it has not been possible in this chapter to specify with complete thoroughness all groups with vulnerabilities, all barriers and all practices for overcoming them. In fact, owing to the abundance of information, the extensiveness of the field material and the fact that vulnerability itself is a highly complex, multi-layered and intersectional phenomenon, the attempt to systematise the results of the research has given rise to many problems and the need to re-examine the material. Nevertheless, we do hope that we have, in this chapter, at least partly filled the gap that exists in research into health vulnerability and inequalities in Slovenia.

3 POLICY MEASURES AND INEQUALITY GAPS

3.1 Introduction

Author: Mojca Gabrijelčič Blenkuš (NIJZ)

Health is closely connected to an individual's socioeconomic status, and good health and welbeing of the population with the success of a particular social community. Individuals with higher socioeconomic status have better life opportunities and better health than those with a lower socioeconomic status (191). The World Health Organization's Ottawa Charter from 1986 highlights the key levels of operation at which health is created in people's everyday lives (192). These are public policies and measures that result in more or less health, the supportive environments that such policies or measures establish, and the activation and integration of relevant stakeholders in a certain area of public health. Social protection measures are examples of policies that reduce inequalities and support health, as they enable people to live a life of dignity even if they are unemployed or have a low income (193).

Political measures can cause health inequalities or, if they are well-planned and well-argued, eliminate them. It is therefore important for a country to put in place mechanisms that, when policy measures are being planned, enable it to predict whether a certain measure will be successful in controlling and reducing inequalities among people. Studies show that measures that take account of inequalities create a foundation and a better range of possibilities for successful implementation at the practical level(194).

Assessing the impact of various policies on inequalities in health and well-being is a multidisciplinary challenge, and one that requires an intersectoral approach if it is to be successful. The challenge that we perceive in the assessment of the impact of policies, particularly on inequalities, is, on the one hand, the ability of a multidisciplinary research approach to be successful within a specific environment and, on the other, intersectoral integration when measures are being implemented. While institutions stress the importance of multidisciplinarity, it often happens that such multidisciplinarity occurs within a single institution that belongs to one of the government sectors (194). In Chapter III, the participating institutions went beyond the sectoral framework and came together as part of a Platform in which national institutions from several sectors prepared papers, together, using a uniform approach and with mutual knowledge and joint learning, on the impact of policy measures on health and health inequalities. The topics addressed were selected to match the current political moment, where the European Pillar of Social rights, Child's rights and EU Child Guarantee at one hand and long-term care in the national legislative procedure based on European Semester recommendations on the other were on the political agenda, and the national alcohol strategy was being drawn up. We have shown the wider framework of the link between policy measures and inequalities with the help of the Health Equity Policy Tool, in cooperation with the WHO (19).

On the one hand, in the report by the participating institutions the experts are trying to understand and have the opportunity to jointly identify the measures that affect inequalities in the general population and population sub-groups, and also argue for the measures necessary to improve the situation, from the point of view of the economic and social as well as environmental and commercial determinants of health. On the other hand, we would like political decision-makers in all sectors whose decisions lead to more or less equitable outcomes in health and well-being for individual population groups to realise to the maximum extent possible the importance of health inequalities when making their decisions on different measures.

Securing funds and reducing health inequalities

Slovenia is facing a rapidly ageing population: the share of the population aged 65+ is increasing and the share of the working age population is decreasing. Demographic changes require adequate adjustment of the entire society, which is reflected in the adopted Strategy of a Long-Lived Society. This document covers all the key features and challenges of this process and, as such, constitutes the substantive framework for all structural reforms – and indeed, the functioning of the Slovenian state in the next decades. The negative consequences on the long-term financial sustainability of existing healthcare systems, and particularly on long-term care, require serious consideration of appropriate sources of funding for these systems. New/ additional source must be sought and distributed to as much of the population as possible. The placing of the strain directly on the shoulders of the individual would otherwise lead to a significantly higher burden for the sick and those in need of assistance from others – that is, especially the older generation. At the same time, we must not ignore the fact that the burden of covering health and long-term care expenditure will increase significantly in the long run. To whom the state will have to help cover additional payments, how much this will burden the budget and, indeed, what the additional resources would be to cover these expenditures: these are all questions that urgently need answering. Financial barriers to access to long-term care and healthcare services for individual groups of the population will inevitably lead to an increase in health inequalities, while at the same time further increasing health expenditure due to unmet long-term care needs.

Boris Majcen, director of Institute for Economic Research

Health at the meeting point of different disciplines

Reducing health inequalities is a goal that Slovenian society cannot afford to give up on. It must be carried out by the state and safeguarded by all key institutions of civil society.

This primarily requires greater investment in healthcare, an area in which Slovenia is below the European average. Only in this way will we be able to reduce the long waiting lists that are hampering everyone's access to health services. However, a more comprehensive approach to understanding health inequalities is also needed.

Social inequalities in the area of health must be reduced. It has long been known that social factors play a significant role in people's health. Factors such as belonging to the lower social class, which is accompanied by lower levels of educational attainment and risk of poverty, as well as age and the associated risk of disease and need for care, and membership in other categories of vulnerability – all these have an impact on life expectancy and quality of life.

In the future, research will have to be directed into the correlation between marginal social status and health. How strong is the correlation between them? Do such people simply have poorer access to health services? While this is undoubtedly one part of the answer, recent research in the area of sociogenomics indicates that unfavourable social conditions themselves can alter gene expression, which leads to the weakening of the immune system and, consequently, to a greater tendency towards the development of certain diseases.

Health is a complex phenomenon, which cannot be examined from a unidimensional perspective. Usually, this is the perspective of medicine. Such an approach leads to the simplification of scientific theories leading research. Let us initiate this process by preparing this publication in such a way that it will include specialists from a variety of disciplines and institutions. In this way, we will acquire a comprehensive perspective on different approaches in which health inequalities can be reduced in Slovenia.

Barbara Kobal Tomc, director of Social Protection Institute of the Republic of Slovenia

3.2 Five essential conditions for health equity

Authors: Lin Yang (WHO), Tatjana Kofol Bric (NIJZ)

An insight into the factors and decisions that cause health inequities is important in finding solutions and taking actions to reduce inequities. Based on the WHO Health Equity Status Report in Europe, we present inequities in self-reported health between high-income and low-income population groups in Slovenia (18). Analysis decomposes health gap between both groups according to relative contribution of the five essential areas of life to this gap. By using the HESR methods, the WHO Health Equity Status Report in Europe has identified five essential areas of life contributing to health inequities: health services, income security and social protection, living conditions, social and human capital and employment and working conditions. With Oaxaca decomposition method used in WHO Health Equity Status Report we analysed European Quality of Life Survey answers of adults in Slovenia (195). With this method we demonstrate how systematic differences on five important areas of life contribute to health inequalities.

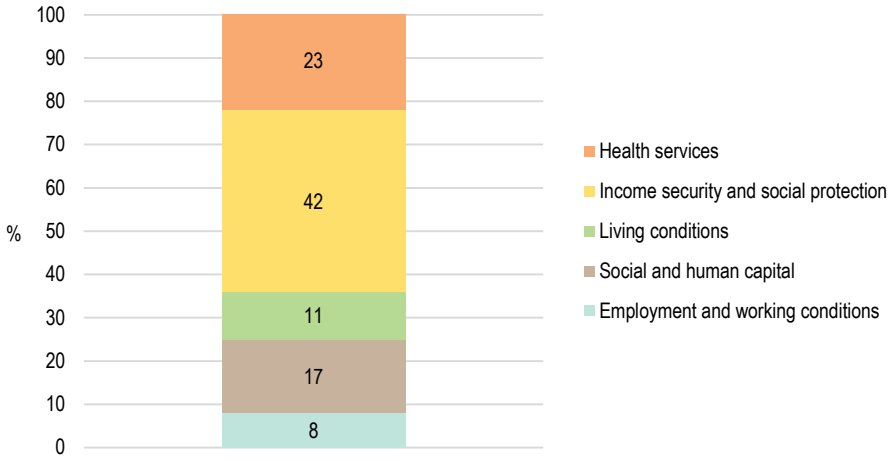

Fig. 3.1: Contribution of five essential areas of life to gap in self-reported health in Slovenia

Income security and social protection contributes the largest portion (42%) to the gap in self-reported health in Slovenia, as shown in Fig. 3.1 This is little less in comparison to EU countries, where income security and social protection explains 45% of gap in self-reported health. The contribution of income security and social protection to the gap in self-reported health is not decomposed to subfactors. The data source European Quality of Life Survey – EQLS directly asks about income security and social protection using question whether the respondents had difficulties to make ends meet only. The survey does not include other questions that would further break income inequality down into factors that are more detailed. As expected, income inequality is the most important generator of health inequalities in Slovenia and as an average across the EU countries. Of the areas of life observed, income inequality makes by far the biggest contribution to the gap in self-reported health in Slovenia as well, even though the country is known for its lower income inequality and greater social security, which have historical roots.

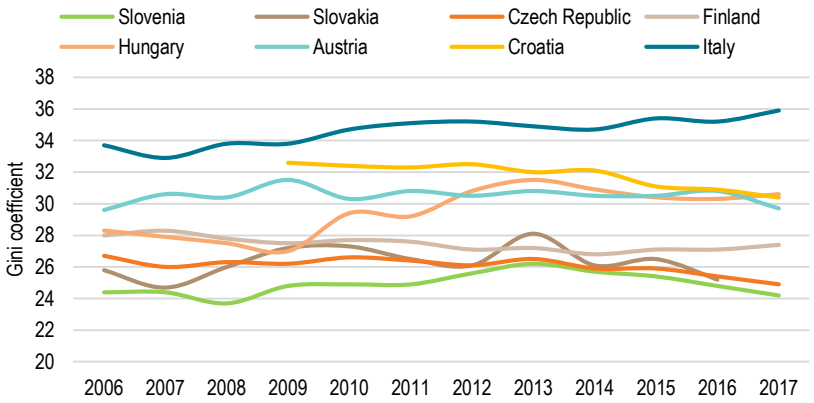

Fig. 3.2: Gini coefficient of income inequality for Slovenia, three by Gini coefficient nearest countries and neighbour countries

Source: World Bank, World Development Indicators

The Gini coefficient measures the inequality of income distribution, with a value of 0 meaning that everyone has the same income. Slovenia has the lowest indicator value, which means it has the highest equality of income distribution among households measured at national level.

Health services contribute 23% to the gap in self-reported health, thus making them second most important set of factors, as shown in Fig. 3.1. This is greater portion of gap as compared with EU countries, where only 8% of gap in self-reported health are attributed to factors of self-perceived unequal treatment in health care. Health services factors are less important in EU countries as compared to Slovenia; in fact, they are least important among the identified sets of factors

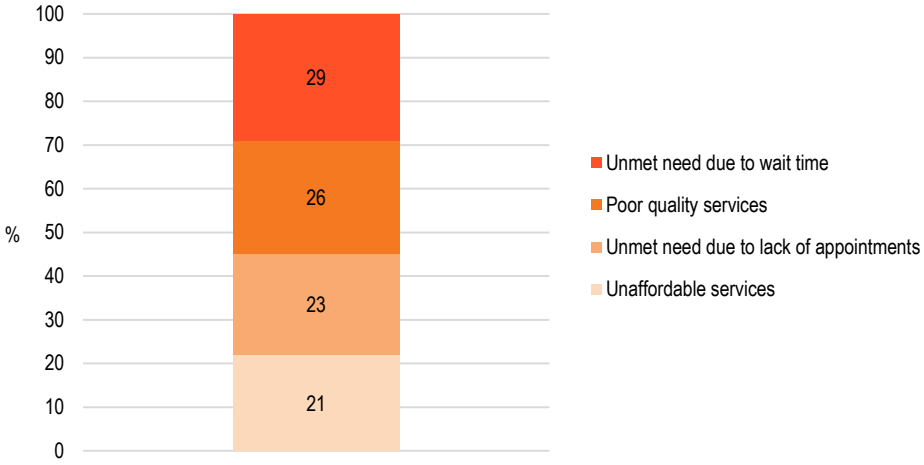

Fig. 3.3: Contribution of Health Services subfactors to the gap in self-reported health

Inequalities based on respondents' answers about waiting lists for a check-up by general practitioner, waiting times in a general practitioner's waiting room, quality assessment of provided services and costs related to the visit to a doctor are taken into account as health services factors. These individual factors in Slovenia each contribute a very similar portion to the gap in self-reported health. This is in contrary to the average of EU countries, where the minor contribution of health care to gap in self-reported health is almost entirely contributed (92%) to quality assessment of provided services. EU citizens from different income groups, contrary to citizens of Slovenia, do not perceive noticeable inequalities in waiting lists for a general practitioner's examination or financial burdens associated with a visit to a doctor, which would explain the gap in self-reported health.

The results reflect an awareness of the availability of high-quality health services to all inhabitants of Slovenia regardless of income. Inhabitants with lower incomes, which includes most pensioners, perceive longer waiting times for general practitioner, which is perhaps connected with the traditionally frequent visits by certain groups of patients to GP clinics, which health workers try to postpone by means of the booking process. The introduction of a booking system at GP clinics and the inability to match a visit to the pre-determined time could, for frequent visitors with poorer health, increase their perception of a long wait for an appointment and of a long wait in the waiting room once they are there. Gap in reported waiting time at general practitioners indicate the inequality that the less affluent feel in contact with the health system, but this is, as yet, not highlighted in society as important.

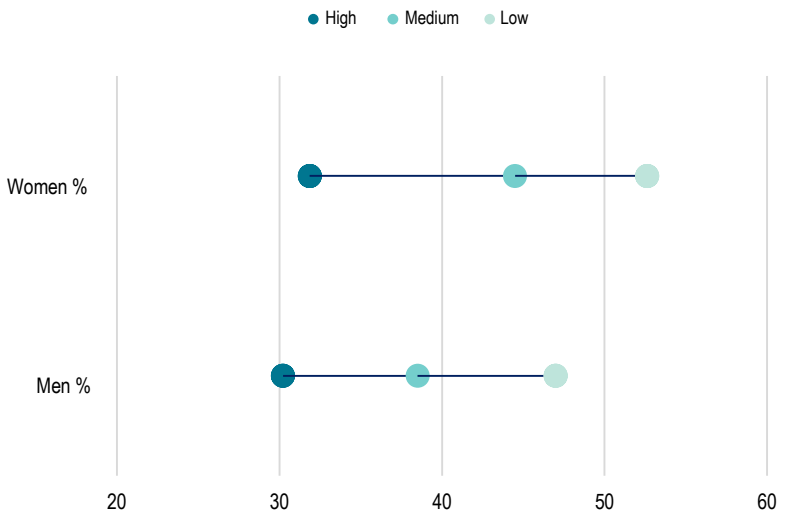

Fig. 3.4: Share of poor assessed quality of health services by gender and educational attainment in Slovenia in 2016
Source: EQLS. Display: WHO Health Equity dataset.

A higher proportion of the low educational attainment group assess the quality of health services as poor compared to high educational attainment group.

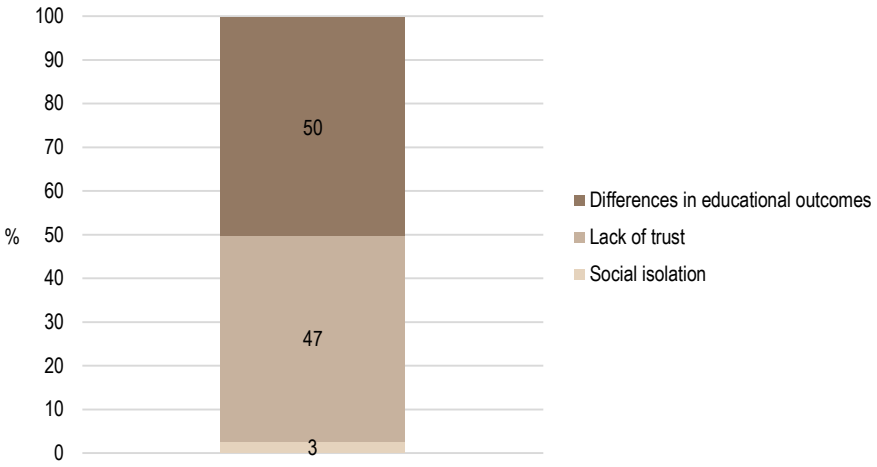

Fig. 3.5: Contribution of Social and Human Capital subfactors to the gap in self-reported health

Social and human capital contribute 17% to the gap in self-reported health, as shown in Fig. 3.1. The factors of social and human capital include formal and informal learning experiences and interactions that enable people to participate effectively in social, economic and political events. That is comparable with EU countries, where it contributes to 16% to the gap in self-reported health. Self-reported data on years of schooling, answers about lack of trust and social isolation have been considered. The contribution of differences in education with 50% and in lack of trust with 47% among the social and human capital factors in Slovenia are equivalent to EU countries.

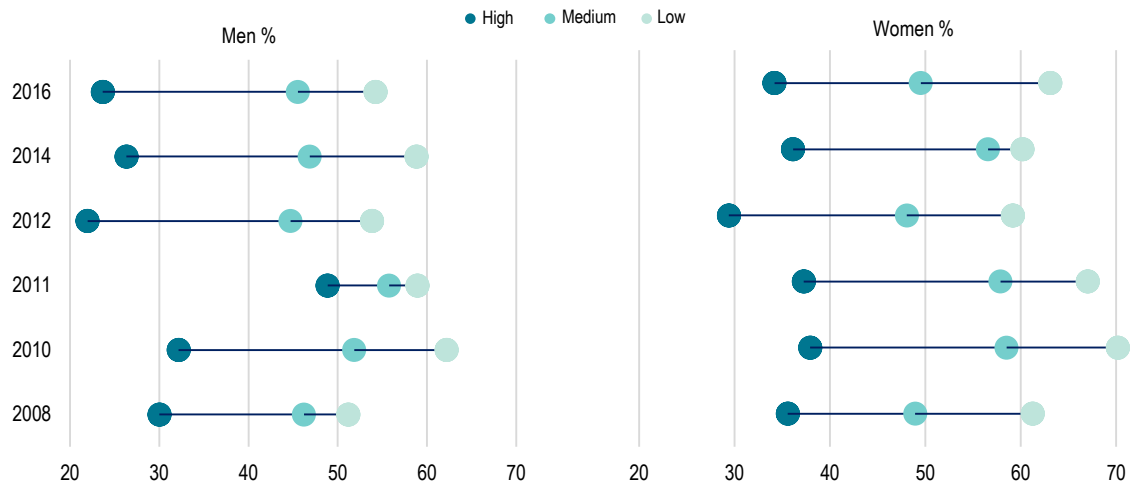

Fig. 3.6: Share of population with low thrust in others by gender and educational attainment in Slovenia.
Source: ESS. Display: WHO Health Equity dataset.

A greater proportion of those with low educational attainment have low levels of trust in others. This constitutes a barrier to involvement in social life.

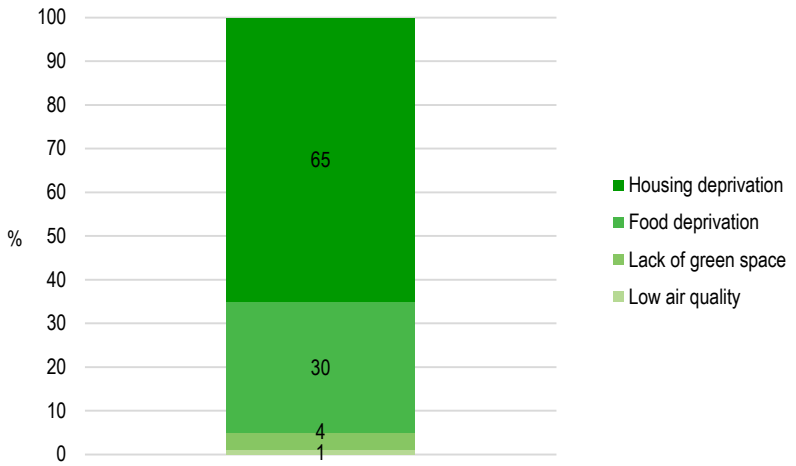

Fig. 3.7: Contribution of Living Conditions subfactors to the gap in self-reported health

Living conditions contribute 11% to the gap in self-reported health in Slovenia, as shown in Fig. 3.1. In EU countries average this portion is somewhat higher at 21% of entire gap in self-reported health. Detailed breakdown of factors shows that housing conditions are foremost represented subfactor with 65% of contribution among the living conditions factors in Slovenia. That is more than in EU countries average, where it represents slightly less than half the impact of living conditions factors. In Slovenia, as in the average across the EU countries, this is followed by food deprivation, with a lower share than in the EU. Lack of green space and low air quality have very low shares in the gap in self-reported health (4% and 1% respectively). The order of impact in which these factors appear is the same in the average across the EU countries, although differences in food deprivation (35% share) and lack of green space (14% share of living and environmental factors) are more important in the EU than in Slovenia. The fact that Slovenia has great forest cover is offered as the most obvious explanation of the finding that, within the living and environment group, a lack of green space is a less important factor in the health gap in Slovenia than it is in the average across the EU countries. Green space, which contributes to better health, is accessible in Slovenia regardless of income. As in the average across the EU countries, differences in the assessment of low air quality in Slovenia contribute less than 2% of the living and environmental factors to the gap in self-reported health between the affluent and less affluent.

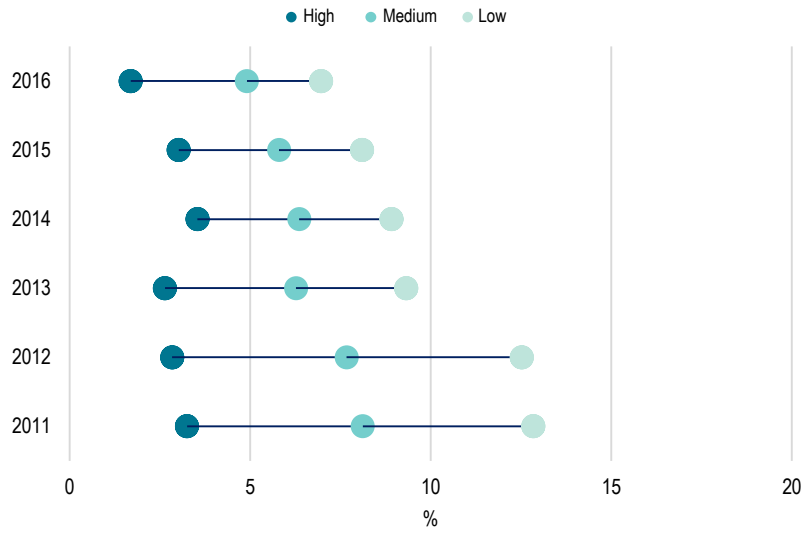

Fig. 3.8: Severe housing deprivation by educational attainment in Slovenia
Source: SILC. Display: WHO Health Equity dataset.

Severe housing deprivation is one of the indicators of housing deprivation. This is defined as the proportion of the population living in overcrowded dwellings that also have at least one of the following deficiencies: a leaking roof, no indoor toilet and bathroom, poorly illuminated rooms. The proportion of severe housing deprivation is falling in Slovenia, and the gap by educational attainment is also narrowing.

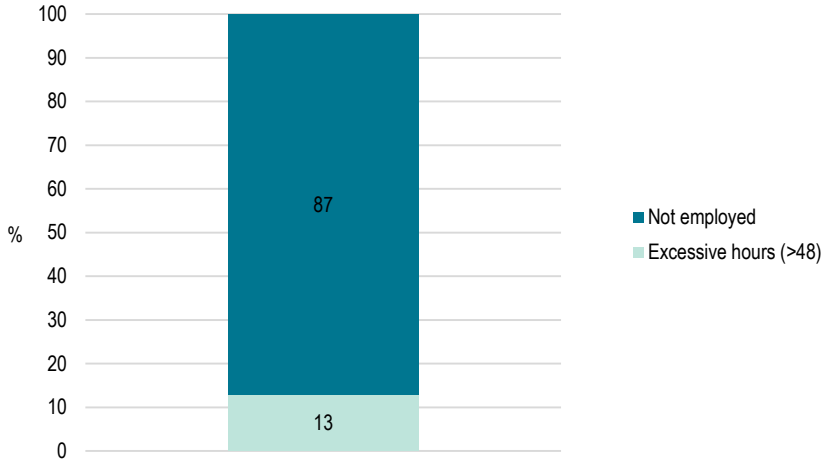

Fig. 3.9: Contribution of Employment and Working Conditions subfactors to the gap in self-reported health

Employment and working conditions contribute 8% to the gap in self-reported health in Slovenia, as shown in Fig. 3.1, while in EU countries that portion represents 11%. The more detailed breakdown in two factors shows that impact of unemployment is leading with 87% while excessive working hours contribute to 13% among these factors. In EU countries, the impact of both subfactors is the same as in Slovenia.

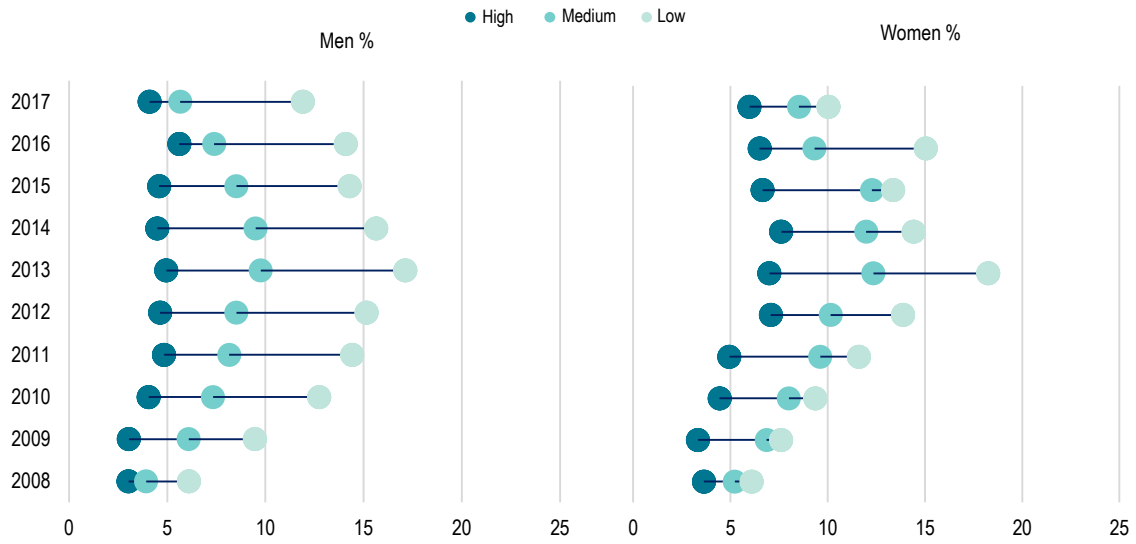

Fig. 3.10: Educational inequality in unemployment rate by gender in Slovenia
Source: ILO SURS. Display: WHO Health Equity dataset.

The gap in the unemployment rate by educational attainment in Slovenia is associated with economic crises. When unemployment is low overall, there are also few unemployed people with low education attainment group. When an economic crisis gathers pace, unemployment among those with low educational attainment rises more than among those with high educational attainment.

The idea behind the decomposition analysis is to explain the differences in health indicators that were observed between two socioeconomic groups by a set of contributing factors that differ systematically between these groups. Our case explains the contribution of groups of factors to differences in self-reported health among 40% of most and least affluent residents of Slovenia. This helps to understand the multi-sectoral conditioning behind the existence of health inequalities among groups of people, even though effective health services are in place that aim to narrow or eliminate inequalities in health and health care. Even if a country is able to narrow inequalities in one factor, they may still remain in others, emphasizing the importance of taking a multi-sectoral approach to tackling health inequalities (18).

Pollution of the environment is one of the factors affecting health inequalities. According to the World Health Organization, the greatest risk to human health in the European Union is attributed to air pollution. Particularly population living in urban areas is exposed to higher concentration of air pollutants. However, it is not enough to try to simply eliminate health inequalities, which are affected by environmental pollution as well as by people's resilience, education and decisive action. Our aim should be to ensure that everyone is able to live in a healthy environment. Measures to improve the environment are fair to all, as they enable everyone to suffer less illness, facilitate personal development and encourage people to look after their own health. Interdisciplinary cooperation between stakeholders is a precondition for the achievement of these objectives. Such cooperation was successfully established during the process of producing this publication and, as such, provides a good basis for further work in this area.

Nataša Sovič, Director of the State of the Environment Office, Slovenian Environment Agency

3.3 Poor air quality as an element of health inequalities

Authors: Tanja Carli (NIJZ), Andreja Kukec (UL MF in NIJZ), Janja Turšič (ARSO), Peter Otorepec (NIJZ)

In a breakdown of inequalities in self-assessed health between the 40 % poorest and 40 % richest inhabitants of Slovenia, living and environmental factors accounted for 14 % of the gap. A more detailed breakdown of living and environmental factors showed that poor air quality accounted for a very small part of the living and environmental factors in the gap in health self-assessment (**around 1 %**). Although an analysis of the data relating to indicator of poor air quality **did not** show a clear gap by level of education, the data does show that the **perception of air quality can change a great deal** within groups with different education levels (Figs 3.11 and 3.12).

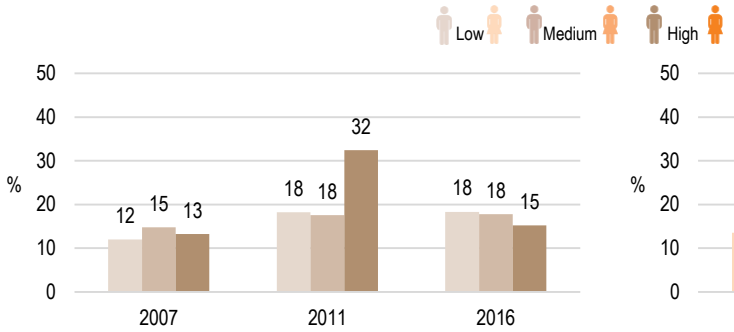

Fig. 3.11: Perception of poor outdoor air quality by sex and education level in three periods

Source: EQLS.

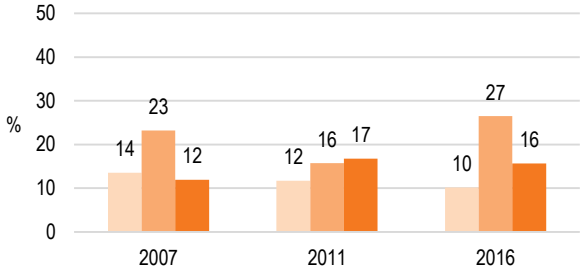

Fig. 3.12: Perception of poor outdoor air quality by sex and education level in three periods

Source: EQLS.

According to the available data, **no research on health inequalities** and **outdoor air quality** has ever been done in Slovenia. Poor air quality is fairly evenly distributed in urban and partly also in rural areas. Areas in which people with different socioeconomic statuses reside are almost equally affected, with differences only arising on account of proximity to very busy roads and industrial plants, locations that tend to be inhabited more by people with lower socioeconomic statuses. Based on the results of a **systematic literature review** (PRISMA flow diagram was used), we find that there is **evidence** of a correlation between socioeconomic status and exposure to poorer outdoor air quality (higher concentrations of particulate matter (PM), in particular $PM_{2.5}$ and PM_{10}, and nitrogen oxides (NO_2 and NO_x)) (196). It has been shown that people who live in **eastern European regions** (including Poland, Slovakia, Hungary, Romania and Bulgaria) and regions of **southern Europe** (including Spain, Portugal, Italy and Greece) and who have lower incomes and lower levels of educational attainment, with an unemployment rate higher than the European average, are **more exposed** to outdoor air pollutants, including PM and ground-level ozone (O_3) pollution (197). In the case of O_3, it is important to note that concentrations are mainly the result of a country's location. Because of higher temperatures and more intensive solar radiation, countries along the Mediterranean have greater levels of O_3 concentration than countries in the northern part of Europe and countries on the Atlantic coast.

Outdoor air pollution resulting from excessive levels of PM_{10} and ground-level O_3 is a **major public-health problem** in Slovenia. Elevated PM levels are the result of local pollution sources and meteorological conditions, while with ground-level O_3, as a secondary pollutant, regional characteristics are evident and are affected by cross-border transport. As far as particulate size is concerned, the **greatest impact on human health is probably exerted by $PM_{2.5}$**, particularly among sensitive individuals who are exposed to high concentrations of that size of particulates. The risk is greatest among people with chronic non-communicable diseases (particularly respiratory, heart and vascular diseases), weak levels of social support and limited access to healthcare (198).

Moreover, there is a lack of research in Slovenia into the link between the **perception of outdoor air quality** and objective measurements (**monitoring**) of air quality in the area of study. The results of our analysis can be explained in two ways: 1) by conditions within the **environment** and 2) by the attention focused on this topic in various ways by the **media**.

3.3.1 Conditions within the environment

According to the Slovenian Environment Agency (ARSO) data very similar PM_{10} levels have been recorded in recent years, with different meteorological conditions contributing mainly to fluctuations in PM_{10} levels within individual years (199). There has been a noticeable **downward trend** in PM_{10} levels since 2005, particularly in urban areas. This is the result of a fall in emissions from industrial sources. By contrast, there have been **no** noticeable trends in the average annual levels of O_3 in recent years, with differences that arise during the year mainly emerging as a result of weather conditions, particularly in the summer (which is when conditions are most favourable for O_3 production). As an analysis of our results shows, the trend in the perception of outdoor air quality **does not follow** the trend in PM_{10} levels. Perception of the environment, pollution problems, and / or regional changes **generally** always differs from the actual situation, as perception of the environment, particularly of the polluted environment, depends on the individual's degree of willingness to perceive and their perceptive abilities. The population's reactions and decisions are formed through perceptions, and both are dependent on 'filters'. The factors that lead to a variety of different perceptions and understandings of the environment are termed as 'socio-geographical filters' (e.g., population age composition, population **educational and professional composition**, the degree of affiliation for and dependence on nature, cultural, religious and national origin, and personal motives, feelings and political convictions). At the same time, economic, social and political filters influence the intensity and scope of people's reactions (200). Slovenian studies that examine the correlation between perceptions of the outdoor air quality and objective measurements (monitoring) of quality in the area of study have shown that education is a factor in a person's willingness to cooperate. Comparing those with primary level education and those with higher levels of education (college and university education), the studies have found that a significantly lower proportion of the former and a significantly higher proportion of the latter are prepared to take part in research (201).

3.3.2 Media coverage of the issue of air pollution

One of the few Slovenian research studies, to examine the role of social factors in the development of environmental awareness and the formulation of environment-friendly behaviour states that the threat to close Ljubljana city centre or charge for entry on account of traffic-related air pollution was quite heavily supported by the media in 2010, while in 2013 Slovenia received a new warning from the European Commission on account of the unlawfully high number of exceedances of the daily PM10 limit value (201). One Slovenian study found that linking air pollution with increasing emissions of greenhouse gases could lead to subjective assessments of poor air quality even when those emissions did not generally affect local air quality (202).

3.3.3 Conclusion

In order to formulate evidence-based conclusions on perceptions of poor air quality and correlations with health inequalities, further research is needed and should include representative samples of the population at the national level.

The 'Health Inequalities' publication and the process by which it was compiled has revealed two important facts on which our future sectoral work and intersectoral cooperation work can be based.

The first fact relates to the report itself, a publication that uses a wide range of data, databases and methodological approaches, which confirm and further reveal new insights into health inequalities. It is an important collection of data that should be used when reviewing education policies. While the field of education is not explicitly addressed in the publication, we nevertheless encounter elements of it whenever we talk about vulnerable groups of children and adolescents. It is the SARS-CoV-2 epidemic that has further disclosed and revealed such vulnerabilities that the school system with its counselling services usually recognizes and addresses. During the school lockdowns, however, the school environment as a preventive factor for health and well-being has remained inaccessible to the majority of children.

The second fact that we wish to highlight is the procedure itself, and the cooperation that has taken place between different sectors in the preparation of the publication. Most of the departments and ministries are surrounded, at least in part, by expert institutions that provide analytical, methodological and developmental support for their policies. The pooling of these capacities, the participation of various experts and the integration of data can lead to innovative methods of connecting and implementing central government policies. Health inequalities are a matter not only of health policy, but are impacted by a great many factors. Moreover, they do not themselves impact health policy alone, but are a part of the very fabric of society. Perhaps in future, the experiences gained from this cooperation will bear fruit in the preparation of other policies, which are not and should not be contained to sectorial logic.remain strictly within a single sector alone.

Aleš Ojsteršek, head of the sector for the quality of education, Ministry of Education, Science and Sport

3.4 »Long texts are no longer in fashion! « – Applied research into child well-being

Author: Urban Boljka (IRSSV)

This paper deals with one of the most fundamental questions of contemporary science and social science, namely how to use the findings from these disciplines to formulate public policies (in our case, child well-being).

Theoretically, the formulation of evidence-based public policies should not be problematic. On the one side are the researchers who present the results of their research, while on the other are the public policymakers who use those results in their work. This is therefore an exchange of knowledge for sources of funding, a process that appears straightforward and rational. However, practice shows that it is far from that. Not infrequently, researchers are unsatisfied with the level at and method by which their results are used, and public policymakers are unhappy with the applicability (or otherwise) of those results. The reason for this can be found in the differing objectives attached to the work of these two groups, the use of language, the understanding of the research results and, above all, the fact that the first group is led by scientific curiosity and the second by the policymaking imperative – something which, in addition to being a far from politically neutral process, is usually also subject to tight time constraints. When I wrote my first research report in 2008, one that was aimed at enabling the Ministry of Labour, Family and Social Affairs to more easily and effectively monitor the implementation of the Convention on the Rights of the Child, a convention by which Slovenia was bound as a signatory, the initial response from the commissioning body related to its length rather than its content. 'Don't you know that long texts are no longer in fashion?' was the half-humorous, half-serious warning.

It is an illusion to expect public policymakers to understand our academic obsession with research methods, our focus on the interpretation of results and on the application of those results to a wider social context and, above all, our reluctance to see 'our' research results translated directly into 'their' public policies. Nevertheless, if our home is the applied sciences and our task is to design the foundations for the formulation of evidence-based public policies, the research results must be formulated in the right way if we want them to be useful. This does not mean, of course, that we renounce the principles of scientific knowledge, but rather that we try to narrow the gap between researchers and public policymakers as much as possible.

3.4.1 Measuring child well-being

These are all questions we are faced with when attempting to assess child well-being in Slovenia. How can we measure complex social phenomena (in our case, child well-being), and how can we formulate and disseminate our results so that they have the greatest possible public policy impact? One approach, which addresses these questions and the gap referred to above, is to formulate composite indicators or indices. The advantage of this approach lies in the fact that it enables the well-being of children and the domains comprising it to be tracked by means of condensed data, in a conceptually and theoretically legitimate way and on a continuous basis. The index shows child well-being using a single value (on a scale of 1 to 100), which facilitates assessment to the greatest possible extent, enables time-based and international comparisons to be drawn, offers a more effective identification of the issues pertaining to individual social domains of relevance to children, and leads to the easier and more adequate formulation of public policies. This increases the pressure on political decision-makers and policymakers, and making them responsible for formulating and implementing measures, programmes and strategies to improve children's lives (our publication contains more details on the systemic challenges, methods and utility of indices) (203).

In recent years, inspired by the considerations set out in the introduction, we have embarked on the formulation of two child well-being indices with the financial support of the Ministry of Labour, Family and Social Affairs. These have become part of the regular tasks of the Social Protection Institute (IRSSV). The first, which we called IBO (it originally came about at the initiative and with the financial support of UNICEF Slovenia), enables comparisons to be drawn between child well-being in Slovenia and other European countries (204). The child well-being index is highest in Norway (84.2), which means that Norwegian children have better living conditions than their counterparts from the other (27) European countries. Slovenia occupies sixth place, along with Sweden. Ranked above them are the other Nordic countries and the Netherlands. These countries, along with Austria and Ireland, make up the top third of countries in terms of child well-being. Romania has the lowest index score (35.5), with children there having the worst living conditions of any of their counterparts in other European countries. The Nordic countries generally score highest by individual index domain: Finland occupies

first place (with Denmark) in the domains of material well-being and of health, safety and education, Iceland in the domains of behaviour and risk and of family and peer relationships, Norway in the domain of housing and the environment, and the Netherlands in the domain of subjective well-being. International comparisons show that Slovenia's highest rankings come in the domains of family and peer relationships and of education (sixth place), and the lowest in the domains of housing and the environment (12th place in 2010) and of behaviour and risk (17th place).

As such international comparisons are undeniably based on the average national value indicators that make up the index, and important deviations from the average can therefore remain hidden, we subsequently formulated a regional child well-being index (RIBO) to measure child well-being in Slovenia's statistical regions (205). According to the most recent figures available (2018), child well-being in Slovenia as measured by the regional child well-being index is highest in Goriška (66.56), followed by the Osrednjeslovenska (63.17) and Gorenjska (61.93). These three regions comprise the top 25% when it comes to the best-ranked statistical regions. The Zasavska statistical region has the lowest regional index score (40.91), with children there having the worst living conditions of all counterparts in other regions. It is joined in the bottom 25% by Obalno-kraška (Coast-Karst, 42.56) and Koroška (44.30) regions. Pomurska (44.84), Posavska (45.22), Primorsko-Notranjska (45.77), Jugovzhodna Slovenija (South-East Slovenia, 47.02), and Savinjska (49.34) are all below the Slovenian average, while Podravska (50.98) is above it. An analysis of the regional child well-being index for specific index domains shows that the highest-scoring regions are generally those in the upper 25% of the general index.

3.4.2 Bridging the gap between researchers and public policymakers

How can we enable public policymakers to do their 'research goggles' and put themselves in the researcher's position? First, we used data to present the results of the indices and equipped them with a variety of user-friendly functionalities on websites specifically designed for the purpose. Second, we based the design of both indices on the establishment of clear dividing lines between child well-being outcomes and the social, economic and political context in which these outcomes arose (e.g., average disposable income, Gini coefficient, GDP, human development index, etc.). We were then able to check which of the wider socioeconomic factors the child well-being outcomes or index results depended on.

In this way, we have made it possible to analyse the correlation between well-being outcomes and the social, economic and public policy context in which they arise. This increases the utility of the results. This data is usually illustrated by means of histograms, with countries (or in our case, regions) being classified from best to worst. Unintentionally or by design, the public policymaker takes a more analytical approach, as he or she is oriented towards the search for contextual indicators that have a positive correlation with well-being outcomes. This should, in an ideal world, lead them to consider formulating public policies aimed at improving these contextual indicators. Both websites use the scatter graph to highlight data[12] (206).

[12] In the case of the IBO website, this also enables countries to be classified into (colour-marked) groups in terms of their characteristics: e.g., type of welfare state, type of family policy that they enact, date of EU entry, etc., which again leads the user to an analysis of the differences and similarities of well-being outcomes in relation to the wider public policy and institutional framework.

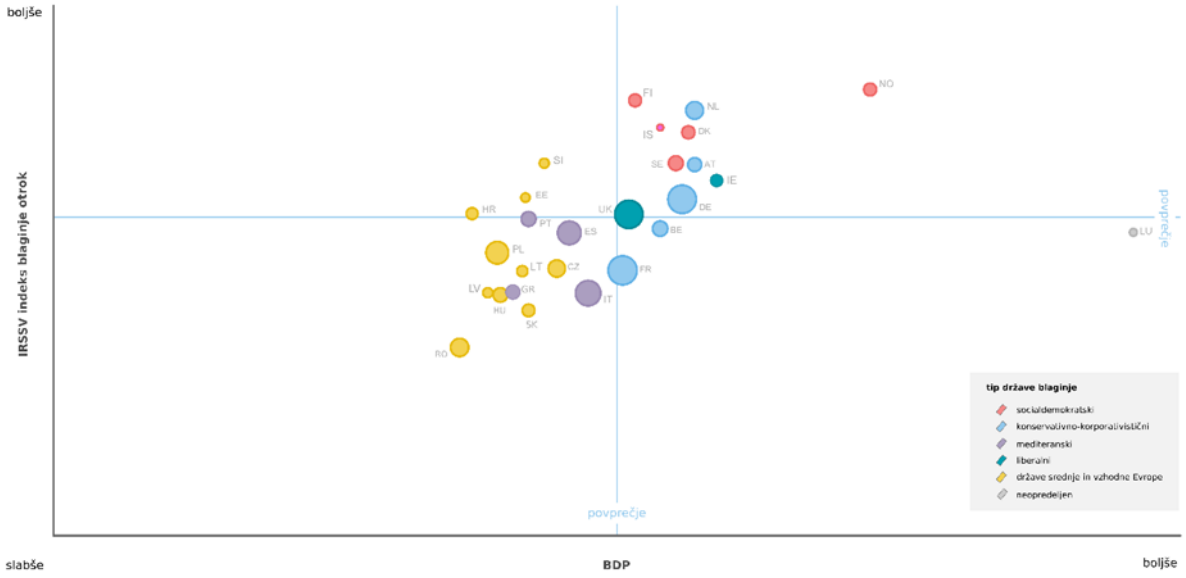

Fig. 3.12: Example of the IBO presentation in context – correlation between IBO and GDP per capita (PPP), 2014 figures

How can scatter graphs be used? On the x axis of the scatter graph, we are able to select 21 contextual indicators and on axis y of the graph 39 child well-being index indicators. The average values on the x and y axes delimit four quadrants, which can be used to analyse the scatter graph. Countries (or statistical regions) in the upper right-hand quadrant therefore achieve the best results, and those in the bottom left-hand corner the worst results on both axes. The fact that countries (or statistical regions) located in the upper right-hand quadrant always have the most satisfactory values on both axes of the scatter graph is achieved by reversing the values of some of the indicators so that a high indicator value always means a positive measurement direction or a more desirable situation.

Let us look briefly at the results of the placing of countries into the scatter graph quadrants (in the case of the child well-being index). Norway is most frequently placed in this 'above-average' quadrant (100% of the time in this quadrant, i.e. for all indicators), followed by Finland (92.9%), Denmark (92.9%), Sweden (81.3%), the Netherlands (75%) and Iceland (69.6%). In terms of frequency of placement in the above-average quadrants, Slovenia is in 12th place among all the countries studied, being placed there in 31.3% of cases. It is preceded are Austria (64.3%), Ireland (57.1%), Belgium (53.6%), Germany (49.1%), and the UK (44.6%). Despite appearing in the above-average quadrants 'only' in 31.3% of cases, Slovenia nevertheless ranks a high sixth in terms of the overall child well-being index. We can conclude from this that Slovenia 'generates' a relatively above-average placement in terms of overall child well-being values from relatively average and, in places, even below-average contextual values for the wider socioeconomic indicators.

In addition to enabling them to verify the link between well-being outcomes and contextual indicators, we wanted to allow public policymakers to test the potential effects of their decisions. What would happen if they were able to design public policies that improved the results of certain child well-being outcomes? In the case of the regional index (RIBO), we ask ourselves for example, whether a Slovenian statistical region with more effective measures could become part of that group of regions with the best child well-being outcomes. Which child well-being indicator values in a certain statistical region need to be improved (and how strongly they need to be improved) for this to happen? We can also answer these questions using machine-learning methods. We started out by placing all 12 Slovenian statistical regions into different groups in terms of their existing child well-being outcomes. We projected the values of all indicators in all regions into a two-dimensional coordinate system based on the t-SNE algorithm. This algorithm starts by randomly distributing the index values into the lower dimensional space. It then iteratively increases or reduces the distance between regions in line with the Euclidean distance between the indicator values.

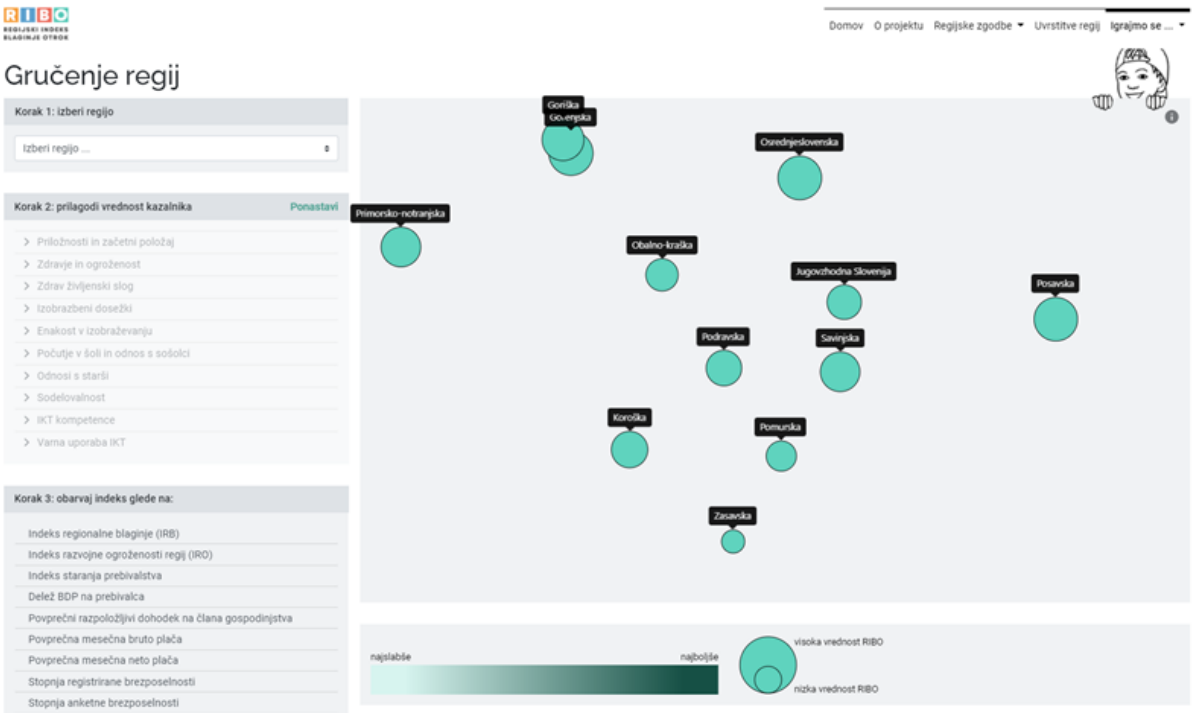

Fig. 3.1311: Clustering of Slovenian statistical regions in relation to the values of 40 RIBO indicators

Data visualisation of this kind enables one to identify differences (these are graphically depicted as longer distances between the statistical regions) and similarities (depicted as smaller distances between the regions), and to manipulate the indicator values and recalculate the distance projections (207). This makes it possible to replay various scenarios, with the data visualisation showing to which regions the region whose selected indicator values we have improved or worsened is most similar in a hypothetical scenario. The results of this replaying of hypothetical situations enable public policy designers to introduce region-specific policy measures in precisely determined domains of child well-being in a more well-considered way.

One further data visualisation based on the replaying of hypothetical scenarios is the formulation of a user's own regional child index or the weighting of RIBO domains in line with the user's preferences (208). It therefore facilitates new classifications of regions according to the relevance that the user attributes to a certain domain. This allows us to resolve some dilemmas generated by the decision to give equal value to the ten domains of well-being that make up the RIBO.

Fig. 3.14: Re-designed RIBO with weighted domains of well-being and new classifications of Slovenian statistical regions

3.4.3 Final thoughts

Measuring complex social phenomena through the formulation of composite indicators can be an important tool for the well-informed creation of public policies. One should be aware that 'shortcuts' of this kind cannot completely replace thorough analyses of child well-being, as the creation of indices always involves an approximation or estimate bounded by so many factors (accessibility of data, weighting of domains of the index, representativeness of the data, etc.). In our opinion, the two indices, RIBO and IBO (as well as their data visualisations and the functionalities of their websites), serve to supplement existing knowledge of child well-being. This existing knowledge is not something that should be entirely replaced by other methods of evaluating the position of children within society. Although such approaches reduce the gap between researchers and public policymakers, their application should come with a warning: 'Use with caution. There are long texts that have to be read as well'.

3.5 Alcohol in Slovenia: How big is the problem, where have we been successful and where do the opportunities still lie?

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There is an increasing acknowledgement that the consequences of alcohol consumption have a bearing on health inequalities. Studies and reports from a variety of countries show that people with a lower socioeconomic status suffer greater consequences from alcohol use even if they consume the same or even lower quantities of alcohol in comparison with people with a higher socioeconomic status. This means that it is important for effective alcohol policy measures to be incorporated into policies and programmes aimed at **reducing health inequalities** and promoting sustainable development (144), (25).

3.5.1 Alcohol – How big is the problem?

Alcohol consumption

Recorded per capita (15+) consumption of alcohol (in litres of pure alcohol) in Slovenia stood at 11.05 in 2019, a year-on-year rise of one litre. In terms of the amount of pure alcohol used, Slovenia is consistently **above the average for the European region** of the WHO, which is the region with the highest levels of alcohol consumption in the world (209), (210).

Deaths directly attributable to alcohol, chronic liver disease and cirrhosis

There were 1,077 deaths due to reasons exclusively attributable to alcohol in Slovenia in 2019. **This is an average of three deaths a day** (211). Between 2017 and 2019, the mortality rate due to reasons exclusively attributable to alcohol among men was 4.6 times higher than the rate for women. The highest mortality rate was among men aged between 65 and 69, with the highest mortality rate among women coming in the 75–79 age group. With both men and women, **mortality due to reasons exclusively attributable to alcohol is higher among those with lower levels of educational attainment**, although the inequalities are less pronounced for women. Between 2013 and 2018, 2,626 people died from chronic liver disease and liver cirrhosis. Just under three-quarters (74.4%) of these were men. **Deaths from chronic liver disease and cirrhosis therefore accounted for 2.21% of all deaths** (3.34% in the case of men and 1.11% in the case of women) (212). Mortality due to selected alcohol-related causes exceeded the EU average in the 2008–2017 period (211).

Alcohol and adults

A total of **47.3% of the Slovenian population** aged between 15 and 64 **engaged in hazardous alcohol consumption** in the last 12 months, meaning that they consumed alcohol in quantities that exceeded the daily low risk drinking limits and/or were engaged in heavy episodic drinking (HED) at least once in the last 12 months. One and half times more men than women engaged in this type of alcohol consumption. Almost 60% of those who consume alcohol were hazardous drinkers. This number included **more men** than women, **more young people** than older people, **mostly people with lower levels of educational attainment**, and more people in education than people actively working or retired. The situation is more serious in the **eastern regions of Slovenia**. In comparison with the western regions, they have higher proportions of people with HED, people who exceed the daily low risk drinking limits and, consequently, people who drink hazardously (213).

Alcohol, children and young people

14.9% of 11-year-olds, 40.1% of 13-year-olds and 70.7% of 15-year-olds have drunk alcoholic beverages in their lifetime. Alcoholic beverages have been consumed at least once a week by 2.5% of 11-year-olds, 5.1% of 13-year-olds and 14.3% of 15-year-olds, while just over one percent of 11-year-olds, 4.7% of 13-year-olds and 26.6% of 15-year-olds reported drunkenness at least twice in their lives. Boys engaged in weekly drinking and drunkenness more frequently than girls (214). Slovenia is **above the international average** in terms of the proportion of 15-year-olds who reported drunkenness at least twice in their lives (45). Among adolescents, **boys, those with two unemployed parents, those with below-average school achievement and those attending vocational schools** compared to those attending grammar schools are more likely to engage in weekly drinking (215).

Economic burdens of alcohol use

Alcohol use presents a major economic burden for Slovenia. This is expressed in high health and other costs. The **direct and indirect health costs** associated with alcohol use in Slovenia are estimated to have amounted to an average of **EUR 147 million a year** between 2012 and 2016 (215). This is **between three and five percent of the country's annual expenditure on health** (216). If we add certain other costs related to alcohol use, such as road accidents, domestic violence, crime (e.g. theft, vandalism), and this figure rises to **EUR 228 million** (216), (218).

3.5.2 Alcohol policy – How successful are we?

Alcohol policy is enacted via a variety of measures, common to Slovenia and other European countries, that encompass several different areas: from legislative measures (e.g. price and physical availability of alcohol, advertising), information-provision, education and awareness-raising, measures in healthcare, social security and other settings, in driving and transport, and in work organisations and local communities, to the monitoring of and reporting on alcohol use, the drinking patterns of different population groups and the harm caused by alcohol (219), (220). Recent years have seen a considerable amount of evidence to support the effectiveness and cost-effectiveness of individual alcohol policy measures (146). The European Action Plan to Reduce the Harmful Use of Alcohol 2012–2020 covers **ten action areas for an effective alcohol policy**. Slovenia is also involved in implementing them (221). International comparisons show that, in the last few years, Slovenia has had **greatest success in the following areas**: drink-driving countermeasures, leadership and awareness, the monitoring of alcohol-related issues, limiting alcohol availability, reducing the negative consequences of alcohol consumption and intoxication, and treating hazardous and harmful alcohol consumption and addiction in healthcare settings (222), (223). The country has had **less success** in the areas of limiting marketing communication for alcoholic beverages, reducing the impact of the illicit provision and sale of alcohol and informally produced alcohol, and reducing the affordability of alcohol (pricing policies), although other countries are also performing poorly in these areas.

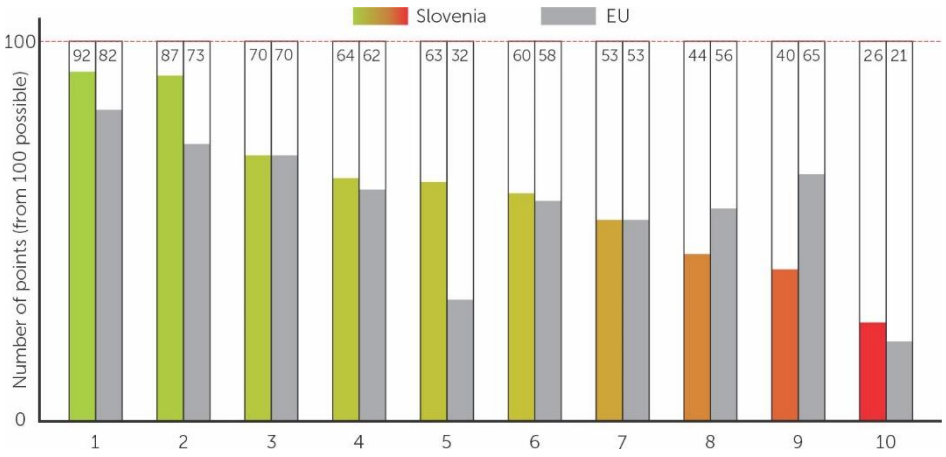

Fig. 3.15: Comparison between Slovenia and the average for 30 European countries

Comparison between Slovenia and the average for 30 European countries (Fig. 3.16) 28 EU member states plus Switzerland and Norway) using a scale of 0 to 100, which tells us the extent to which countries have adopted certain alcohol policy measures, merged into ten action areas for a comprehensive alcohol policy (224), (225).

Ten action areas: (1) Drink-driving policies and countermeasures, (2) Leadership, awareness and commitment, (3) Monitoring and surveillance of alcohol-related issues, (4) Limiting the availability of alcohol, (5) Reducing the negative consequences of drinking and alcohol intoxication, (6) Treatment of hazardous and harmful alcohol consumption and addiction in healthcare settings, (7) Community and workplace action, (8) Restricting the marketing communication for alcoholic beverages, (9) Reducing the public health impact of the illicit provision and sale of alcohol and informally produced alcohol, (10) Affordability of alcohol (pricing policies).

Current legislation in force in Slovenia and recent key changes

The last 20 years in Slovenia have seen quite a few legislative changes in relation to issues surrounding alcohol. Slovenia's breakthrough year was 2003, which is when the **Restrictions on the Use of Alcohol Act** (ZOPA) was adopted. It lays down measures and methods for restricting alcohol consumption, and measures to reduce its harmful effects. ZOPA supports measures that have been proven to be effective and that are

aimed at restricting alcohol use, specifically through the use of age-, time- and space-related measures to reduce the availability of alcohol, particularly to young people. The **Act amending the Restrictions on the Use of Alcohol Act** was adopted in 2017 and was a step backwards as far as the development of an alcohol policy in Slovenia was concerned, as it re-permitted the sale of beverages with less than 15 volume percent of alcohol at sporting events (226). With the exception of the requirements for alcohol retailers to stock at least two different types of non-alcoholic beverage offered at the same or at a lower price than the cheapest alcoholic beverage, ZOPA has no effect on the affordability of alcohol, which is regulated by the **Excise Duty Act**. Slovenia last raised excise duties in 2014, even lowering it for some quantities of alcohol in 2016.

Another important legislative instrument is the **Media Act**, adopted in 2001, which brought order to the previously limply regulated area of alcohol advertising. Under this new law, the advertising of alcoholic beverages in the media and with other advertising instruments was prohibited, except where the law provided otherwise. This regulation saw opposition mainly from the agricultural sector, which believed that the rules of freedom of competition and the free flow of goods should apply to alcohol as well. In 2002, just prior to the adoption of the Restrictions on the Use of Alcohol Act, the **Act Regulating the Sanitary Suitability of Foodstuff, Products and Materials Coming into Contact with Foodstuffs** placed a blanket ban on the advertising of alcoholic beverages containing more than 15 volume percent of alcohol , i.e. spirits. The law provided that all other alcoholic beverages (e.g., beer and wine) could be advertised, set time- and content-related restrictions on advertising, and stipulated that a health warning had to be attached to all advertisements. The **Act Amending the Audiovisual Media Services Act**, adopted in 2015, placed a ban on television sales of alcoholic beverages. One important area that Slovenia will have to address legislatively is the marketing of alcohol on digital channels, which provide an ever-increasing number of opportunities for the marketing of alcohol (227).

The **Road Safety Act**, adopted in 2004, supports measures to prevent drink-driving, and provides, among other things, that drivers may not operate vehicles, or begin to drive, if they are under the influence of alcohol.

The last decade has seen a number of effective system-wide measures aimed at reducing alcohol use. Updated traffic legislation was adopted in 2010. In addition to more stringent repressive measures for drink-drivers, it introduced a counselling and rehabilitation approach that has, among other things, helped to reduce the proportion of alcohol-related road accidents. The **Occupational Health and Safety Act**, adopted in 2011, prohibits workers from consuming alcohol and being intoxicated at the workplace.

MOSA (Mobilising Community for Responsibility Towards Alcohol (www.infomosa.si) [13], an entity founded in 2008, has made an important contribution to improving the enforcement of legislation, identifying alcohol-related issues and reviewing approaches to the reduction of the alcohol-related burden in Slovenia (228). With the aim of transferring knowledge, increasing effectiveness and bringing different alcohol policy actors together, MOSA provides information on alcohol-related issues in Slovenia in a transparent way that is accessible to all. MOSA provides the general public and the profession with access to a variety of databases (databases on preventive programmes, research studies, entities and organisations, sources of help, publications) and to information on current events relating issues surrounding alcohol and on approaches to the issue in Slovenia and around the world (229).

3.5.3 Two selected good practice examples in Slovenia

3.5.3.1 TAKE CARE programme

The TAKE CARE programme arose as part of the European EURONET network, which brings together 18 institutions from different European countries active in addiction prevention (230), (231). The main objective of the TAKE CARE programme is to **prevent and reduce alcohol consumption, and the harms associated with it, among adolescents and young adults within a specific local community**. It attempts to ensure that adolescents do not come into contact with alcohol before they turn 18 (as the law stipulates), and to reduce consumption among those who are already drinking (or encourage them to make more responsible decisions regarding their consumption). In the wider context, another aim of the programme is to reduce other harmful impacts on health, tackle the behaviours associated with alcohol consumption, prevent the development of alcohol addiction and change attitudes to drinking in the wider social environment.

[13] MOSA is financed by the Ministry of Health, the Faculty of Social Sciences, the University of Ljubljana and the National Institute of Public Health.

The programme addresses four main target groups within the selected local environment: 1) **adolescents and young adults** aged between 12 and 21 identified by key persons/informants as consuming alcohol/engaging in hazardous drinking; 2) **parents and close family members** of adolescents and young adults involved in the programme; 3) other **key adults** who have contact with adolescents and who are regarded as important by those adolescents; 4) **sellers** of alcoholic beverages.

The following pre-set interventions are conducted for each target group:

- **Ro.pe** (**R**isk **O**ptimisation and **P**eer **E**ducation) workshops for young people that aim to encourage them to comply more closely with alcohol legislation, raise awareness and change risky behaviour relating to alcohol consumption, and search for healthy alternatives. During the ro.pe training programme, which lasts for three or four days, adolescents and young adults take part in outdoor sports, such as climbing, with the aim of confronting risky situations and learning how to act in those situations. The skills they acquire can later be transferred to the young person's decision-making when faced with risky alcohol-related situations.
- **'Debate party'**, an expert-led discussion with parents and close family members designed to provide support and guidance in developing clear positions on and attitudes towards alcohol consumption.
- **Training for key adults in the basics of motivational interviews**, which is aimed at raising participants' awareness of their tasks, building clear positions on alcohol consumption among adolescents, and improving participants' skills in motivating people to make changes.
- **Training for those who sell alcohol** (retailers and alcohol providers in pubs and bars) with the aim of familiarising them with the legislation and improving strategies/skills for the responsible sale/provision of alcoholic beverages.

Programme evaluation has shown that 44% of the young people who were engaged in hazardous consumption patterns before the intervention ended up reducing their alcohol intake in terms of frequency of consumption, quantity of consumption or both. Thirty-four percent of young people who did not engage in hazardous consumption patterns remained at the same level after the intervention. Post-intervention compliance with legislation relating to alcohol use improved in all target groups. With the help of the interventions, parents, other key persons and alcohol sellers greatly improved their ability to act and to adopt clear positions on adolescent alcohol consumption.

The approaches taken by the TAKE CARE programme **help to better involve specific population groups** within the local community and, as a result, **reduce inequalities in health outcomes**.

3.5.3.2 TRATAC (SOPA) – Together for a Responsible Attitude Towards Alcohol Consumption

The national TRATAC (Together for a Responsible Attitude Towards Alcohol Consumption) project took place in Slovenia between 2016 and end January 2022[14]. It takes an intersectoral and interdisciplinary approach to activities to limit excessive alcohol consumption among the adult population in Slovenia by bringing together the profession, NGOs, political decision-makers, the media and members of the community (232), (233).

TRATAC reduces health inequalities through the following (232), (233).

1. **Building and strengthening capacity** This involves raising awareness and training the profession, political decision-makers, representatives of NGOs that deal with groups of people with various vulnerabilities, media representatives and members of the community in topics relating to the harm caused by alcohol consumption, and the resources and support methods available for encouraging adults to quit their excessive alcohol drinking.
2. **Intersectoral and interdisciplinary approach** Cooperation between health workers in medical centres and clinics, social workers at social services centres and experts at employment offices and in NGOs dealing with groups with special vulnerabilities constitutes a key bridge between the healthcare and social sectors.

[14] The programme, which was co-financed by the European Union from the European Social Fund (80%) and Slovenian central government (20%), is coming to an end in 2021.

3. **Piloting** of the approach in 18 local areas across Slovenia. The approach is being tested in 18 local areas, with selected health and social workers and representatives of NGOs and employment offices working together to provide variants of the brief intervention for people who wish to quit their hazardous and harmful alcohol drinking.
4. **Proposal for establishing the approach at a system-wide level** After the pilot project is evaluated, a proposal will be drawn up to implement the measures as part of the national public health protection programme.
5. **Removing the taboo and stigma** from alcohol-related problems in Slovenian society. This is carried out through the objectives referred to above, and particularly through the building and strengthening of professional capacities and raising awareness in the media and among the general public.

As part of the TRATAC approach, specially trained primary-level health workers and social workers at social services centres provide the so called in depth brief intervention - series of **short-form, one-to-one help and counselling sessions** that support patients or users in their efforts to quit hazardous and harmful alcohol drinking. The aim of the project is to screen 60,000 people and provide further help and advice to 9,000 of this number, with at least 540 actually stopping their hazardous and harmful alcohol drinking and doing so for a further six months after the completed sessions (232), (233). Another important measure alongside this involves training health workers of various clinical specialties and to whom the issue of alcohol consumption can be particularly relevant to provide most basic form of the brief intervention. These are short, one-off variants of the in depth brief intervention that provide support to people who wish to quit hazardous and harmful alcohol drinking (232), (233). **Workshops to strengthen interpersonal relations** are also held at health education and health promotion centres, with participants being introduced to the main ways in which they can nurture their own well-being, communicate more assertively and resolve problems (234).

Information-provision and awareness-raising regarding alcohol-related issues and sources of help with groups subject to specific vulnerabilities (e.g., they are unemployed, blind or partially sighted, deaf or hard-of-hearing, suffer from poor mental health), mainly through the integration of awareness-raising elements into the existing activities carried out by NGOs dealing with vulnerability and by employment offices (232), (233). One particularly important measure within the approach is communication with the media. Alongside communicating project activities to the media and the marking of the 'Day Without Alcohol' event, this involves training representatives of the media to **report alcohol-related issues in a responsible way** (235).

There are also accompanying interdisciplinary activities (e.g., meetings of local, regional and national TRATAC stakeholder networks) that complement the cooperation between the stakeholders of the measures referred to above, other stakeholders within the community (e.g., representatives of self-help and therapeutic groups that provide assistance to people with alcohol problems) and official authorities at various levels. This helps increase the effectiveness of the approach (232), (233).

3.5.4 Conclusion: Where do the opportunities still lie?

Considering the ten action areas for an effective alcohol policy set out by the World Health Organization and adopted in Slovenia and given the presumed success of Slovenia's alcohol policy, we estimate that activities will have to be stepped up in the following areas over the next few years (220), (221), (223), (236), (237), (238), (239):

Measures relating to the affordability of alcohol

- Studying further options for increasing the price of alcohol and introducing special taxation on those alcoholic beverages that are particularly attractive to young people.
- Introducing increases in excise duty in line with inflation.
- Studying the possibility of enforcing a minimum price for alcoholic beverages.
- Using revenue from the excise duty on alcohol and alcoholic beverages to fund programmes to reduce hazardous and harmful alcohol consumption.

Reducing the impact of the illicit provision and sale of alcohol and informally produced alcohol

- Improving control of the production and sale of alcoholic beverages.
- Setting up an effective system controlling production, consumption and the quality of unrecorded alcohol.

Restricting the marketing communication of alcoholic beverages

- Introducing a complete ban on the advertising of all alcoholic beverages.
- Banning sponsorship and donation activities aimed at the promotion of alcoholic beverages.
- Focusing particular attention on banning activities that promote alcohol sales.
- Putting in place a system for the monitoring and evaluation of alcohol advertising in all media, including the internet, online social networks and mobile apps so as to ensure greater oversight and greater legislative compliance.

Also in the future it is crucial to continue monitoring the consequences of alcohol use on a regular basis and engage in the early detection of those involved in hazardous and harmful drinking, including members of vulnerable groups. It is also important to raise awareness and invest in training of serving staff, alcohol providers and all other alcohol policy actors. This will be enabled by an adopted and supported strategy in the area of alcohol-related issues, while the action plan drawn up will include activities at both national and local level. By supporting successful community-based programmes and engaging in periodic campaigns, we will gradually reduce the size of the alcohol-friendly environment and reduce the number of drinking opportunities. The development of a community-based approach that brings together many actors from the field will make an important contribution to this. This is particularly important given that a major social and economic crisis is currently forecast to follow the Covid-19 pandemic, which could lead to an increase in hazardous and harmful drinking in Slovenia as elsewhere.

The implementation of pilot projects such as TRATAC and Take Care, both of them **good practice examples**, provides an opportunity to improve the situation surrounding alcohol-related issues and, at the same time, reduce health inequalities that exist between different population groups. Both projects show how important it is for various actors within the community to come together and cooperate to resolve these problems. An important role in raising awareness within the profession and among the general public is played by the MOSA website (www.infomosa.si), which provides information on alcohol-related issues in a transparent and accessible way, and helps to bring together the different actors within the community and beyond.

There is an increasing acknowledgement that alcohol use and its consequences are factors in health inequalities – factors to which the inequality indicators in the above section of this paper relate. It is therefore crucial that we incorporate elements that **promote justice** (e.g., age, gender, socioeconomic status, ethnicity, residence in a rural or urban area, region, membership of a vulnerable group) and the recommendations or **guidelines for reducing health inequalities** into the process of formulating policies, interventions and programmes to reduce the harms associated with alcohol consumption (146), (147).

3.6 Inequalities in the relationship between the long-term care and healthcare of the elderly

Authors: Andrej Srakar, Miha Dominko (both IER)

3.6.1 Introduction

This paper examines the link between long-term care and the use of healthcare services using the methodological approach (240). Increasing the volume of long-term care services can improve the efficiency of the healthcare system by reducing the number of hospitalisations and smoothing the path towards the implementation of plans to coordinate healthcare and social care. The analysis uses longitudinal data from the Survey of Health, Ageing and Retirement in Europe (SHARE) to assess the impact of various types of long-term care on the use of healthcare services and on their decomposition by main socioeconomic factor.

In most industrialised countries, the need for long-term care (LTC) services is increasing due to the ageing of the population and the growing number of very old people. Long-term care is defined as a set of services required by people who have a reduced level of functional capacity (physiological or cognitive) and who are consequently dependent, over the long term, on help in accomplishing basic day-to-day activities. For a long time, in contrast to other personal services, long-term care services developed very slowly, which led to a gradual increase in public and household expenditure on long-term care. At the same time, the redrawing of family structures, the distancing of children from parents and the higher proportion of women working outside the home also led to a fall in the availability of 'informal' care.

The combination of an ageing population and social changes shows that, in the years to come, there will be increased demand for training in the provision of long-term care services (e.g., for personal care, community-based care, and institutional care in care centres or care homes and in residential facilities funded by government programmes, private long-term care insurance or out-of-pocket expenditure by individuals). However, this shift in the way that long-term care is provided has major economic consequences, as the costs associated with this in Europe (and in the OECD countries more widely) are traditionally met by families themselves or from the public purse. Expenditure on LTC accounted for an average of 1.5% of GDP in OECD countries in 2008. If present trends continue, this figure will more than double by 2050 (241). This presents decision-makers with an urgent dilemma and poses the question of how LTC can be financed, particularly if a large portion of such expenditure comes from public funds.

Countries have a range of financial mechanisms available for protecting themselves against the risks associated with increased need for costly long-term care provision. One group of mechanisms is of the 'ex-ante' type, which means that the measures are adopted before old-age dependence arises; such measures include social insurance, a reduction in the likelihood of the need for long-term care (or of costs being incurred in the future) arising, and precautionary saving. The second group of funding mechanisms is of the 'ex-post' type, meaning that the measures are adopted after dependence has arisen; these include the subsidising of formal and informal long-term funds, family support, and the use of equity to fund long-term loans ('reverse mortgages'). Although the ageing of the population is placing pressure on governments, it is difficult to envisage existing public long-term care programmes being expanded at a time when public finances are already under strain from the previous recession and from the current recession caused by the COVID-19 pandemic.

Healthcare systems are faced with the challenge of responding to the growing costs of treatment. Some of the increase in demand for healthcare is seen to be the consequence of inefficient use of healthcare services (particularly hospital care) by individuals who would actually be better off receiving long-term care. This is usually the case when long-term services are not accessible and/or not properly coordinated with healthcare departments. Studies highlight a lack of adequate and/or affordable long-term services because of limited insurance cover or public subsidy, or because of inadequate integration as a result of the inefficient and costly use of hospital care. However, there have so far been very few studies that focus on identifying and empirically evaluating this impact.

The paper resolves the reverse causal link between the provision of long-term care and the use of healthcare services and does so without relying on instrumental variable methods or natural or quasi-natural experiments. We therefore use a new empirical approach to this problem – one that provides political decision-makers with an insight into the relationship between long-term care provision and the use of healthcare services, and therefore provides support to the measures taken in this area.

3.6.2 Research method

The paper makes use of data from the Survey of Health, Ageing and Retirement in Europe (SHARE)[15], which is a multidisciplinary, cross-national panel database of micro data on the health, socioeconomic status and social and family networks of over 140,000 individuals aged 50 and over. The survey covers 27 European countries and Israel (178), (242), (243), (244), (245).

The analysis employs cross-lagged panel models. Our results confirm the positive effects of long-term care provision on reducing the use of healthcare, with visible direct and indirect effects in the majority of indicators. Using statistical decomposition of the Oaxaca-Blinder type, we confirmed the important role played by income, education and gender in the relationship between long-term care and healthcare. The paper presents a new methodological option hitherto not applied to an analysis of this relationship and provides important results as they relate to an analysis of health inequalities.

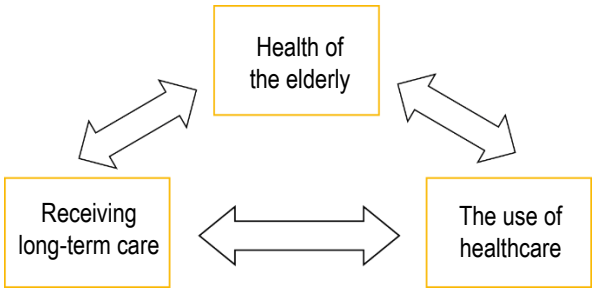

Fig. 3.16: Causal scheme of the basic mediation model

3.6.3 Results

The results of our analysis and the decomposition of the results to the effects of individual socioeconomic factors are presented below.

Fig. 3.18 shows the results when the number of chronic diseases is used as the indirect variable. The impact of care on a reduction in the need for healthcare is visible in all calculations and in direct and indirect impacts (the total impact is the sum of both impacts). Only statistically significant impacts are shown (those that are not statistically significant are excluded from the table).

The results differ in relation to the final variable used for healthcare services, i.e. either the hospitalisation variable or the number of drugs variable. With the latter, the results generally show an (expected) negative impact of the long-term care on the need for healthcare, while with the former the results also occasionally show a positive impact as well. The results also change depending on the indirect variable used and are different in the depression index than they are in relation to the number of chronic diseases and self-assessed health.

With the third indirect variable (self-assessed health), the results change in relation to the impact on the number of drugs taken, where they are even more strongly statistically significant and negative. Similarly, the indirect effect of intensity of informal care almost disappears, which can be explained by the short-term psychological impacts on perceptions of one's own health, which is reflected less strongly in the use of healthcare services.

[15] This document uses data from the third to seventh waves of the survey (10.6103/SHARE.w4.700, 10.6103/SHARE.w5.700, 10.6103/SHARE.w6.700, 10.6103/SHARE.w7.700), see Börsch-Supan et al. (2013) for details of the methodology. The SHARE database is chiefly financed by the European Commission via FP5 (QLK6-CT-2001-00360), FP6 (SHARE-I3: RII-CT-2006-062193, COMPARE: CIT5-CT-2005-028857, SHARELIFE: CIT4-CT-2006-028812) and FP7 (SHARE-PREP: N°211909, SHARE-LEAP: N°227822, SHARE M4: N°261982). We would like to thank the German Federal Ministry of Education and Research, the Max Planck Society for the Advancement of Science, the US National Institute on Aging (U01_AG09740-13S2, P01_AG005842, P01_AG08291, P30_AG12815, R21_AG025169, Y1-AG-4553-01,IAG_BSR06-11, OGHA_04-064, HHSN271201300071C) and various national funding sources (see www.share-project.org). We are particularly grateful for the financial support of the Slovenian Ministry of Education, Science and Sport.

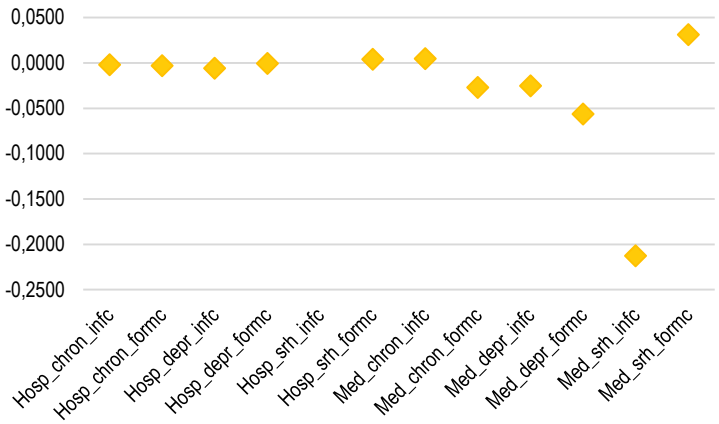

Fig. 3.17: Overall results

Source: Own calculations.

Note: Key: final variables – likelihood of hospitalisation (Hosp) and number of drugs taken (Zdr); indirect variables – number of chronic diseases (kron), EURO-D index (depr), self-assessed health (soz); long-term care – total informal care (nefo), formal care (foro).

We also used the results of the decomposition analysis for the above analysis. Interestingly, there are no significant visible differences between the variables that formed the basis for the decomposition. In all relationships, the most important impact is age, followed by income, gender and education.

Gender is the main determinant for the variables of informal care outside the household and formal care. This is particularly evident in the number of drugs taken (informal care) and the number of hospitalisations (formal care). Indirect impacts are considerably more important than direct impacts as far as impacts via the variable of number of chronic diseases is concerned; this shows that the health of an elderly person is actually the determining factor to which reasons for inequalities in the relationship between long-term care and healthcare can be attributed.

3.6.4 Conclusions

The paper employed a new approach to studying the relationship between long-term care and healthcare. While much of the literature shows that this is a reverse causal link, solutions so far have rested on the more common solutions from econometric models of instrumental variables, for which a cross-sectional data structure sufficed. Our approach has linked these approaches to models originating from the structural-equations field – more specifically, longitudinal mediation analyses and cross-lagged panel models, whereby we solved the problem by placing it within a chronological perspective.

Our results confirmed that receiving long-term care reduces the burden on the healthcare system, and also highlighted those factors that have the strongest impact on this relationship and the inequalities within it: age, gender, income and education. We have also pointed out the differences between these inequalities.

The paper opens up a number of methodological as well as substantive questions. In a further paper, we have developed two new estimators for the modelling of longitudinal mediation analysis that eliminate the problems associated with the pre-determined statistical distribution of data. As no research has been done on the modelling of structural equations in relation to non-parametrical evaluation, this opens up numerous paths for further research.

In the substantive sense, it appears possible to expand it to an assessment of savings in the healthcare system. The relationship between long-term care (and with it the measures to increase it) and a reduction in healthcare needs is now resolved and evaluated. For a more detailed financial assessment, our estimated coefficients would merely need to be multiplied by the costs of every type of use of the healthcare system that we include in the model.

We hope that our evaluations will be of interest and relevance to the study of inequalities in health and long-term care (and the relationship between the two) and, moreover, that they give rise to even more interesting methodological solutions to similar problems involving the empirical evaluation of policy impacts.

3.7 Inequalities in the receipt of long-term care from the aspect of life cycle

Authors: Andrej Srakar, Miha Dominko (both IER)

3.7.1 Introduction

This chapter is based on the theoretical assumption that certain early-life experiences lead to a range of family, health and economic outcomes in later years. 'Life course', which explains the level of activities in later life in relation to an individual's lifestyle and their early-life activities, is one of the perspectives used to observe and analyse different aspects of older people's lives. This perspective shows that an individual's experiences at a certain point of their life can affect their life even decades later (246) (247). Differences in an individual's well-being accumulate over time and increase in later life. When trying to determine the relationship between earlier events and outcomes in later life, one must analyse the inequalities that arise during a person's life: at the family level (widowhood, divorce, etc.) or in relation to type of employment (full-time work, unemployment, etc.). Studies conducted over the last decade offer a great deal of evidence to suggest that many costly chronic and mental illnesses originate in childhood.

By means of laws, public policies and various other measures, the state can have a direct impact on healthcare, the jobs market, various types of care and population income (248). However, those laws and public policies must be based on scientific research – for example, research on the history of fertility in the UK has shown that parenthood has a significant effect on both women and men, and that the fact that an individual has children does not increase their quality of life in later years. Consequently, our main objective is to examine whether, in Slovenia, an individual's life history, i.e. their family, health and economic conditions in earlier periods of life, is connected in any way to long-term care.

To answer these questions, we have made use of retrospective panels, a relatively new approach to the modelling of life cycle. Longitudinal data enables us to assess changes, such as marriage and the end of a marriage, that cannot be assessed using cross-sectional research; it also enables us to assess more reliable statistical models, as the bias produced by invisible factors, such as capacity, can be mitigated. Our results shed new light on the relationship between life history and inequality in the provision of long-term care in later periods of life.

3.7.2 Data and method

In order to obtain the confidence produced by valid results, we used data from the Survey of Health, Ageing and Retirement in Europe (SHARE)[16], which is an interdisciplinary, international panel database of micro data on health, socio-economic status and social and family networks comprising around 140,000 individuals aged 50 and over (approximately 380,000 interviews have been conducted). SHARE covers 27 European countries plus Israel (242) (243) (244) (245) (249).

The figure below shows the data acquired and linked to the retrospective SHARE panels, which cover the entire history of individuals collected in the third and seventh waves of the survey.

[16] This document uses data from the third to seventh waves of the survey (10.6103/SHARE.w3.710, 10.6103/SHARE.w4.700, 10.6103/SHARE.w5.700, 10.6103/SHARE.w6.700, 10.6103/SHARE.w7.700), see Börsch-Supan et al. (2013) for details of the methodology. The SHARE database is chiefly financed by the European Commission via FP5 (QLK6-CT-2001-00360), FP6 (SHARE-I3: RII-CT-2006-062193, COMPARE: CIT5-CT-2005-028857, SHARELIFE: CIT4-CT-2006-028812) and FP7 (SHARE-PREP: N°211909, SHARE-LEAP: N°227822, SHARE M4: N°261982). We would like to thank the German Federal Ministry of Education and Research, the Max Planck Society for the Advancement of Science, the US National Institute on Aging (U01_AG09740-13S2, P01_AG005842, P01_AG08291, P30_AG12815, R21_AG025169, Y1-AG-4553-01, IAG_BSR06-11, OGHA_04-064, HHSN271201300071C) and various national funding sources (see www.share-project.org). We are particularly grateful for the financial support of the Slovenian Ministry of Education, Science and Sport.

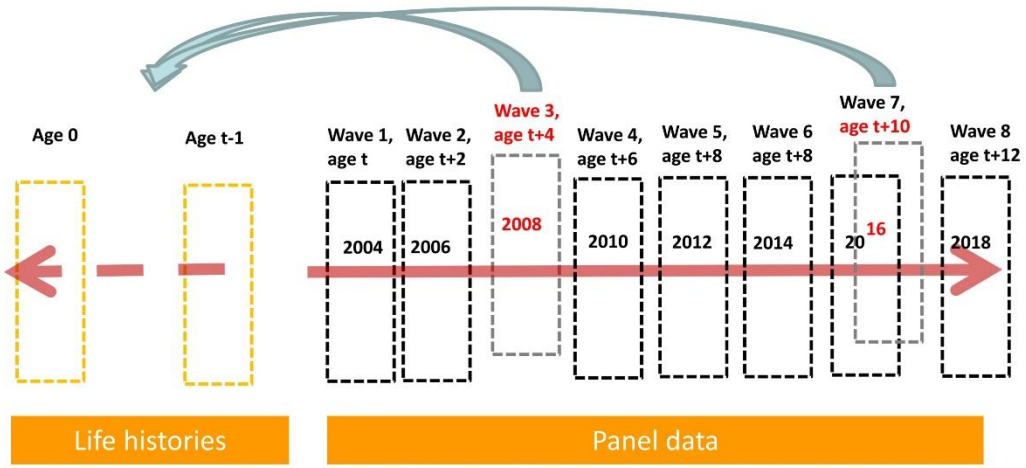

Fig. 3.18: Presentation of the structure of the data on an individual's history
Source: Pasini 2019 (250).

3.7.3 Results with discussion

The results of our analysis are presented in Fig. 3.20. Gender and education are important (but not statistically significant) predictors of whether someone will receive informal long-term care. Decomposition, where informal care within and outside the household are treated as separate dependent variables, shows similar results. As they relate to inequality, the two types of informal care do not differ markedly from each other, with gender and education having an impact on both.

In the case of formal long-term care, the statistically significant factors affecting inequalities are gender, age, income[17] and education, which shows that most socioeconomic factors have a significant impact on aspects of inequality in the formal provision of long-term care (which is also confirmed by the analysis (251).

The results therefore show that socioeconomic factors from an individual's or elderly person's past are important factors in inequalities when it comes to their receipt of long-term care today. Here, there is a difference between formal and informal care – income in particular is an important factor of inequalities when it comes to receiving informal care, but in its 'unexplained part' of the regression decomposition. In formal care, all past socioeconomic factors are important, and are a strong determinant of whether someone receives formal care today. This could provide a wake-up call to political decision-makers, as it seems that the receipt of informal care is strongly determined by an individual's current status, while the receipt of formal care depends on many factors from the individual's past – factors that could be better taken into account when determining measures in this area.

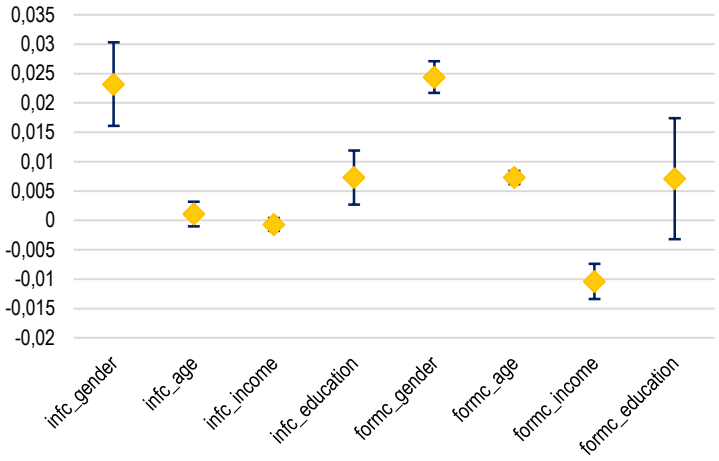

Fig.3.19: Results of the decomposition analysis, total informal and formal care, explained part of inequalities
Source: Own calculations.

[17] By income we mean the estimated income received by the interviewee in the past, as asked in the third and seventh waves of the SHARE survey.

3.7.4 Conclusions

Around 4% of the older portion of the population (aged 65 and over) living in the community have serious limitations (defined as two or more limitations, whether in terms of their personal day-to-day activities or of important day-to-day activities) and receive no care at all (251). This constitutes around 15,568 individuals aged 65 or over who live in their own homes. If we compare Slovenia with other countries, this is one of the smallest percentages of people with unmet needs, although other countries determine the threshold differently and less strictly, or else focus on specific needs. The rising age of the population, as confirmed by numerous studies, is a factor with a major impact on the likelihood of an individual having unmet needs. As institutional care is very well developed in Slovenia and the discrete care model remains the country's predominant care model, it is possible that there exists a group of people of high age whose informal and/or formal care needs are not being met in full. It is possible that elderly people defer the start of institutional care, even at the costs of unmet needs, so as to be able to remain in their own homes. This is confirmed by a study of the quality of home care in Slovenia, which showed that the most intensive users of social care at home (those who reported a higher number of day-to-day activities performed by a caregiver) were least satisfied with the service.

The availability of informal care does not have a significant impact on unmet needs, and it is surprising to find that being in a household of three or more members increases the likelihood of unmet needs. Indeed, other studies have shown that living alone increases the likelihood of unmet needs, and that the availability of a spouse or of children who live nearby reduces that likelihood. Studies show that even though the accessibility of an informal care network does not reduce the likelihood of unmet needs, it does significantly increase the likelihood of someone receiving informal care. In future, many other factors supported by the SHARE data (and particularly by the retrospective panels), which is the way forward for future work and research, could be included in studies of this type.

In our paper, we have built upon previous analyses with the help of retrospective SHARE panels and the use of the life course perspective. The results show that gender and education both have a significant impact on decomposition, but that this impact is not statistically significant. The opposite is true of income, which plays a major role, particularly in the statistically unexplained part of the decomposition.

4 COVID-19 SYNDEMIA AND INEQUALITY

4.1 Introduction

Author: Mojca Gabrijelčič Blenkuš (NIJZ)

Over the last few decades, we have been living in an increasingly complex society in which the consequences of various health events and situations have also become even more complex. In order to understand the complexity of developments, Slovenian public health has been moving from the biomedical to the biopsychosocial model for almost a century. At the global level, it was defined through salutogenesis and health promotion in the 1980s (192). In the 1990s the interconnectedness of several prevailing diseases and their socioeconomic context gained a new term, syndemic, which stressed the reformulation of an understanding of disease as mutually separate entities remote from their social environment into a new understanding of their synergistic connection and the complex impact on the health and well-being of the population (252). The interconnections between under-nutrition, obesity and climate change has also been defined as a global syndemic (253).

Therefore, COVID-19 is also not merely a pandemic but a syndemic with attendant infodemic (254). The syndemic comprises the acute infectious respiratory disease COVID-19, and the spectrum of chronic noncommunicable diseases and their associated risk factors. Both accumulate in vulnerable social groups in line with the patterns of inequalities within a specific community. At the same time, changes have occurred in the socioeconomic determinants of health as a result of measures to suppress the COVID-19 pandemic, thereby leading to the intensive emergence of new forms of inequalities and associated vulnerabilities. These are therefore not collateral effects, but several independent epidemics that can only be resolved in the public health, social and economic senses if we address them all equally, simultaneously and in a complex manner.

For the planning, implementation, monitoring and evaluation of activities in the syndemic, a distinction has to be drawn between three fields or levels in which the individual components of the syndemic operate:

- the infectious disease epidemic has first to be brought under control;
- in parallel with this, and in response to measures to control the infectious disease epidemic, changes arise in the dynamics of control of other diseases, mainly of the chronic noncommunicable type, and as well as changes in social developments (economic crisis with economic, social and cultural changes), which should be addressed in parallel;
- there is also an imperative to introduce measures as quickly as possible to enable a 'new normal' of living with COVID-19.

In 2020, most activities were directed towards controlling the epidemic. Only in the second half of the year, when the second wave appeared, was there a slight increase in the realisation that we are dealing with a syndemic with complex social consequences, where social developments must be controlled and adjustments made to life with COVID-19. Based on experiential models of crisis events, we can predict what will happen at the social level as a result of the epidemic, and can plan measures in several directions – some intended to minimise the impact of the crisis and others to support an exit from the crisis. One of the most important functions of public health here is to manage inequalities by setting out measures for exiting the crisis that are proportionate and targeted. We have to build actions on the facts that there are several possible exits from the crisis, with some people emerging very successfully and some with partial consequences, while others remain in critical living circumstances for a longer period because of the crisis or find themselves unable to manage the crisis.

The key question for the success of the approaches and measures is how quickly the state is able to set up the monitoring and measuring of the situation so as to ensure that the responses are adequate, effective and targeted. Chapter IV contains presentations of the measuring of the consequences of the syndemic in both the first and second waves of the SARS-CoV-2 epidemic.

Details are set out below of how the IRSSV, IER and NIJZ have presented the situation and impacts of the syndemic. The results should be of assistance in the preparation and also the search for financial resources for the most effective measures for successful emergence from the crisis for all inhabitants of Slovenia – with fairness and as few inequalities as possible, globally, at EU level and nationally (255), (256), (257).

4.2 Regional inequalities in child vulnerability during the coronavirus epidemic

Authors: Tamara Narat, Urban Boljka, Maja Škafar, Mateja Nagode (all IRSSV)

The coronavirus epidemic has changed our lives radically and with unbelievable rapidity. Children are, on average, less exposed to Covid-19 than other age groups, although this does not mean that they have not become more vulnerable as a result of the epidemic.

There is not a great deal of data on how they are experiencing the epidemic and the measures taken to contain it. In contemporary research into children's everyday lives, it is important that we obtain information directly from children themselves; only based on such data can we properly enter a child's world, get to know their fears, see how they are coping with the epidemic and, consequently, design measures within anti-coronavirus legislation (as well as wider family, social, cultural and educational measures).

The Social Protection Institute (IRSSV) carried out research in 2020 with the aim of obtaining relevant, reliable and child-centric information on:

1. child well-being during the first wave of the Covid-19 epidemic in Slovenia in the following areas:
    - mental health,
    - education,
    - poverty,
    - ICT use,
    - free time,
    - family and peer relationships,
    - healthy lifestyle, etc.;
2. degree to which children are informed about the epidemic; and
3. children's views on the government's measures.

The substantive design of the research followed this key premise: that the epidemic and the public policy responses to it have brought an entirely new social reality, one hitherto not experienced and one that applies to children as well. The research is therefore based on a measurement of the effects of the epidemic and of the measures to contain it within a time-based perspective. We are therefore interested in whether child well-being has improved or deteriorated during the epidemic in comparison with the period before the epidemic. The dimension of time is therefore important as it is only through time that we can assess whether child well-being has deteriorated and ascertain those areas of well-being in which children were most vulnerable during the first wave of the epidemic (in comparison with the period before the epidemic). This leads us to the area of public policies for addressing specific areas of child well-being. If child well-being has indeed deteriorated as a result of the epidemic, new and more effective measures, programmes and strategies must be formulated within these policies. We are also interested at looking, within the well-being context, at whether differences exist in perceptions of well-being according to different demographic and other characteristics, and examining which children/groups of children were most vulnerable, if at all, during the first wave of the epidemic. This paper deals, primarily and in detail, with an analysis of regional differences between children in terms of their vulnerability. We are particularly interested in finding out which statistical regions have seen an increase in child vulnerability during the epidemic and which have seen a decrease, and in identifying those factors that enable us to understand the overall regional child vulnerability picture. We analysed the data collected by testing theses regarding the effect of the epidemic on the deepening of differences between children. We predicted that those groups of children that were previously classed as vulnerable became more vulnerable during the first wave in comparison with other groups of children (the European Commission has also highlighted this in 2020) (258).

We know that vulnerability is not spread evenly among children; rather, it appears in environments in which there is economic, social and health deprivation. At times of crisis (economic, health), this vulnerability becomes more pronounced. In 2020 the OECD listed these reasons as being among the factors applying to child vulnerability during the epidemic, specifically highlighting parental poverty (and, associated with this, housing and other material conditions important for child well-being, such as food and access to ICT), parents' low level of education, poor physical and mental health on the part of parents and children, domestic violence

and abuse, and the absence of at least one person responsible for looking after the child or children (259). Just as child vulnerability is encountered in some family environments more than others, we note that the same applies to regions (for more on this, see the results section of the paper). In this perspective, children are inequitably subject to double deprivation, being unable to determine which environment they live in, whether family or local/regional. The paper goes on to focus mainly on inequitable differences between regions in terms of child vulnerability.

In this paper, we define vulnerability at several levels and examine those key areas of child well-being that have become particularly important during the coronavirus epidemic, such as psychological stress (in connection with well-being, education, concern about the health and social consequences of the epidemic), relations within the family and how free time is spent. We measure child vulnerability at the regional level and present it with the aid of an index on changes in child vulnerability (ISRO, for more on this, see the methodology section). The index was designed to demonstrate child vulnerability and changes to child vulnerability during the first wave of the epidemic (in comparison with the period before the epidemic) in a clear and transparent way. The index measures the complexity of changes in child vulnerability using a single value, thereby enabling a clear, straightforward answer to be formulated to one of our research questions, i.e. whether (and to what extent) child vulnerability did change during the first wave.

4.2.1 Results

The index of changes in child vulnerability (ISRO) enables us to understand a) which children saw an improvement in their situation during the epidemic (index value below 50), b) which children saw a worsening of their situation during the epidemic (index value above 50) and c) which children saw no change in their situation during the epidemic (index value of 50). The ISRO comprises three sub-areas: a) psychological stress18; b) social and cultural passivity 19; c) activities that lead to dependence or passivity 20.

The calculations showed that, in general, the vulnerability of the children surveyed worsened only slightly (ISRO = 52), which is understandable given that this was an exceptional situation that lasted a relatively short period of time (two months) (see Fig. 4.1). During the epidemic, vulnerability therefore increased among one fifth of the children surveyed, with 58.7% of children seeing no change in their situation and 21.8% of children seeing an improvement in their situation.

We predicted that psychological stress would, on average, increase more than our calculations showed, as NGOs highlighted a deterioration in child mental health during this period. Figures provided by the TOM telephone helpline show how difficult children found it to tackle the new challenges produced by the epidemic. Those figures indicate that there was an increase in psychological distress among children during the first wave (260). One of the possible explanations for the differences in the findings regarding children's psychological stress is that the psychological element was more strongly present in groups of children and adolescents who were already vulnerable in this regard. By contrast, the general child population did not experience major upheavals in this area. While child vulnerability increased fairly considerably in respect of those activities that lead to addiction and alienation (e.g. playing of computer games, watching of YouTube videos and TV), it did improve in respect of social and cultural passivity (ISRO = 37.9), meaning that children and adolescents engaged in sports, spent free time outdoors, were artistically creative and read books more frequently during the epidemic than before[21]. This aspect of child well-being significantly improved the overall index of changes in child vulnerability. Indeed, if this aspect is excluded and only those two areas in which a deterioration of the situation was evident are considered (i.e., children's psychological stress and activities that lead to addiction and alienation), the overall index would have been 59.1.

[18] Worries regarding school and the social and health consequences of the epidemic, psychological response to the epidemic, well-being.

[19] Nature and sports, family, culture.

[20] Passive use of ICT.

[21] The results on physical activity and outdoor excursions are positive, with 57% of the children surveyed saying that they spent more time outside during the epidemic than before. Likewise, 41% stated that they engaged in sporting activities more frequently. On the other hand, the data on eating habits during the epidemic are worrying, with 15% stating that they consumed unhealthy food (e.g. pizza, French fries, burgers, sweets) more often during this relatively short period.

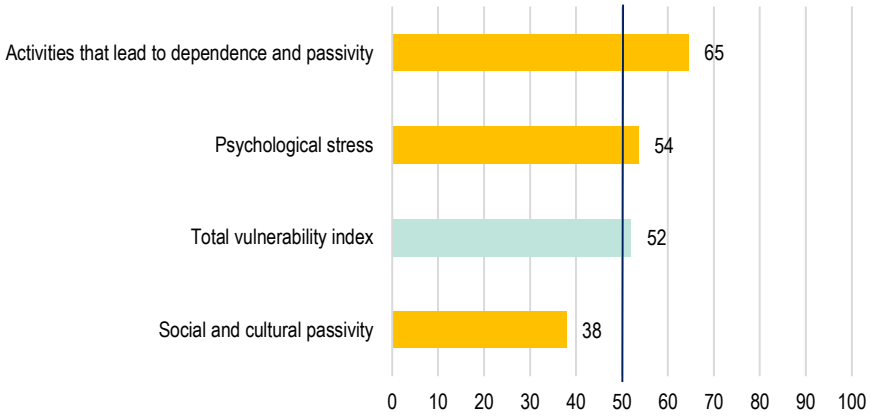

Fig. 4.1: Index of changes in child vulnerability (ISRO) by area of vulnerability

Index of changes in child vulnerability by statistical region

Our finding is that there were no major differences in child vulnerability by region and no marked deviations from the average. In Jugovzhodna Slovenia and Savinjska region, the situation remained practically unchanged. We took the terms 'equally good' and 'equally bad' to indicate that vulnerability remained at the same level as before. In this case, it was 'equally (moderately) bad'. Savinjska region is an area of the country of average child well-being, while Jugovzhodna Slovenia region is an area of below-average child well-being (see the RIBO - regional child well-being index) (205). Vulnerability rose slightly elsewhere, with the highest increase occurring in the Zasavje region (ISRO = 53.9). The regions in which vulnerability rose the most according to RIBO (Zasavje, Pomurska, Obalno-Kraška and Koroška) are regions with the lowest or a below-average child well-being (Zasavje, ranking: 12; Obalno-kraška, ranking: 11; Koroška, ranking: 10; Pomurska, ranking: 9). This gives weight to the thesis we advanced when interpreting the data on children's psychological stress, i.e. that child vulnerability should increase among already vulnerable groups of children (the exception is Jugovzhodna Slovenia region, which occupies sixth place in the RIBO index and should therefore, according to the child vulnerability change index, be regarded as one of the most vulnerable statistical regions above).

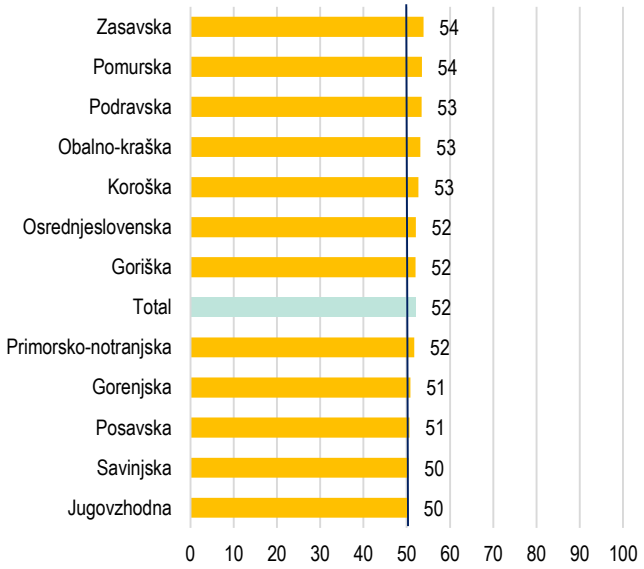

Fig. 4.2: Index of changes in child vulnerability by statistical region

Based on a more detailed review of the composition of the total index, we can easier understand why Jugovzhodna Slovenia region, exceptionally among the regions with otherwise low child well-being, ranked so high among those statistical regions whose level of child well-being was least affected by the epidemic. The answer is connected to the protection of child well-being in respect of activities that lead to dependence and alienation. This is the sub-area of the index of changes in vulnerability in which Jugovzhodna Slovenia region records the lowest increase (among those regions with traditionally low child well-being as well as among the

regions as a whole). The area of ICT use (or unsafe ICT use, i.e. excessive internet use, loss of a sense of time when using electronic devices, ill temper when unable to access the internet) is the element that differentiates Jugovzhodna Slovenia (together with Koroška region) from other regions with low child well-being. According to RIBO data, regions with low child well-being are often also among the lowest-ranked in this regard. However, the results for this area place Jugovzhodna Slovenia among those regions with average performance. During the epidemic, this trend was only confirmed or strengthened, which again leads us to confirm the thesis that those who were deemed to be vulnerable before the epidemic remained the most vulnerable during the first wave.

Statistical region	ISRO	rank	Sub-index of vulnerability					
			ISRO psih.	rank	ISRO soc-cul.pas.	rank	ISRO dependence and alienation	rank
Jugovzhodna	50,3	1	53,5	5	36,9	4	60,5	1
Savinjska	50,4	2	52,5	3	37,2	5	61,6	2
Posavska	50,7	3	50,4	1	39,2	8	62,5	3
Gorenjska	50,8	4	51,9	2	36,4	3	64,1	7
Primorsko-notranjska	51,7	5	54,1	8	36,4	2	64,7	8
Average	52		53,6		37,9		64,5	
Goriška	52	6	53,9	7	39,4	9	62,8	4
Osrednjeslovenska	52,1	7	52,9	4	37,6	7	66	10
Koroška	52,7	8	55,7	11	35,8	1	66,7	11
Obalno-kraška	53,2	9	53,9	6	42,1	12	63,5	5
Podravska	53,4	10	55,2	10	37,3	6	67,7	12
Pomurska	53,5	11	55,1	9	40,7	10	64,7	9
Zasavska	53,9	12	56,1	12	41,5	11	64,1	6

Fig. 4.3: Index of changes in child vulnerability by vulnerability sub-index and ranking of statistical region

The thesis regarding the deepening of the differences between groups of children was shown to be correct in the case of place of residence or the statistical regions in which the children surveyed lived (in the final report, we test the thesis in more detail by addressing gender and income in more detail, where our expectations were confirmed (261). We can predict that inequality between children will show itself most markedly in the second wave of the epidemic, as there were no major differences between the groups of children in the first wave according to the general index of changes in child vulnerability.

For the purpose of interpreting the situation, and precisely because of the small differences between groups of children, it seems that the focus must be placed on an analysis of lifestyle or use of free time (while we expect that the structural determinants will play a greater role in determining child vulnerability in the second wave of the epidemic currently under way and which, it is already clear, will have more severe consequences for society and the economy than the first wave as a result of a markedly worse epidemiological situation, predicted longer periods of the duration of strict measures to suppress the virus, etc.). We are also led to this conclusion by the fact that the largest (negative) changes in the first wave were experienced in the field of child well-being in respect of the ICT use. The (negative) change in vulnerability was clearest in this regard. During the first wave of the epidemic, it turned out that those groups of children who were already considered most vulnerable before measures were taken to suppress coronavirus became more vulnerable in this area (e.g. children living in the Zasavje statistical region).

4.2.2 Conclusion

Generally speaking, a cursory run through the results of the analysis could cause us to shrug and to conclude that not a great deal changed for children during the first wave of the epidemic; indeed, at first glance the index of changes in child vulnerability, which we designed for the purposes of analysis and on the basis of carefully selected areas and indicators, would seem to suggest this. However, a more detailed analysis shows that there were quite a few groups of children whose well-being as a whole or in certain areas worsened during the first wave. This applies most to the area of ICT (or, more specifically, the negative aspects of ICT use or an increase in activities that lead to dependence or alienation). At this juncture, we can further highlight the area of mental health (psychological stress), where vulnerability also increased. It is worth pointing this aspect out when designing measures to mitigate the consequences of the epidemic on child well-being and quality of life, as the preservation of children's well-being and psychosocial health in Slovenia is exceptionally important, especially given that Slovenia is not among the best-performing countries according to the relevant international scale (262). Health is also one of the five pillars of the Child Guarantee (263).

On the other hand, the epidemic has also had several positive effects on child well-being, as child vulnerability in activities that could lead to cultural and social passivity has improved (in the sense of increased amount of time spent outdoors, time spent with family members and time devoted to cultural activities such as artistic creation, reading, etc.).

The groups of children that we could claim were among the most vulnerable during the epidemic are therefore those among whom we detected an increase in vulnerability on account of three areas addressed in the ISRO (particularly those areas in which we recorded the most substantial negative changes). Children from the Zasavje region, which had more vulnerable children than other regions, were among the most vulnerable in the first wave of the epidemic. In addition to the groups mentioned, we also highlight the increase in vulnerability among other groups of children: those living in regions with an above-average increase in vulnerability (Pomurje, Podravje, Obalno-Kraška, Koroška).

One of the key findings of the research is that these are (mainly) groups of children who were already vulnerable before the epidemic, as demonstrated by our analysis of the other data available. This means, therefore, that these groups saw the greatest increase in vulnerability, but were, at the same time, vulnerable even before the epidemic. This widened the gap between vulnerable groups of children and the degree of their vulnerability during the first wave of the epidemic. The reasons for the increased vulnerability of these groups of children can be sought in a combination of socio-economic characteristics (e.g. income) and lifestyle (with the analysis showing that boys were particularly vulnerable in this regard).

As the results show, measuring child well-being during the epidemic is a highly complex process, and the factors that impact the changes in child vulnerability are varied and far from uniform. The age variability of our sample should be highlighted here. There is, for example, a considerable difference between the everyday lives of children from the first three years of primary school and the factors that affect them, and the everyday lives of secondary school graduates and the factors that influence their experience of changes to their everyday lives during the epidemic. This is also one reason why we defined the factors separately for each of the three age groups (which is explained in more detail in final report (261). These differences should be considered when measures are being designed.

4.3 Health inequalities resulting from Covid-19

Authors: Andrej Srakar in Miha Dominko (all IER)

4.3.1 Introdcution

As the Covid-19 pandemic began its global spread at the beginning of 2020, so did interest in its statistical modelling. The main focus of this article is on an analysis of the spread of this disease and its main characteristics in Slovenia through the use of publicly available data on Covid-19, and an assessment of the impact of the disease on inequality in healthcare indicators.

SARS-CoV-2 spread rapidly across the world and has had a major impact on all aspects of our lives. One of the main reasons for its rapid spread is the high 'effective' reproduction number of infection R_t. The R_t value is the average number of people an individual will infect when they are infectious, where t represents time. R_t may change, for example, as a result of government interventions (e.g. school closures or complete lockdown). When $R_t < 1$, the incidence of new cases falls and when $R_t > 1$, it rises until the epidemic reaches its peak. After this, the incidence of new cases falls because of (at least temporary) 'herd immunity'. Estimates of the basic (i.e. initial and not time-conditioned, effective) reproduction number for R_0 SARS-CoV-2 differ greatly according to the method of assessment (that number amounts to approximately 3). A basic reproduction number as high as this leads to a sharp exponential rise in the number of cases, which causes a rapid increase in the number of people needing treatment and care in an intensive care unit (ICU). Because of the limited capacities of the healthcare system, this can lead to a situation in which it is impossible to provide adequate care to all patients in need. It is therefore vitally important that policy-makers estimate the R_t, which can enable them to monitor the spread of the epidemic. However, to arrive at a better understanding of the epidemiological characteristics, we also need to assess a range of other factors, such as the mortality rate arising from infection (i.e. the percentage of infected individuals who die), the percentage of asymptomatic cases, and the predicted number of hospitalised and ICU patients.

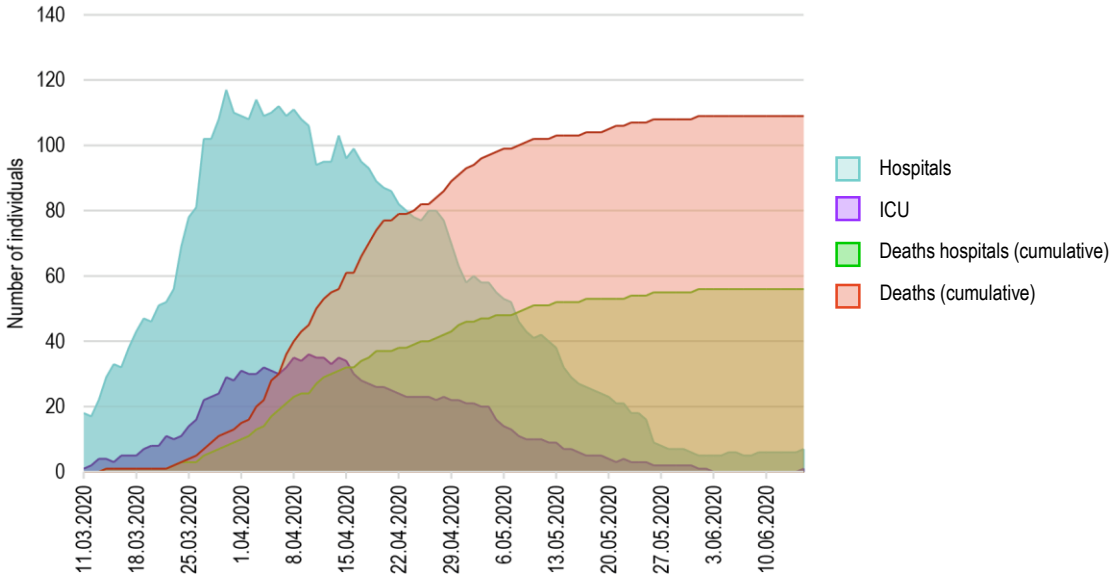

Fig. 4.4: Number of patients in hospital and ICUs on a certain day, total number of deaths and number of deaths in Slovenian hospitals, 4 March to 3 June 2020

Source: Manevski et al 2020 (264), re-drawing based on Covid-19 tracker data

During the current Covid-19 epidemic, numerous non-pharmaceutical interventions (NPI) have been adopted by governments to control the spread of the epidemic in their countries. A large number of models are available for predicting the trend in Covid-19 indicators in relation to the NPIs adopted. These include the compartmental and network models. Models based on Bayesian reasoning have also been put forward as alternatives to these two models.

4.3.2 Research method and data

We analysed the causal effects of the first lockdown in Slovenia, which began on 20 March, by using a causal model that combined the potential-outcome and structural-equations models. In doing so, we employed mediation analysis, where, through regression analysis, we studied how one variable impacted another variable directly, as well as indirectly through the impact of another (mediator) variable. The total impact is the sum of the direct and indirect impact.

In our short analysis, we relied on the causal model of the epidemic produced by Victor Chernozhukov, Hiroyuki Kasahara and Paul Schrimpf, which is perhaps the best known at international level (265). In this model, we estimate the direct and indirect impact of a certain measure on the final indicator of the epidemic; the model also includes people's behavioural changes as a result of the measures.

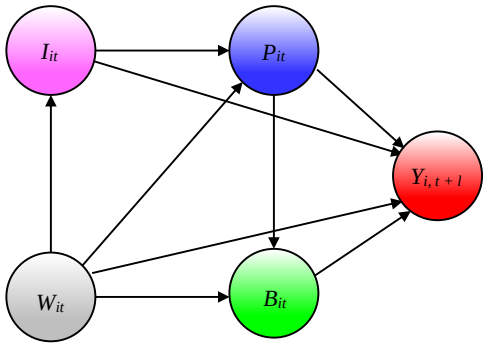

Fig. 4.5: Basic diagram of the approach, where the main variables are policy measures (P), behavioural changes (B) and number of positive SARS-CoV-2 cases (Y)

Source: Chernozhukov et al 2020 (265).

4.3.3 Results

The results are presented in several tables and figures. Fig. 4.5 contains the results of the mediation analysis model, which we applied to all Slovenian municipalities in the period between 4 March and 1 July 2020 (we used the multi-level or mixed multi-level/linear approach). The results show that a national lockdown has a statistically noticeable impact of approximately 0.04 fewer positive SARS-CoV-2 cases in every Slovenian municipality on every day after the start of the national lockdown.

Following the Chernozhukov et al. model, we estimated the causal impact of the national lockdown on the number of positive cases without taking into account regional or municipal differences, and arrived at similar estimates: at national level, we found a direct impact of 0.18 fewer cases and a total (indirect and direct impact) of 0.04 fewer cases. The impacts in the mediation analysis and multi-level analysis above are shown in Fig. 4.6.

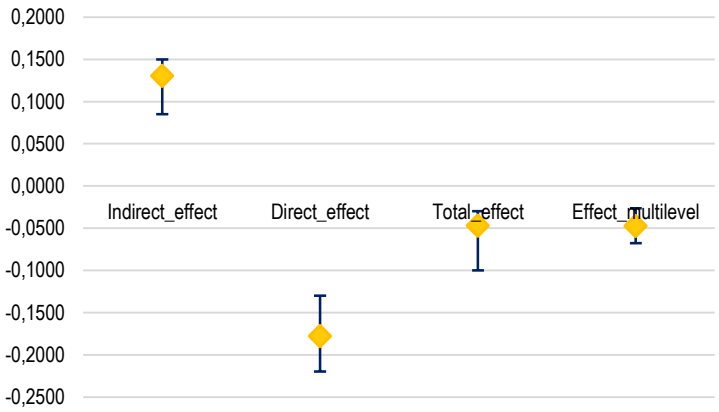

Fig.4.6: Direct, indirect and total causal impacts of national lockdown on the number of positive cases and an assessment of the impact from the multi-level model

Source: Own calculation. Notes and key: The confidence intervals are 95% for every estimate in the figure. Indirect_impact is an assessment of the indirect impact of national lockdown on the number of positive cases, direct_impact is an assessment of the direct impact of national lockdown on the number of positive cases, total_impact is the sum of the direct and indirect impacts, and the multi-level_impact is the total impact of national lockdown on the number of positive cases estimated in the multi-level model.

At the end we performed a decomposition of the impact using the Oaxaca-Blinder methodology, which showed that the variables of age, income and education contributed around 40%, 37% and 23% respectively to the observed overall impact. This confirms that the impacts of the measures gave rise to noticeable health inequalities (inequalities observed in all municipalities) and these were connected to basic socio-economic factors.

4.3.4 Conclusions

To our knowledge, our analysis is the first one published in Slovenia that examines the causal impacts of the epidemic on health indicators using standard causal analysis approaches (potential-outcome and structural-equations approaches or directed acyclic graphs). We were able to confirm the negative causal impacts of national lockdown on the number of positive cases, and to estimate the precise value of the reduction in cases as a result of lockdown. We also assessed inequality, or the differences resulting from the various variables included: age, income and education. Political decision-makers have a huge responsibility to take action in cases such as the SARS-CoV-2 epidemic, as bringing public life to a halt carries with it economic, social, cultural and other consequences. A closely argued analysis of impact, particularly in relation to inequality indicators, is crucial for exceptional social events such as the Covid-19 epidemic, as it provides a basis for an assessment of political measures from a range of different aspects and, most importantly, facilitates future evidence-based political decision-making.

The model has followed perhaps the best-known causal study of the epidemic fairly closely and is, from this point of view, important in terms of methodology as well. This was a paper published in a major journal of econometrics and one which, because of the nature of the problem, also included structural-equation modelling within the more standard econometric approaches. The Covid-19 epidemic has brought with it a strong increase in interest in data and in mathematical and statistical modelling. Concepts such as the reproduction (R) number, exponential curves, compartmental epidemiological models (of the SIR and SEIR types in particular), statistical data and mathematical predictions have become part of our everyday lives. The epidemic has also led to an increase in interest in causal analyses, which have seen something of a boom in at least the last two decades with the rise of machine learning and artificial intelligence. While our analysis uses simple causal models, it does also raise the question of how such issues should be addressed in the future. One satisfactory outcome would be for modelling analyses of policies and the effects of measures to become a constant at the national (state) decision-making level.

4.4 Will the COVID-19 pandemic deepen inequalities in the health of the Slovenian population?

Authors: Ada Hočevar Grom, Andreja Belščak Čolaković, Darja Lavtar, Maruša Rehberger, Mojca Gabrijelčič Blenkuš, Matej Vinko, Urška Blaznik, Vida Fajdiga Turk, Matej Gregorič, Rok Poličnik, Helena Jeriček Klanšček (all NIJZ)

4.4.1 Introduction

By March 2021, the SARS-CoV-2 virus had infected over 117 million people worldwide, including 23 million in EU and EEA countries, and claimed more than 2.5 million lives (more than half a million in the EU and EEA). Just over a year ago, at the start of the pandemic, these numbers would have seemed unimaginable to us; now we are faced with the fact that the number of sick people and fatalities will rise further. The number of people infected, becoming ill or dying from COVID-19 is already placing a significant burden on the public health system. More and more people who have been infected by the SARS-CoV-2 virus are also reporting long-term health issues, including fatigue, breathing difficulties, 'brain fog', problems sleeping, digestive problems, anxiety and depression. Indirect damage to health is also on the rise as a result of loss of jobs and income, the protracted closure of some activities, obstacles to accessing the healthcare system in the event of health problems not related to COVID, and general uncertainty about the present and future. While history (the Spanish flu pandemic of 1918 and the H1N1 flu outbreak in 2009, for example) and the present situation both tell us that viruses do not discriminate and can infect any one of us, not everyone is in the same position during a pandemic. Globally speaking, in every pandemic the prevalence and mortality rate of the disease is higher in less developed countries, and among more socioeconomically vulnerable population groups, those living in poorer urban environments and vulnerable population groups (266). There is therefore a risk that socioeconomic, ethnic and geographical inequalities will further increase during the COVID-19 pandemic as a result of SARS-CoV-2 infection and of the measures taken to prevent and control it.

When we talk of COVID-19, we are not talking merely of a pandemic, but of a syndemic and its attendant infodemic (267; 268; 269). The concept of a syndemic was developed by Professor Merrill Singer with the aim of better understanding the correlation between HIV/AIDS, drug use and violence in the USA in the 1990s. The term is a combination of 'synergy' and 'pandemic' and is used when two or more diseases interact with each other in a way that causes greater damage than that of the two diseases combined. Richard Horton, editor-in-chief of *The Lancet*, referred to the SARS-CoV-2 virus as a syndemic disease in an editorial titled 'Offline: COVID-19 is not a pandemic' (270). The COVID-19 pandemic has come into contact with the epidemic of chronic noncommunicable diseases (diabetes, cancer, cardiovascular disease, etc.) and resulted in health inequalities within social and societal contexts. It is characteristic of both epidemics that the socioeconomically more vulnerable population groups are most affected.

As a result of the long-term public health crisis, which has had a significant impact on everyone's lives, pandemic fatigue is gradually setting in. It manifests itself as a decline in individuals' motivation to follow and comply with measures to prevent and limit infection, and a reduction in the amount of time spent following the latest SARS-CoV-2 news. This is a natural and expected response, and one that is influenced by an individual's feelings, experiences and views. If a crisis lasts for a long time, the compensatory mechanisms individuals use to combat it begin to exhaust themselves, which leads to a decline in the motivation to comply with the recommendations designed to protect people. From the psychological point of view, acute stress changes to chronic stress, which leads to a lack of adrenalin. This means that people are increasingly less prepared to 'fight' (271).

We conducted a research study in Slovenia at the end of 2020 and into 2021 (SI-PANDA 2020/2021) that aimed to examine the impact of the pandemic on people's lives. The purpose of the research was to study and try to understand people's behaviour in relation to COVID-19, and to assess the level of pandemic fatigue[22] during and after the COVID-19 epidemic in Slovenia. The study was designed to identify and address the effect that the pandemic, the measures and recommendations introduced, and the decisions taken by the government was having on people.

The paper presents the results of the study of the impact of the pandemic on individuals' financial situation, contact with doctors, lifestyle and mental health, and the differences between individual population groups. Data is shown from the seventh wave of the online panel survey, which took place between 26 February and 1 March 2021 and, for the area of mental health, from the eighth wave of the survey, which took place between 12 and 15 March 2021. Comparisons are also made with previous waves of the survey (272), (273).

4.4.2 Results

Impact of the pandemic on an individual's financial situation

Along with the strict measures adopted to contain it, the COVID-19 pandemic has had a major impact on the economic system, with reductions in activities in numerous sectors, such as tourism and services, which employ large number of people. We were therefore interested in studying the impact of the pandemic on the financial situation of those involved in the survey. A quarter (25.8%) of those surveyed in the seventh wave believed that their financial situation had worsened in the last three months. The youngest survey respondents (18–29 years of age) indicated the greatest decline in financial situation (Fig. 4.7). In terms of employment status, the unemployed and self-employed more often perceived their financial status as having worsened, which indicates that the pandemic has had an uneven impact across the population.

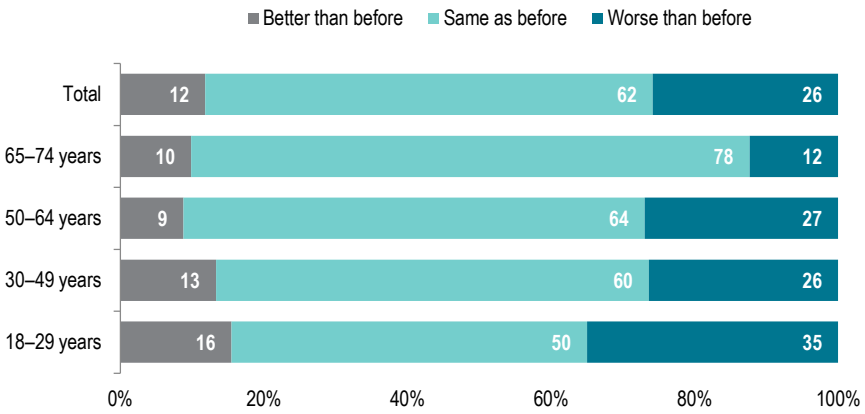

Fig.4.7: Perception of financial situation in the last 3 months, as a total and by age group
Source: NIJZ.

[22] A natural and expected response to a long-lasting public health crisis that has a significant impact on the individual's everyday life. It arises gradually and is influenced by an individual's feelings, experiences and views. Over time, the compensatory mechanisms people use to combat a crisis situation begin to exhaust themselves, which leads to a decline in the motivation to comply with the recommendations designed to protect them, and therefore jeopardises the success of the measures to prevent the spread of SARS-CoV-2 infection in the population.

Contact with doctors

Data from all seven waves of the survey indicates that the COVID-19 pandemic has had a significant impact on the frequency of contact with doctors and medical staff. Between 31.1% and 34.7% of those surveyed stated that they had avoided contact with doctors for problems unrelated to COVID-19. Even more worrying was the fact that an even higher percentage of people with chronic diseases avoided seeking medical advice (between 29.5% and 41.2%) (Fig. 4.8:), as did between 46.9% and 63.3% of those surveyed who had signs of a depressive disorder (in the seventh wave, 56.9% of those people avoided visiting a doctor (Fig.4.9).

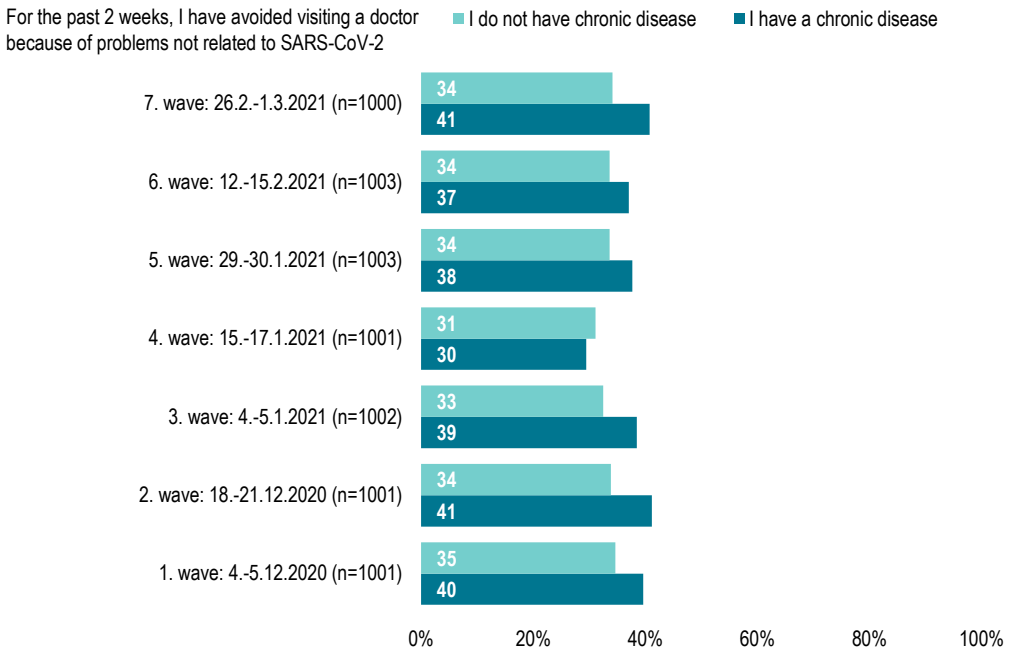

Fig. 4.8: Avoiding visiting a doctor in the last two weeks (people suffering from a chronic disease), by survey wave
Source: NIJZ.

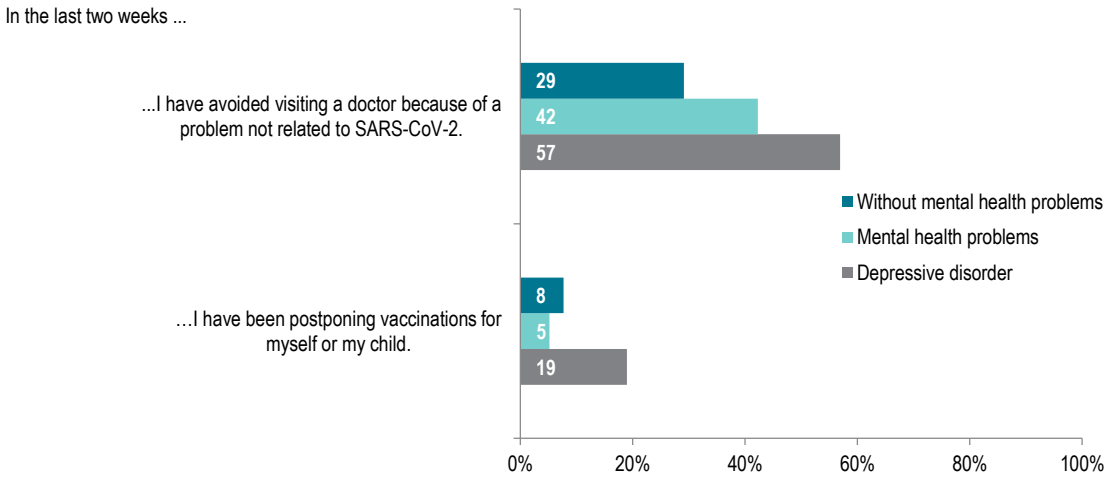

Fig.4.9: Avoiding visiting a doctor and delaying vaccination in the last two weeks (people with mental health problems)
Source: NIJZ.

The proportion of people who avoided visiting a doctor was also high among those who assessed their financial situation as having worsened in the last three months (between 34.4% and 46.7%). In the seventh wave, 40% of those who assessed their financial situation as having worsened had avoided visiting a doctor in the last two weeks, and 11% of them had delayed vaccination for themselves or their child (Fig. 4.10).

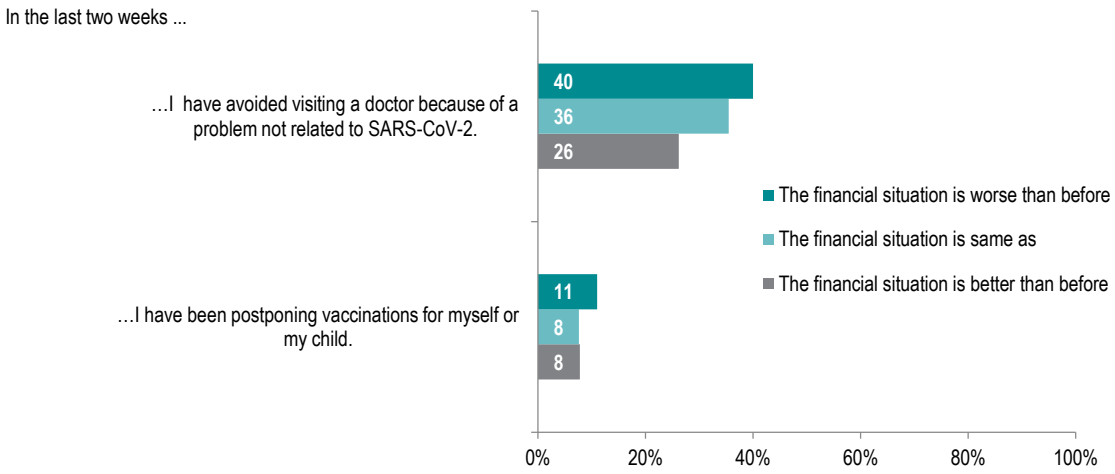

Fig. 4.10: Avoiding visiting a doctor and delaying vaccination in the last two weeks (in relation to assessment of financial situation)
Source: NIJZ.

In the seventh wave of the survey, 38.8% of the youngest participants (18–29 years of age) had avoided visiting a doctor, as had 40.7% of those aged between 50 and 64. Vaccination for themselves or their child was delayed by 11.3% of participants aged between 18 and 29, and by 11.7% of those aged between 30 and 49 (Fig.4.11).

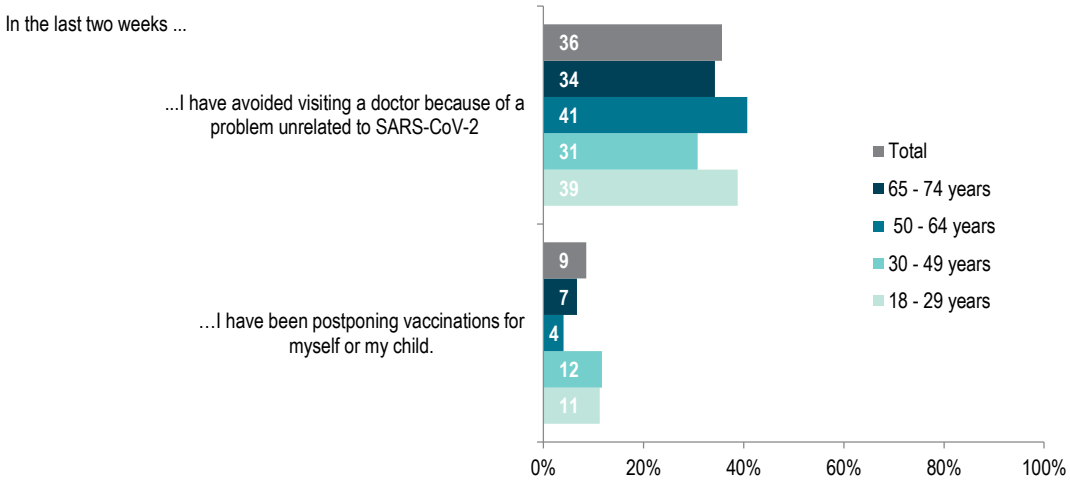

Fig.4.11: Avoiding visiting a doctor and delaying vaccination in the last two weeks, as a total and by age group
Source: NIJZ.

This will lead to a worsening of the epidemic of chronic noncommunicable diseases and of the mental health of the population, increasing the burden on the healthcare system after the COVID-19 pandemic comes to an end.

Lifestyle changes

Poorer lifestyles during the COVID-19 pandemic will also lead to a worsening of the epidemic of chronic noncommunicable diseases. In the seventh wave of the survey, almost two fifths (38.8%) of respondents stated that, in the last two weeks, they had been less physically active than they had been before the pandemic, just under one fifth (18.1%) that they had eaten more unhealthy food than before the pandemic, 15.7% of respondents that they had smoked more than before the pandemic, and 9.6% that they had drunk more alcohol than before the pandemic (Fig.4.12).

Focusing specifically on lifestyle factors, if we compare all the previous waves of the survey, we can see that the pandemic has had the greatest impact on physical activity. In the seventh wave of the survey, there were noticeable shifts towards healthier lifestyles, with reductions in the percentages of less physically active people, people eating unhealthy food and people who were smoking more or drinking more alcohol than before the pandemic (Fig.4.12). The changes observed could be attributed to the increased number of daylight hours at the time the seventh wave of the survey took place, as well as the better weather, the increased opportunities for spending time outdoors and the winter holidays; at the same time, there was also a partial lifting of measures, which also enabled people to be more mobile.

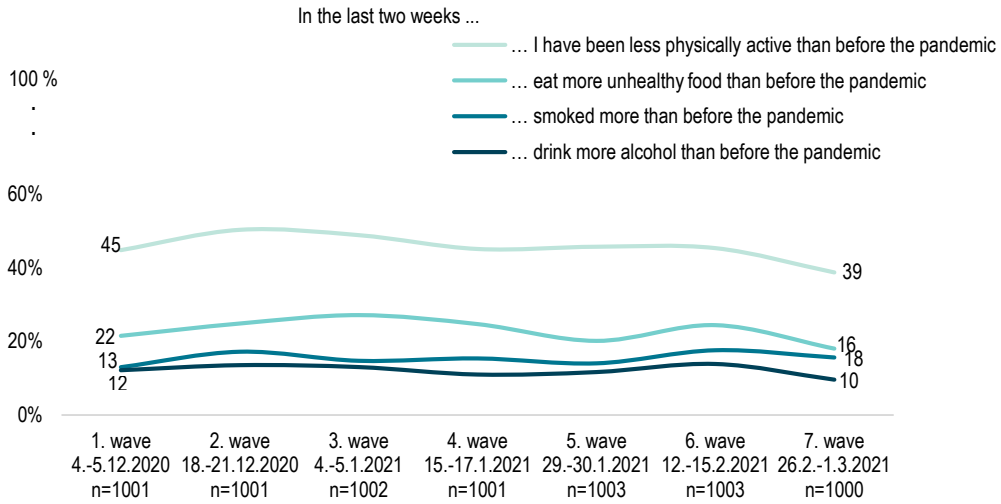

Fig.4.12: Impact of the pandemic on lifestyle in the last two weeks, as a total and by survey wave
Source: NIJZ.

The youngest survey participants (18–29 years of age) reported the unhealthiest lifestyles. In the seventh wave of the survey, 44.9% of respondents from this age group had been less physically active, 35.5% had eaten more unhealthy food and 22.7% had smoked more than before the pandemic (Fig.4.13).

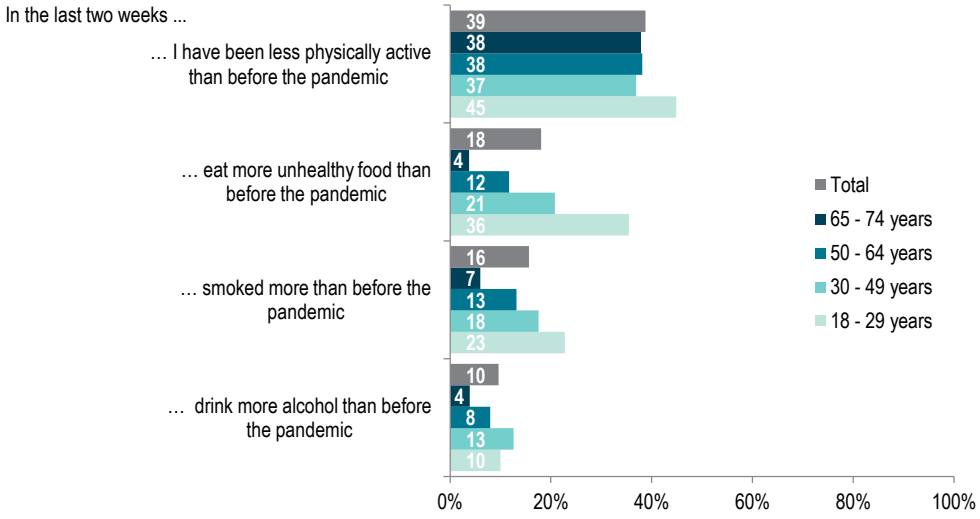

Fig.4.13: Impact of the pandemic on lifestyle in the last two weeks, as a total and by age group
Source: NIJZ.

A particularly significant deterioration in lifestyle was observed among those survey respondents who suffered from mental health problems and had signs of a depressive disorder. Of these people, 55% and 59.4% had been less physically active than before the pandemic, 26.8% and 35.2% had eaten more unhealthy food than before the pandemic, 26.3% and 45.7% had smoked more than before the pandemic, and 8.9% and 18.5% had drunk more alcohol than before the pandemic (Fig.4.14). People suffering from mental health problems are among the most vulnerable population groups, with the results of the survey indicating that the COVID-19 pandemic had had a particularly negative effect on them.

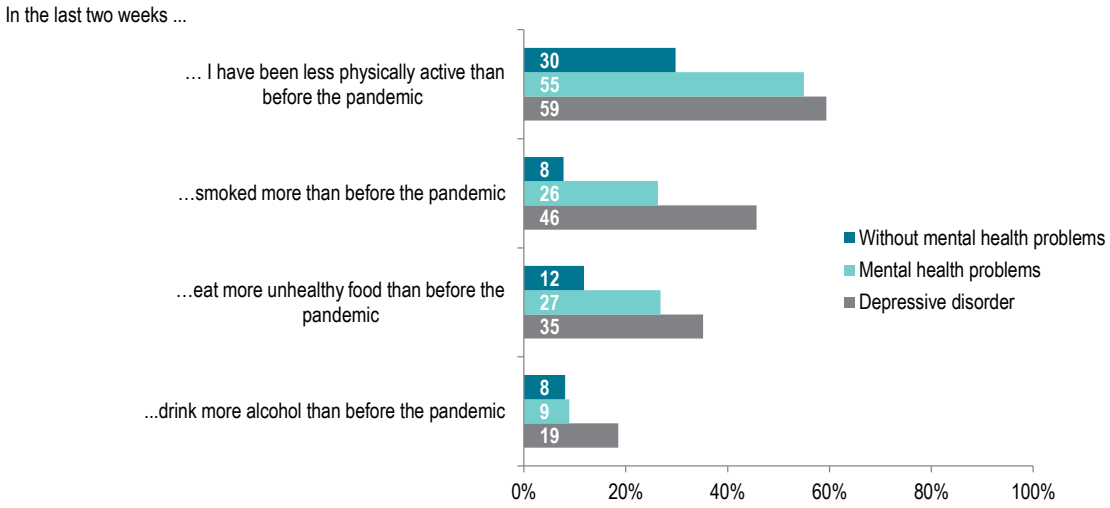

Fig.4.14: Effect of the pandemic on lifestyle in the last two weeks (people with mental health problems)
Source: NIJZ.

Almost half of all survey respondents (47.9%) who stated that their financial situation had worsened in the last three months had been less physically active in the two weeks before the survey than they had been before the pandemic, 26.6% had eaten more unhealthy food, 26.3% had smoked more and 13.3% had drunk more alcohol (Fig.4.15).

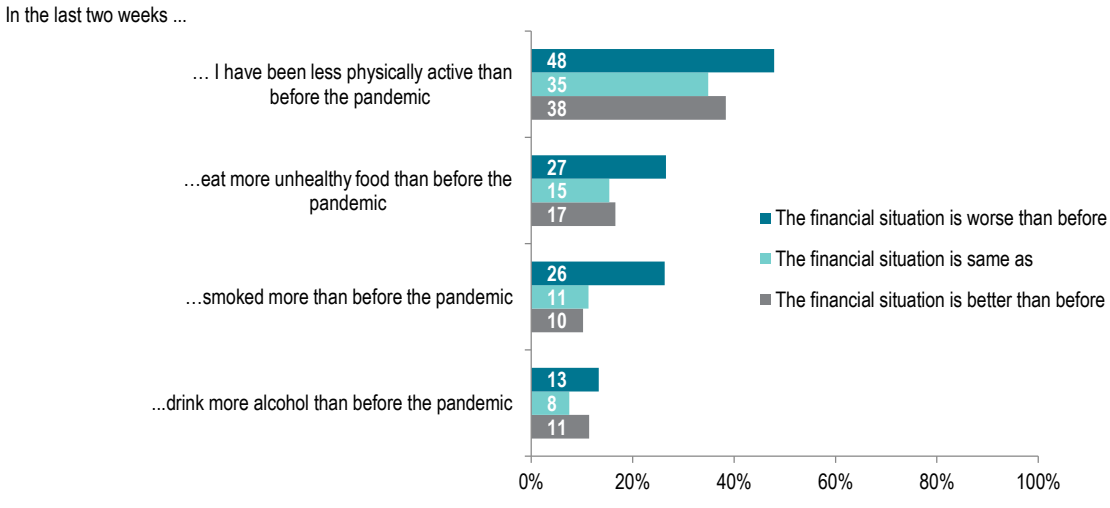

Fig.4.15: Effect of the pandemic on lifestyle in the last two weeks (in relation to assessment of financial situation)
Source: NIJZ.

Mental health

We could observe mental health inequalities in Slovenia even in the period before the pandemic struck – and, when it did strike, the entire population was exposed to numerous and various stressful circumstances and factors that exert considerable pressure on mental health. Certainly, not everyone has experienced the pandemic in the same way. The SI-PANDA survey studied whether there were mental health inequalities in the population during the pandemic as well.

In the eighth wave of the survey, the proportion of survey respondents among whom we detected an increased risk of developing a depressive disorder increased from those with the highest to those with the lowest levels of educational attainment. The proportion was almost three times higher among those with primary school or lower levels of educational attainment than among those with tertiary or higher levels of educational attainment. If we split the participants into two groups, one containing those with a secondary school or lower level of educational attainment and the other containing those with a tertiary or higher level of educational attainment, we notice a discrepancy in the overview of results from previous waves as regards the proportion of people at risk of developing a depressive disorder. This was most pronounced in the seventh and eighth waves of the survey (Fig. 4.16). If the proportion of people in mental distress at the start of the survey was roughly the same regardless of level of educational attainment, this distress declined more quickly, according to the most recent survey results, among those with higher levels of educational attainment.

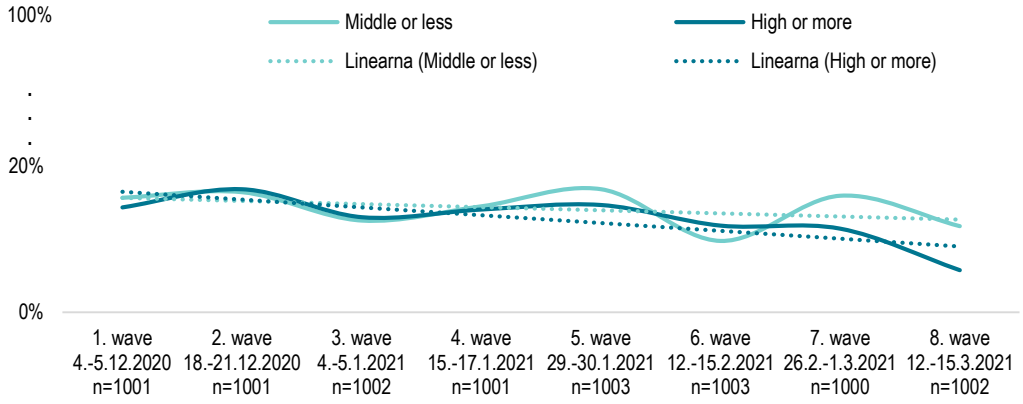

Fig. 4.16: Presence of the risk of developing a depressive disorder in relation to level of educational attainment, by survey wave
Source: NIJZ.

A similar distribution of percentages is also present when we compare the link between the risk of developing a depressive disorder and financial situation in the last three months. Among people whose financial situation had worsened in the last three months, 13.6% had an increased risk of developing a depressive disorder. Among those whose financial situation had recently improved, this figure was 4.5% (Fig. 4.17).

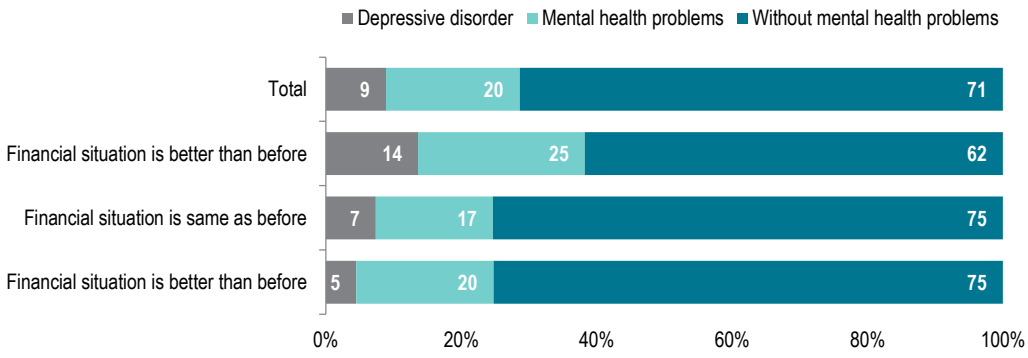

Fig. 4.17: Mental health, as a total and in relation to assessment of financial situation in the last 3 months
Source: NIJZ.

We can conclude on this basis that mental health inequalities have followed a similar pattern during the COVID-19 pandemic as was observed before the pandemic. However, it is not possible, based on the results presented, to conclude with sufficient certainty whether mental health inequalities have been exacerbated by the pandemic. Nevertheless, we should point out that the results of the SI-PANDA survey do indicate that there has been an increase in inequalities during the pandemic in the area of mental health as well.

Our diet has changed during the pandemic

Diet is a lifestyle factor that affects the workings of the immune system and is linked to chronic noncommunicable diseases. High-quality protein-rich foods (meat, eggs, milk and dairy products, etc.), which are among the more expensive items to buy, are an important part of a balanced diet. We were interested in finding out, through the survey, whether respondents' households could afford foods of this type at least once every two days. Just over a tenth of respondents (11.1%) stated that their households were unable to afford a meat-based meal, or vegetarian equivalent, every other day, with those aged between 50 and 64 accounting for the largest single share of such respondents (14.8%) (Fig. 4.18).

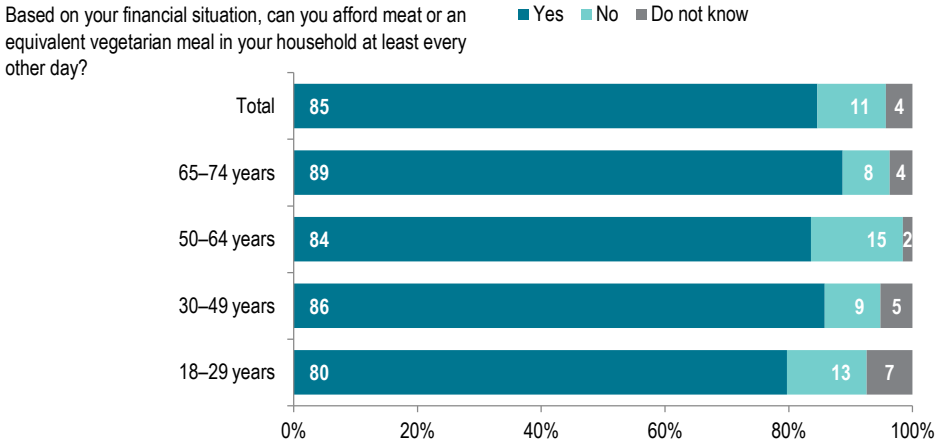

Fig. 4.18: Ability to afford a meat-based meal or vegetarian equivalent at least every other day, as a total and by age group
Source: NIJZ. –

A total of 15.9% of people with a chronic disease cannot afford a meat-based meal, or vegetarian equivalent, at least every other day (Fig. 4.19).

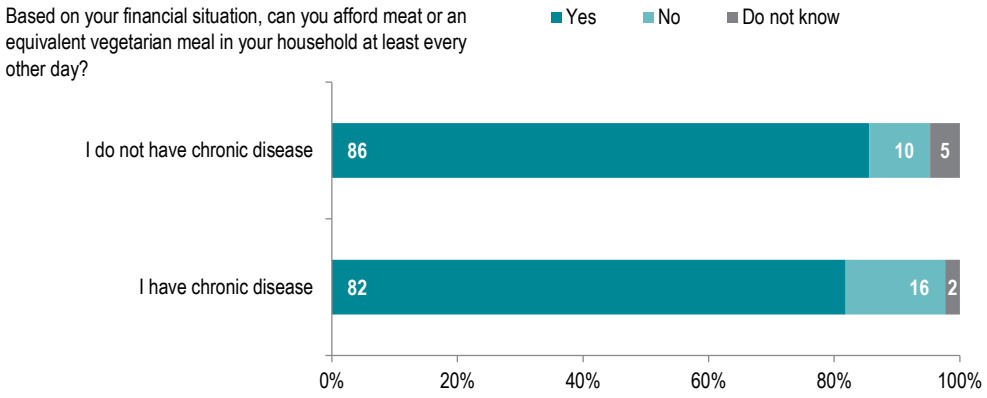

Fig. 4.19: Ability to afford a meat-based meal or vegetarian equivalent at least every other day (people suffering from a chronic disease)
Source: NIJZ.

People who assessed their financial situation as having worsened in the three months prior to the survey accounted for the highest single percentage (26%) of those who stated that their household found it difficult to provide high-quality protein-based food in their diet (Fig. 4.20). Around one fifth of those who reported mental health problems or signs of a depressive disorder gave the same response (18.2% and 20.6% respectively).

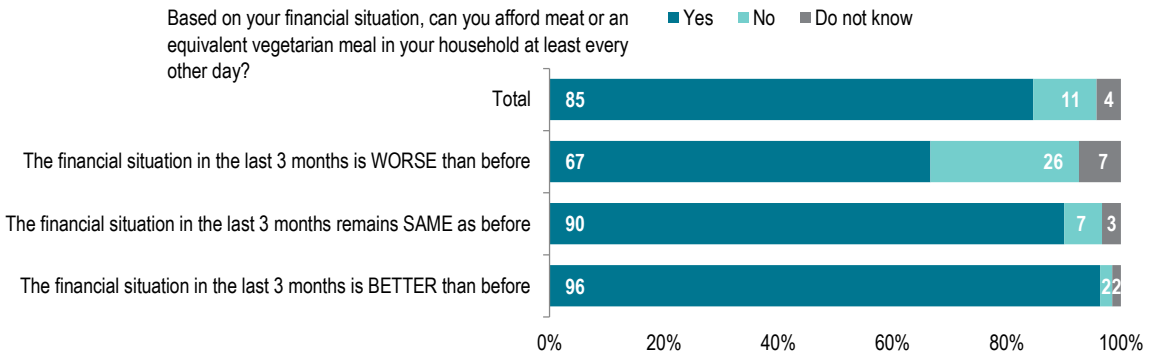

Fig. 4.20: Ability to afford a meat-based meal or vegetarian equivalent at least every other day, as a total and in relation to assessment of financial situation

Source: NIJZ.

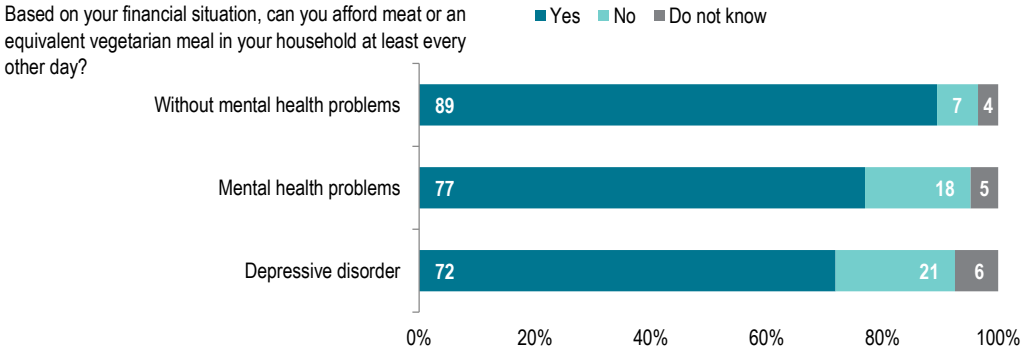

Fig. 4.21: Ability to afford a meat-based meal or vegetarian equivalent at least every other day (people suffering from mental health problems)

Source: NIJZ.

4.4.3 Conclusion

The survey results outlined here show that signs of pandemic fatigue are already appearing in Slovenia as well. The COVID-19 pandemic is already having an impact on individuals' financial situation, contact with doctors, lifestyle and mental health, particularly among some of the most vulnerable population groups. If this infectious disease epidemic has affected the older population most of all, the impact of the measures designed to contain it have most affected the young, as reflected in the worsening of their financial situation, lifestyles and levels of obesity, as well as their mental health. People suffering from chronic diseases, and especially those with mental health problems, should be highlighted as a particularly vulnerable group, with the results of the survey indicating that the COVID-19 pandemic has had a particularly negative impact on them.

The initial results of the SI-PANDA survey show that Slovenia will have to deal in the coming years with the long-term consequences of the COVID-19 pandemic. This is not only because of the large number of people who have contracted or died from the disease, but also because of the wider impact of the pandemic on the lives and lifestyles of the Slovenian population. Because of the syndemic nature of COVID-19, we can expect a rise in chronic noncommunicable diseases and mental health problems and, with it, poorer health of the population as a whole, an increased burden on the healthcare system, and an increase in differences between population groups, leading to widening social inequalities. The expected decline in the global economy in the post-pandemic period could widen these inequalities still further if stringent cuts are made to health and social care. It is therefore of crucial importance that steps are taken in time in the areas of healthcare and social protection, as well as other areas, to prevent an increase in health inequalities among future generations (266).

5 MULTIDISCIPLINARY AND INTERSECTORAL VIEW OF THE DATA AND INFORMATION PRESENTED, WITH RECOMMENDATIONS FOR POLITICY DECISION-MAKERS

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The report deals with socio-economic inequalities in health, which are most commonly expressed through gender, age, education and geographical differences. These are differences in health outcomes within the population that can be prevented and are therefore unjust (5). Access to the healthcare system for all population groups regardless of socio-economic circumstances also makes a significant contribution to reducing inequality in health.

Individual chapters in the report also touch upon social inequalities, which helps us to understand the concept of inequality in the wider social context. As the reviewer Professor Majda Pahor has written: '*There are different types of inequality. Inequalities in health are not the result of differences in personal physical or mental characteristics, talents or beliefs, but mainly differences in access to resources and to the conditions for a high quality of life. These resources and conditions cover material as well as environmental and relational/social aspects. If they are adequate, they enable everyone to develop and utilise their gifts and mitigate their limitations.'*

The third Slovenian 'Inequalities in Health: Future Challenges for Intersectoral Cooperation' report was produced in cooperation with the representatives of a number of national analytical and research institutions: the Institute for Economic Research (IER), the Social Protection Institute (IRSSV), the Institute of Macroeconomic Analysis and Development (UMAR), the Institute of Oncology (OI) and the National Institute of Public Health (NIJZ), which also coordinated the preparation process. The different skillsets of the participating institutions facilitated a study of inequality through indicators and case studies in the multidisciplinary and intersectoral context. The participants attempted to move from reporting on the situation in the area of inequality to reporting on the impacts of policies or measures on unjust inequalities in health, in access to the healthcare system and more widely. Part of the publication is therefore also aimed at showing the gap in selected indicators of inequality in health and well-being, and inequalities in access to the healthcare system and to long-term care between different groups of the population. A presentation is made of results of group discussions on inequalities between vulnerable groups, along with reasoned, detailed analytical bases for decision-makers on the connections between specific highlighted national measures/ policies and inequalities in health. The description of the national context also takes into account the wider EU context, where there are many initiatives in support of 'health in all policies', such as the European Pillar of Social Rights, the Council Recommendation Establishing a European Child Guarantee, Europe's Beating Cancer Plan, the Green Paper on Ageing and, a key one at this present moment, the NextGenerationEU Recovery Plan, which supports a greener, more digital and more resilient EU.

Let's look at the report step by step. The contents of the publication are divided into six chapters: an introduction, a presentation of inequality with the help of indicators, a presentation of the links between policies, measures and inequalities, the inequalities resulting from the Covid-19 pandemic and the associated social changes in 2021, and the conclusions (with recommendations) and methodological annexes. The first chapter describes how public health has developed monitoring and reporting on inequalities in health, how strong this development has been in Slovenia, and how important expert tracking and cooperation has been within the international community. The considerable progress made in the area of inequality in Slovenia has arisen on the basis of the knowledge and examples of other countries. **This time round, we will ourselves be contributing the upgraded approach to reporting by including reporting on the impact of policies and measures on inequality in**

health. This approach requires cooperation between a number of professions and sectors, and capacity-building in different research fields – which we also stress in the conclusion.

In the second chapter of the publication we address inequalities in society with the help of health indicators, lifestyle determinants, socio-economic determinants of health, and indicators of inequality in access to healthcare and long-term care.

We make an extensive presentation of the quantitative indicators that shed light on health in Slovenia in relation to an individual's socio-economic status. Using internationally comparable indicators, we place inequality in an international context. Slovenia is often close to the European average when it comes to health indicators, with differences existing both between and within countries. In relation to socio-economic inequalities in health, and in common with other countries, Slovenia performs well or very well in some indicators (e.g. prevalence of chronic diseases, obesity among men, smoking among women, unmet treatment needs on account of waiting lists) and fairly poorly in others (obesity among women, self-assessed health, visits to specialists and dentists, unmet treatment needs on account of geographical distance) (4).

The monitoring of socio-economic inequalities in health over several years enables us to examine, in relation to the selected indicators, whether those inequalities are increasing or declining between the lower and higher social classes. The gaps between those with lower and those with higher levels of educational attainment are narrowing in Slovenia; at the same time, people in Slovenia on average assess their own health as good, live longer, suffer less mortality as a result of accidents and are quicker to seek help for mental health problems than their counterparts in other countries. There are unfavourable trends for Slovenia as a whole and in increasing inequality in the utilisation of healthcare services during pregnancy, the harmful use and consequences of alcohol, and the prevalence of diabetes, hypertension and depressive disorders. This report shows new cases of cancer by level of educational attainment for the first time. We can observe a socio-economic gradient in cancer linked to lifestyle factors, but no changes in the gap between the two groups. There has been improvement at national level in the premature mortality and suicide indicators, although the gap caused by socio-economic status is not narrowing.

The indicators of inequality in access to healthcare and long-term care are addressed more extensively than in the two previous reports, while the indicators of unmet needs for healthcare and expenditure on health show minor inequalities by socio-economic group. Inequalities in health are increasing on account of the lengthening of waiting lists, as only the more affluent can afford direct out-of-pocket payments. Direct personal expenditure on long-term care is increasing markedly, while a certain proportion of needs for long-term care remains unmet.

An overview of the socio-economic determinants of health has also been added to this report. Among the indicators of social status, we highlight children's at-risk-of-poverty rate, which is one of the basic indicators of risk to children in material, social and health terms. It is explicitly linked to the work intensity of the household in which they live, as children who live in households with no work intensity have extremely high at-risk-of-poverty levels.

We shed light on the regional aspects of inequality by showing the factors of lifestyle, the at-risk-of-social-exclusion rate and life expectancy. Our general conclusion is that the eastern half of Slovenia remains in poorer health and at greater risk of social exclusion.

Using health indicators, lifestyle determinants, socio-economic determinants of health and indicators of inequality in access to healthcare and long-term care, we outline the results and important factors affecting the main causes of disease and death, the various options for use of system-wide services, and well-being. The information helps organisations, communities and governments to focus their resources and efforts on improving the health and well-being for all, leaving no-one behind. The adequate indicator-based evaluation and monitoring of differences in health underpins all strategies for reducing inequalities in health at local, national and international level.

For the first time in this report, we add a qualitative paper to the presentation of quantitative indicators; this arose as part of the MoST qualitative research project on the basis of interviews with people with vulnerabilities and with the stakeholders that encounter and deal with them. The interconnectedness, complexity and multifaceted nature of the phenomenon of 'vulnerability', as well as the interconnectedness and complexity of the barriers that individuals can face to accessing healthcare and other forms of assistance, services, institutions and a widest variety of resources, are shown as key in the presentation of the 'Groups with vulnerabilities in Slovenia'. The qualitative research approach has enabled us to observe the various vulnerabilities and the numerous groups with vulnerabilities, as well as the specificities of the environments examined.

Groups with vulnerabilities are placed into 20 categories, with reference most frequently made to the older adults, immigrants, people who do not speak Slovenian, people with various forms of disability, individuals and families in a socio-economically vulnerable position, children and adolescents with various vulnerabilities, the unemployed, and people without health insurance cover (without compulsory health insurance and/or supplementary health insurance). Alongside the numerous barriers that groups or persons with vulnerabilities encounter when attempting to access healthcare or other forms of assistance, the many ways in which these barriers are overcome are also outlined. The main aspects of the practices observed for overcoming barriers to accessing healthcare and other forms of assistance include: 1) practices introduced at the systemic level, which are regulations, policy measures and programmes/services that address the needs of those who encounter barriers when attempting to access healthcare; 2) the social nature of local environments and institutions, and their formal (and informal) cooperation; 3) programmes and projects (funded from various sources, whether foreign, national or local) *that address the vulnerabilities and needs of specific groups;* 4) informal forms of care and assistance; 5) services on the market, which have been studied the least, most likely because such types of assistance remain financially out of reach to the most vulnerable;(6) project-based practices in medical centres, e.g. 'Improving Health for All', as part of the activities at health promotion centres within the local community.

A qualitative view provides a large amount of additional information on the otherwise hidden, overlooked, elusive and often stigmatised problems faced by vulnerable individuals, problems that we quickly overlook if we rely merely on 'counting the numbers' and if their occurrence is too rare to show up in the quantitative statistics. For several years the IRSSV has been compiling regular reports on poverty in Slovenia with the help of mixed, quantitative and qualitative methods. **Combining quantitative and qualitative research is of considerable benefit. It is an approach we recommend for the monitoring of and reporting on inequalities in health going forward.**

The development of research into and the description of policies and their impact on inequality in health and well-being, which is the subject of the third part of the report, is ongoing in the spheres of public health and health promotion (274), (275), (276), (277). As in other countries that have begun to describe inequalities by analysing policies and not just data, we have also noticed in Slovenia that there are more questions than answers on how to approach it, which has made the establishment of cooperation between institutions all the more valuable, with each using their own established methodological approach to address one or two cases of an analysis of the link between measures and observed inequalities (IRSSV: child well-being, IER: long-term care with different methodological approaches, NIJZ: minimising the harmful effects of alcohol use) and to compare what worked and how. In doing so, we proceeded from Slovenian tradition and our links with the international community.

In Slovenia, inequalities in health have traditionally been part of social medicine, one of Slovenia's strong suits and a field developed by the visionary Dr Andrija Štampar a century ago in the South Eastern European Region. The last few decades have seen inequality return to the forefront of policymakers' minds across Europe. They are defined as unjust inequalities in health that are largely subject to social, economic, environmental and market-based determinants. The greatest potential for reducing inequality is set out as part of the sustainable development goals of Agenda 2030, which also foregrounds the complexity and interconnectedness of the structural conditions of the life and the workings of individuals and the community within these conditions, in its recommendations for implementation. In order to obtain a comprehensive overview of the impact of various sectoral policies on inequalities in health, we employed the WHO approach in the first article of the third part of the report (HESRi tool) , , with a review of the policy baskets developed by the WHO Venice office in 2019 (18), (278). This approach enables us to understand the complexity and interaction of policies for tackling inequality, with Slovenia given the opportunity of taking part in the pilot application of the tool, together with Italy and Wales.

Policy baskets help us to understand that, even where inequalities are reduced in one set of factors or measures, systematic differences can still remain in other factors (18). This emphasises the importance and necessity of a multisectoral approach to eliminating inequalities in health. Despite numerous efforts and the establishment of the Sustainable Development Goals, the WHO points out that progress in reducing inequalities in health in the five policy baskets described has fallen below expectations (279). Therefore, it defined four key drivers of equity or for ensuring equality in health that will accelerate progress: legislative accountability for identifying and removing obstacles to equality in health, the coherence of all-government policies for reducing the negative effects on inequality in health, social participation and, in particular, the empowerment of individuals and communities to take decisions on the direction of their life.

When studying the policy baskets in Slovenia, we found that the difference in exposure to income uncertainty between the more affluent and less affluent population groups made the biggest contribution to the gap in self-assessed health in Slovenia (42% of the gap in self-assessed health). Income uncertainty contributes less to the gap in self-assessed health in Slovenia than the average for the EU countries; this reflects the former's lower income inequality and greater social security, which have historical roots. As the second most important group of factors, differences in the quality, availability and accessibility of healthcare services contribute 23% to the gap in self-assessed health in Slovenia. This is higher than the EU average. While the results reflect the relatively adequate level of access for the whole of the Slovenian population to high-quality healthcare services regardless of income, people themselves point out unequal provision according to social status through the inequalities perceived while waiting to see or being treated by a general practitioner. Differences in social and human capital contribute 17% to the gap in self-assessed health in Slovenia, which is similar to the EU average. These factors include formal and informal learning experiences and interactions that enable people to participate effectively in social, economic and political life. A greater proportion of those with lower levels of educational attainment have low levels of trust in others, which presents an obstacle to involvement in social life. Differences in living and environmental factors contribute 11% to the gap in self-assessed health in Slovenia (EU average 21%), with living conditions accounting for around half of this.

Measurements using the WHO's HESRi tool have proved to be useful for the sectors and institutions taking part, and can, to a degree, be adapted to the situation in a smaller country. We therefore propose that the inequality in health situation be measured regularly with the help of policy baskets at intervals of several years. It is encouraging to see that we have managed to identify the knowledge required to perform such measurements in domestic institutions in which capacity has to be systematically built and where interconnections should continue to be made.

The assessment of poor air quality was selected from among the living environment factors and the differences in the assessment of poor air quality examined. In Slovenia these differences as a factor in the gap in self-assessed health between the more and less affluent are similar to the EU average. Poor air quality contributed very little (around 2%) to the gap in self-assessed health in relation to living and environmental factors. Although an analysis of the data relating to this indicator does not show a clear gap by level of education, the data does show primarily that perception of air quality can change a great deal within groups with different levels of educational attainment. Conditions in the environment and the importance attributed to the topic by the media have the most significant impact on this. **In order to formulate evidence-based conclusions on perceptions of poor air quality and correlations with inequalities in health, further research is required that incorporates representative samples of the population at national level.**

In order to protect vulnerable groups in society and achieve environmental justice, targeted environmental and intersectoral measures must be adopted, social and environmental policies coordinated, and measures at local level improved (e.g. better spatial planning and road infrastructure management, a ban on the use of solid fuels for heating, a definition of pollution sources), thereby reducing their disproportionate exposure compared to less vulnerable groups in society.

Research has shown how findings in the area of child equality from the research sphere can be used to formulate public policies. An international comparison shows that Slovenia ranks highly in terms of child well-being (sixth out of 27 countries). Slovenia's highest rankings came in the domains of family and peer relationships and of education (sixth place), and its lowest in the domains of housing and the environment (12th place) and of behaviour and risk (17th). Child well-being in Slovenia as measured by the regional child well-being index is highest in Goriška, followed by the Osrednjeslovenska (Central Slovenia) and Gorenjska regions. These three regions comprise the top 25% when it comes to the best-ranked statistical regions. The Zasavska statistical region has the lowest regional index score, with children there having the worst living conditions of all counterparts in other regions. It is joined in the bottom 25% by the Obalno-Kraška (Coast-Karst) and Koroška regions. **The results of the index indicate the considerable differences in child well-being, differences between the well-being of boys and girls, and the uneven development of some areas of well-being by region. This requires future thorough analyses of the possible reasons for and consequences of these results, and the formulation of appropriate public policy responses.**

In the case of the child well-being index, researchers have pointed out the dilemmas in translating the language of academic research into that of political implementation, and stressed the importance of understanding the challenge on both sides (researchers and political decision-makers). The child well-being and regional child well-being indices have shown how important it is to reduce the gulf between political decision-makers and

researchers. Only if both coordinate their research enquiries can the results be used for the formulation of more suitable public policies. **Measuring complex social phenomena with the help of composite indicators is an important tool for the well-informed creation of public policies, and one that complements existing findings on child well-being and regional differences. Policy measures formulated on the basis of measurements can make a more targeted contribution to reducing regional inequalities in child well-being. Although the indices help us arrive at an approximation or assessment of the situation, they are important tools for the formulation of public policies.**

The Council Recommendation Establishing a European Child Guarantee, which will contribute to realisation of the 11th principle of the European Pillar of Social Rights **(Childcare and support to children)[23] and to realisation of the commitment in the Action Plan on the European Pillar of Social Rights, which sets the target of reducing the number of children at risk of social exclusion by at least five million, will be adopted in 2021.** The child well-being index will also make it possible to define which components of the Child Guarantee are most relevant to Slovenia.

On the basis of the SHARE data, the effect of the receipt of long-term care on the use of healthcare services in relation to the health of the individual was assessed; the contribution made by individual socio-economic factors to inequalities in the receipt of long-term care by the elderly from the point of view of theories of life cycle was also estimated, i.e. by observing the individual's entire life. Both papers use innovative methodological options hitherto not applied to an analysis of the relationship between long-term care and healthcare, and provide important results as they relate to an analysis of inequality in health, and equally rarely to the observations of the retrospective SHARELIFE panel through an individual's entire life cycle.

The analysis shows that an increased volume of long-term care services can improve the efficiency of the healthcare system by reducing the number of hospitalisations and smoothing the path towards the implementation of plans to coordinate healthcare and social care. The results confirm the positive effects of long-term care provision on reducing the use of healthcare, with visible direct and indirect effects in the majority of indicators. The important role played by income, education and gender in the relationship between long-term care and healthcare was confirmed. A detailed study of the need for long-term care through an individual's life cycle showed that gender and educational status are the typical predictors of need, while income is a strong predictor of both the receipt and type of informal care. The majority of socio-economic factors, and age and income most strongly, have an important impact on inequalities in the formal provision of long-term care at home.

Slovenia has been trying for around two decades to adopt a law to regulate the current arrangement, where long-term care is dispersed among different social protection systems. This area has been included in European Semester processes for a number of years by means of specific recommendations; therefore, the IER paper could, from the point of view of reform measures and associated projects, provide additional support for the provision of the necessary public resources for long-term care and the adoption of new legislation in the area of long-term care in Slovenia. The impact of socio-economic differences between different population groups on the relationship between long-term care and healthcare services is an additional dimension that the paper provides for consideration in support of a universal approach and additional proportionate measures.

Social protection systems are undoubtedly interconnected (as well as being connected with the labour market, education and housing), not only in terms of content but also financially. The measures and reforms of an individual system are generally embarked upon separately, meaning that we often overlook these connections. For example, we can link the resolution of challenges relating to the sustainability of the pensions system by extending working age and delaying retirement to appropriate adjustments to the labour market, at the same time as we neglect healthy lifestyles through an individual's life span, the crucial importance of lifelong learning and the issue of replacing informal with formal forms of long-term care as a result of the extension of the working life of elderly people, particularly women. Similarly, one must ensure that seeking out additional resources for funding the healthcare and long-term care system by reallocating public resources or new tax resources for funding healthcare and long-term care does not have an adverse effect on the most vulnerable groups and again lead to an increase in inequalities in health. The formulation of these policies will have to be given a great deal more attention in the future.

[23] Children have the right to affordable early childhood education and care of good quality.
Children have the right to protection from poverty. Children from disadvantaged backgrounds have the right to specific measures to enhance equal opportunities.

Alcohol use and related policies were addressed, which are a major public health problem in Slovenia and one that many stakeholders are engaged in dealing with within the context of MOSA. The last 20 years have seen quite a few legislative changes in relation to issues surrounding alcohol. Slovenia has had success in the areas of drink-driving countermeasures, leadership and awareness, the monitoring of alcohol-related issues, restricting the availability of alcohol, reducing the negative consequences of drinking and alcohol intoxication, and dealing with risky and harmful drinking and addiction in healthcare settings. The breakthrough year was 2003, which was when the Restrictions on the Use of Alcohol Act (ZOPA) was adopted. It lays down measures and methods for restricting alcohol consumption, and measures to reduce its harmful effects. ZOPA supports measures that have been proven to be effective and that are aimed at restricting alcohol consumption, specifically through the use of age-, time- and space-related measures to reduce the availability of alcohol, particularly to young people. According to figures from research studies,[24] the proportion of people drinking alcohol to excess in Slovenia has fallen since the adoption of the ZOPA (280). The fall has been more pronounced in groups with lower levels of educational attainment when set against those with higher levels of educational attainment. Given that the Restrictions on the Use of Alcohol Act was not primarily aimed at reducing inequality between people in Slovenia, we cannot exclude the impact of other factors on reducing the differences in the share of excessive drinkers between those with different levels of educational attainment.

At the same time, Slovenia has seen a growth in the last 15 years in activities and programmes that have successfully provided talking points regarding further systemic approaches to reducing alcohol use and related inequalities. **We believe that the findings collected in the report will guide future research into the impact of legislation on inequalities in the harmful use of alcohol in Slovenia.**

[24] Health-related lifestyle – CINDI 2001, 2004, 2008, 2012.

5.1 Where are we with inequalities in 2021?

In 2020 and 2021 the pandemic triggered by the new coronavirus had a marked impact on the trend in inequality in health and social inequality. SARS-CoV-2 did not only cause one pandemic, but several pandemics together (a 'syndemic'), with an associated 'infodemic'. This consists of two interdependent categories of disease: the infectious SARS-CoV-2 and a spectrum of chronic noncommunicable diseases with associated risk factors (270). Both accumulate in vulnerable social groups and increase inequality. During the Covid-19 pandemic, some population groups were therefore more severely affected than others, particularly those who were more vulnerable before the pandemic struck: the socially isolated, the chronically ill and those living in low-income households.

Groups of children who were already vulnerable before the epidemic proved to be the most vulnerable during the first wave. This increased the gap between different groups of children and the level of their vulnerability. The reasons for the increased vulnerability of these groups of children can be sought in a combination of socio-economic characteristics (e.g. income) and lifestyle (with the analysis showing that boys were particularly vulnerable in this regard). Children from the Zasavje region, which had more vulnerable children than other regions, were among the more vulnerable in the first wave of the epidemic. In addition to the groups mentioned, we also highlight the increase in vulnerability among other groups of children: those living in regions with an above-average increase in vulnerability (Pomurska, Podravska, Obalno-Kraška, Koroška).

When adopting measures to suppress the negative effects of the coronavirus epidemic, political decision-makers should pay particular attention to maintaining child well-being (with an emphasis on protecting children's mental health and preventing involvement in activities that lead to passivity and alienation as a result of increased use of information and communications technologies) and to strengthening protective factors (such as good family relations and the promotion of outdoor leisure activities, sport and exercise generally). The results of the SLOfit study (2020) also draw attention to the same things. They show the considerable negative impact of the epidemic on children's health, with the protective measures put in place during the epidemic causing the biggest fall in children's physical activity and the biggest rise in the proportion of children with obesity since records began, as well as an increase in subcutaneous fat in more than half of the primary school population (281).

Given that these figures were for the first wave, we can expect inequality between children to be even more marked in the second wave. We can expect the structural determinants to play a greater role in determining child vulnerability in the second wave of the epidemic (it is already clear that the second wave will have more severe consequences for society and the economy than the first). For this reason, additional funds must be directed towards a timely analysis of the situation so as to enable the right measures to be taken.

The PANDA survey results also show that adults in Slovenia are already showing signs of pandemic fatigue. The Covid-19 pandemic has already had an impact on financial situation, contact with doctors, lifestyle and mental health, particularly among some of the most vulnerable population groups. If Covid-19 has affected the older population most of all, and increased their vulnerability, the impact of the measures designed to contain it have most affected the young, as reflected in the worsening of their financial situation, lifestyles, as well as their mental health. A large number of new vulnerabilities that we have never seen to this extent among the younger population have appeared. People suffering from chronic disease, and especially those with mental health difficulties, should also be highlighted as a particularly vulnerable group, with the results of the survey indicating that the Covid-19 pandemic has had a particularly negative effect on them.

The epidemic has further exacerbated the risk of inequality in health for older adults. Uncertainty, fear of infection and a lack of contact with close family and friends have all had a strong impact on some older people. Covid-19 ageisms can contribute to a worsening of older people's mental health, including their self-image and a fall in their autonomy (282). How to support older people in remote areas post-Covid is the subject of a EuroHealthNet magazine article: 'Supporting and protecting older people living independently in the community is everyone's responsibility. Good health starts in the community. In the long term, we must consider how our health systems are structured, their sustainability, and their ability to protect all in times of crisis.'(283). The epidemic has therefore re-emphasised the necessity of deinstitutionalisation and of affirming the importance of long-term care, with an emphasis on community care in Slovenia, as retirement and care homes were among the major epicentres of the epidemic(284), (285).

We will also be able to obtain more information on older people during the Covid-19 syndemic from data produced by the SHARE 2020 survey (286). A telephone survey of a sub-sample of the SHARE panel respondents from 27 European countries (plus Israel) was conducted between June and August 2020 as a response to the pandemic. The aim of this additional SHARE wave was to examine the consequences of the measures to suppress the epidemic on the health and socio-economic position of older people (aged 50 and over). The 'SHARE Corona Survey' covers questions on infection and on changes to the respondents' lives brought about by the measures to suppress the virus: health and health-related behaviour, mental health, infection and healthcare, changes in working and employment status, and social networks. The data collected will facilitate a thorough examination of how the risk group of older people tackled the health-related and socio-economic consequences of the pandemic.

Based on an analysis of the spread of Covid-19 and its main characteristics in Slovenia, and of an assessment of its impact on inequality in healthcare indicators, we also looked at the contribution of specific socio-economic indicators to inequalities in health resulting from the first Covid-19 wave.

The first national lockdown led to a reduction in the number of positive cases in most local communities in Slovenia. The causal effects of the lockdown as a political measure, measured as the number of positive cases based on the individual's behaviour in the face of changing protective measures, show a reduction in the number of cases in every local community. On this basis, future research can also make precise assessments of the fall in the indicators resulting from the first national lockdown. However, the typical effect proved to be different according to age, income and educational status: age accounted for two fifths, income almost two fifths and educational status just under a quarter of the estimated impact of the lockdown during the first wave.

We can see that we will have to deal in the coming years with the long-term consequences of the Covid-19 pandemic in Slovenia. This is not only because of the large number of people who have contracted or died from the disease, but also because of the wider impact of the pandemic on the lives and lifestyles of the Slovenian population. Because of the complex syndemic nature of events, it is possible that there will be a decline in the healthy years of life indicator because of the high percentage of the population that contracted Covid-19 and the restrictions placed on access to other healthcare services. It is also likely that a series of other health indicators will also deteriorate, although the extent of the deterioration will also depend on how successful the healthcare system's post-epidemic emergence strategies are (22). **We can expect a rise in chronic noncommunicable diseases and mental health difficulties in all age groups and, with it, an increased burden on the healthcare system and an increase in differences between population groups, leading to a growth or widening of social inequalities**, something that the UMAR Development Report for 2021 also points out (22). **Carefully considered policy measures are required if we are to emerge from the syndemic successfully. The recovery and resilience plan also brings a wealth of opportunities for successful emergence from the crisis, although it is essential that public health aspects are taken into account when the plan is being drawn up and implemented.** EuroHealthNet has compiled an analysis of the European Semester in light of Covid-19 and a strategic public health foresight exercise for the post-Covid period (287), (288). The strategically defined key challenges for the next 5–10 or 20 years as outlined by experts from national public health agencies in the EU are 1) in future pandemics, and mainly on account of climate change, an expected increase in mental health problems, growing inequalities in health and an increase in levels of excessive weight and obesity; 2) an expected increase in unemployment, along with the increased need for foodbanks in response to hunger among vulnerable groups and the growing social crisis; 3) particular challenges regarding the resilience of healthcare systems (delayed healthcare provision/ageing/NCDs) and care of the elderly, increased use of e-health and artificial intelligence, and increased digitalisation. The key opportunities set out by experts from national public health agencies in the EU for the coming period are 1) because of the syndemic, health is acknowledged as a key factor in social development, and health promotion and disease prevention move to the centre of attention in society, with greater public awareness of inequalities in health; 2) local communities and networks are strengthened, with an increase in use of telemedicine/telehealth and new forms of work emerging; (3) an increase in opportunities for European cooperation.

5.2 What have we learned during the process of preparing the report?

The report has been compiled on the basis of previous experiences gained during the period of preparation of the first and second inequality in health reports. It has been demonstrated that researching and describing health and well-being, and the gap that appears within a specific measured indicator, is a considerably more fruitful process if we work in a multidisciplinary and intersectoral way. Inequality is a complex field of enquiry and one that can only be interpreted to a certain extent within the boundaries of a single discipline, while institutions that work together can achieve more by pooling their knowledge and experience.

A steering committee comprising senior and experienced representatives of government sectors, the Ministry of Health, the Ministry of Labour, Family, Social Affairs and Equal Opportunities, the Ministry of Education, Science and Sport, and the Ministry of the Environment and Spatial Planning played an important role in the preparation of the report. The committee carried out monitoring activities, provided comments, advised the group, and contributed to a better understanding of how policies are prepared and of the need for political decision-makers to have information on health and well-being at their disposal.

The active role played this time by the Ministry of Health, which monitored the work not only within the intersectoral steering committee but also at regular working group meetings, was particularly valuable. It enabled us to coordinate on a continuous basis with those responsible for designing healthcare and long-term care policies.

The involvement of various international elements (cooperation with the WHO Venice office, involvement in the JAHEE project, integration within EuroHealthNet) is an added value that can help experts within the national context to work at a higher level, with greater professionalism and a focus on development. While preparing the report, the participating institutions took an extensive look at existing good practices, and mainly incorporated into their work their experiences of the processes described below.

The WHO office in Venice took part in the preparation of the Slovenian review of inequalities in health and well-being for the second time. In this report we included the experiences of the HESRi approach and, with the assistance of experts at the Venice office, showed the impact of different policy baskets on the gap in inequalities in health for the first time. The response of the steering group in the preparation process showed that an analysis of the situation with the help of policy baskets is useful and helpful for decision-making. Meetings with experts from the Italian National Institute of Health (ISS) and Public Health Wales were useful from the point of view of using the policy baskets and preparing the report. Slovenia, Italy and Wales made up the trio of countries testing the HESRi tool. The report for Wales is already available. (289).

Some of the experiences in preparing the report were taken from the EU Joint Action Health Equity Europe (JAHEE). On the basis of the national experiences of the two previous publications, inclusion in JAHEE Work Package 5, the good practices shared between Member States as part of that package, and the approaches taken by the WHO office in Venice, a standard set of indicators of inequality in health and well-being was prepared for this third report. All the institutions involved in the work took part in preparing the indicators, which enables the indicators to be viewed through a variety of sectoral perspectives. In doing so, the participating institutions took the opportunity to connect the various ongoing initiatives. Here it is important to understand the national indicators in terms of their international context, which allows us to show inequalities in Slovenia in comparison with other countries, and to present regional inequalities, which show us where the biggest gaps in relation to inequality lie within Slovenia itself.

One of the main experiences acquired is the finding that intersectoral cooperation proceeds more satisfactorily if the competent specialist national sectoral institutions work together to prepare arguments in support of certain policies or measures.

For the most part, proposals for measures come from a specific sector and are then intersectorally coordinated, with arguments for measures arising within the competent national institution in that same sector. We have shown in our work how individual measures can be researched in cooperation with several competent sectoral institutions, which establishes multidisciplinary competence for the coordinated argumentation of measures. Bases prepared in a multidisciplinary way can then serve as an incentive for intersectoral coordination at the political decision-making level. Years ago, we experienced a similar situation in the field of the data regulation of long-term care, where we joined forces in a working group with key organisations involved in providing data on long-term care in order to harmonise that data in accordance with the international standardised definition,

prepared the common denominator and laid the foundations for the establishment of the regular statistical monitoring of long-term care in Slovenia, which was a key objective of mutual cooperation (180). The multidisciplinary platform comprising several national institutions in the AHA.SI project during the preparation of the foundations for the strategy for a long-lived society and the subsequent participation of institutions in the preparation of the Strategy for a Long-Lived Society led by UMAR was equally successful (290).

A particular motivation for the substantive proposals of solutions in the area of policies was the announcement, at the time the report was being conceptualised, that the material would be used during Slovenia's presidency of the European Union. The policy-related topics that we have selected for review therefore reflect the activities that were highlighted during the period of preparation of the publication in the European arena. We have therefore devoted particular attention to the recommendation of the European Semester for Slovenia, which promotes the regulation of the area of long-term care. We have provided political decision-makers with additional arguments for measures, particularly from the point of view of the impact of long-term care measures according to socio-economic status. Based on the European Pillar of Social Rights adopted in 2017, plans are also being drawn up for its implementation. Implementation of the Council Recommendation Establishing a European Child Guarantee will contribute to the realisation of the 11th principle of the European Pillar of Social Rights, which relates to child poverty and social exclusion. At the same time, this constitutes an activity for reducing poverty and social exclusion in the second thematic area of the EU Strategy on the Rights of the Child. Member States are obliged to monitor implementation of the Guarantee. The basic indicators will be defined by the sub-group for indicators at the Social Protection Committee (on the basis of Eurostat premises). The child well-being index and regional child well-being index will be very useful for Slovenia in this regard, and can provide a solid basis for decision-making on priorities for ensuring equal opportunities for all children.

During the preparation process, the participating institutions addressed a number of topics and increased their joint multidisciplinary competence through ongoing discussions that frequently extended considerably beyond the tasks themselves. We shared knowledge, experiences and information at regular fortnightly meetings. Because the period of preparation was attended by the special circumstances occasioned by the syndemic, we also embarked on our first attempt to explain the inequalities caused by the syndemic. The mutual trust built up through the AHA.SI project, in which the NIJZ, IER and IRSSV laid the foundations for the strategy for a long-lived society, was further enhanced by the preparation of this report. UMAR and the Institute of Oncology also took part in the work. UMAR took part in the publication by preparing a wide-ranging review of the indicators of inequality in access to healthcare and long-term care and in international comparisons. With its wide perspective and the involvement of various collaborators, it also contributed a great deal to the building of knowledge capacities and multidisciplinary competences. The Institute of Oncology was involved in presenting the situation with regard to cancerous diseases. Its high-quality maintenance of the national cancer register provides an excellent basis for understanding the situation and setting priorities for measures, including in relation to the unequal incidence of cancer.

This report also touches on the regional aspect, which plays a very important role, from the point of view of the future, by taking into account the specifics of regional areas and areas, as well as the inevitable demographic changes. The publication gives us an opportunity to see the way forward and encourage reflection on how to change the perceived inequalities into future challenges. The monitoring of inequality also plays an important role at the regional level; only if we know what those inequalities are can we identify them in the local environment by working directly with people. Regional policymakers play an important role here, as do individuals who are helped and supported by a specific activity. We are hearing more and more from institutions that say that they are insufficiently involved and insufficiently listened to, especially if they operate at the regional level. This method of working together to produce the report can be a good example of mutual cooperation regionally as well.

Can preparation of the report be a test for a multidisciplinary platform?

Systems must therefore be addressed as a whole and intersectoral coordination carried out at individual phases of the preparation of proposals for measures/reforms as this is the only way to improve the quality of proposals and accelerate the process of intersectoral coordination. The involvement of national expert institutions covering individual areas in the preparation of an analysis of the situation, proposals for measures, assessments of the consequences of those measures and their coordination is more than welcome and necessary. The previous successful work of the platform of institutions in preparing expert foundations for the Strategy for a Long-Lived Society, as well as preparation of this report, only confirms this. We should be aware that we also currently have tasks

involving activities of an infrastructural nature, which therefore require constant interdisciplinary research work in relation to maintaining adequate databases and maintaining and developing adequate methodologies. This approach removes otherwise common and recurrent problems: the time pressures that attend the preparation of analyses, a lack of data and the relevant tools, or data and tools that require adaptation, problems in coordinating the work of researchers within single institutions, and the impossibility of setting up regular groups of researchers, as their engagement is only periodic and partial. Continuation of the platform's work for the selected substantive areas will therefore be a direct indicator of changes to an understanding of the operation of these systems, as well as of the need for the permanent engagement of an adequate interdisciplinary platform.

Coordination and cooperation during the phase of formulation of measures will be important in future for the harmonious operation of political, research and other relevant institutions.

RECOMMENDATIONS

I. Monitoring and analysis of the situation, and the development of methods and knowledge

1. **Regular monitoring of the situation regarding unjust inequalities in health for the preparation of foundations for measures**

   Using health indicators, lifestyle determinants, socio-economic determinants of health and indicators of inequality in access to healthcare and long-term care, we set out the results and the significant factors that affect the main causes of disease and death, the various options applying to the use of system-wide services, and well-being. The information helps organisations, communities and governments to focus their resources and efforts on improving the health and well-being of everyone. The adequate indicator-based evaluation and monitoring of differences in health underpins all strategies for reducing inequalities in health at local, national and international level.

   In doing so, it is vital for knowledge and resources to be interlinked horizontally (between sectors and organisations) and vertically (locally, nationally, internationally) and, at the same time, for the situation to be monitored on a continual basis at all levels.

2. **Further detailed quantitative and qualitative research**

   Further research into inequality in health is required, particularly in light of the impact of the Covid-19 syndemic. That research will be conducted using a mixture of methods, and will include representative samples of the population at national level. Further detailed analyses of the possible causes and consequences of the results of unjust inequalities are required if we are to formulate more adequate public policy responses. The findings will guide research into the impact of legislation on inequality.

3. **Development of methodologies for measuring inequality in health resulting from policy measures and for assessing the impact of policy measures on inequality in health**

   Monitoring the inequality in health situation with the help of the WHO methodology of policy baskets at regular intervals of several years facilitates well-argued and well-considered measures, with public health being taken into account during preparation and implementation. Measuring inequality resulting from policy measures is a methodologically complex and demanding process and one that employs a variety of tools. Indices help us to assess the situation, and are important for the formulation of public policies. Other more complex empirical tools and models are also important for assessing policy impacts. Longitudinal research and data are required for systematic monitoring. The use of a mixture of methods (i.e. qualitative and quantitative research) is a major step forward, and one that we recommend for the future monitoring of and reporting on inequalities in health.

4. **Development, flow and dissemination of knowledge**

   The knowledge required for monitoring inequality in health and the associated policy measures can be found in domestic institutions, where capacity must be systematically built and the institutions made to connect with each other. Knowledge capacity must be systematically built if the inequalities resulting from policy measures are to be measured and monitored successfully. It is also important to ensure that knowledge flows to and from the international community.

II. Investment in activities and programmes

1. Investment in activities and programmes for reducing unjust inequalities in health

It makes sense to continue the coordinated intersectoral investment in activities and programmes to enable more robust systemic and adequately evaluated approaches for reducing unjust inequalities in health between different groups in society. Indeed, this process should be intensified as a result of the needs that have arisen in the syndemic.

2. Greater support for environmental justice

In order to protect vulnerable groups, reduce inequalities in health and well-being and achieve environmental justice, targeted environmental and intersectoral measures must be adopted, social and environmental policies coordinated and local measures improved.

III. Establishment of a multidisciplinary platform for assessing the impact of policy measures on inequality in health

1. Multidisciplinary and integrated handling of proposals for measures

Intersectoral cooperation can proceed more smoothly if competent specialist national sectoral institutions work together to produce well-argued reasoning for policies or measures. Foundations prepared through multidisciplinary cooperation can provide an incentive for intersectoral coordination at the political decision-making level. Coordination and cooperation at all stages, and especially when the policies are at the formulation stage, will be important in the future for the coordinated operation of the policy-making sphere and research and other relevant institutions.

2. The establishment of a multidisciplinary platform of sectoral institutions with all the required implementational capacities for assessing the impact of policy measures on inequality in health

Sectoral systems must be addressed together, with intersectoral cooperation starting with the joint definition of priorities and research questions and a joint research process as support to the preparation of proposals for measures or reforms at specific phases. Only in this way can we improve the quality of individual proposals and accelerate the process of intersectoral coordination. Continuation of the work of the platform for the selected substantive areas will therefore be a direct indicator of a change in understanding of the operation of these systems, as well as of the need for the constant engagement of the interdisciplinary platform.

These are activities of an infrastructural nature that require continuous multidisciplinary research work to maintain the relevant databases and maintain and develop the relevant methodologies if up-to-date support is to be given to policy measures. This approach ensures the stable availability of staff and of regular research groups, and the accessibility of data, knowledge and the appropriate tools. It also removes the time constraints involved in preparing analyses and the problems associated with coordinating the work of researchers at individual institutions.

6 METHODOLOGY

6.1 Explanation of the measurement of well-being

Author: Urban Boljka (IRSSV)

It is difficult to measure well-being precisely because well-being is such a complex term. In the publication, we approach it multi-dimensionally, meaning that we regard it as being made up of a number of 'areas' of well-being. The fact that well-being is measured using objective and subjective indicators helps to make it an even more complex process. This understanding of well-being (and consequently its measurement) has been around since at least the 1960s, or since the appearance of demands for a greater presence of social indicators in assessments of social progress (8). Put simply, these demands have led to the definition of well-being used by the World Health Organization: 'Well-being exists in two dimensions, subjective and objective. It comprises an individual's experience of their life as well as a comparison of life circumstances with social norms and values' (291). Other international organisations, such as the OECD, acknowledge the important role played by subjective indicators when assessing well-being. Such indicators have therefore been part of the Programme for International Student Assessment (PISA) for a number of years, and in 2013 the OECD also developed guidelines for improving the measurement (and assessment) of subjective well-being. Other major international research studies, such as Health Behaviour in School-Aged Children (HBSC) and the Children's Worlds: International Survey of Children's Well-Being (ISCI), have a similar understanding of well-being, and incorporate subjective assessment of well-being (or satisfaction with life, happiness, etc.) into their work.

This does not mean, of course, that measuring well-being in such a way does not bring additional challenges. One such challenge is presented by 'optimism bias', where statistical distribution (on the ten-point Likert scale) at the level of population does not follow the Gaussian curve but is aligned to the right. This is ever truer when measuring the subjective well-being of children, with respondents therefore assessing their own well-being too optimistically (292). Furthermore, the subjective assessment of well-being is strongly dependent on cultural context and expectations. This means that the demands and expectations of others, which Sen calls 'adjusted expectations', often affect individuals' subjective assessment of well-being (293), (294).

Notwithstanding the challenges, a subjective understanding of well-being is one of the most important aspects of an individual's existence, and one that must be taken into account in the final assessment. However, one should also be aware that what is subjectively important to an individual is also objectively measurable.

6.2 Methodology and sources of data

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This publication contains information and data collected in previous years by the National Institute of Public Health (NIJZ), the Institute of Oncology and the Statistical Office of Slovenia under the provisions of the Healthcare Database Act (ZZPPZ), the National Statistics Act (ZDSta) and the current Annual Statistical Research Programme. The key sources of data, which are described in detail below, are the following regularly updated databases (ZZPPZ, Uradni list RS, 65/00, 47/15, 31/18, 152/20 [ZZUOOP], 175/20 [ZIUOPDVE] and 203/20 [ZIUPOPDVE]):

- Mortality Database,
- Perinatal Information System of the Republic of Slovenia,
- Slovenian Registry of Prescription Drug Consumption,
- The Cancer Registry of the Republic of Slovenia.

data from survey-based research studies is also used (ZDSta, 45/95 and 9/01):

- European Health Interview Survey (2007, 2014 and 2019),
- Health Behaviour in School-Aged Children (2002, 2006, 2010, 2014 and 2018),
- Living Conditions (EU-SILC),
- Household Consumption (Household Budget Survey).

The data on education taken from the regularly updated databases for the 2006–2008 period was compiled based on the Statistical Register of Employment and the 2002 Population, Families, Households and Housing Census, both of which are maintained by the Statistical Office (295). The data on education for periods subsequent to 2012 was taken from the Education Register, which has been maintained by the Statistical Office for statistical purposes since 2011 (296).

We classified education levels as follows: lower (primary school or lower), medium (secondary school programmes lasting between two and five years) and higher (post-secondary education and higher).

Mortality Database

The NIJZ compiles data on mortality using the regularly updated Mortality Database , which includes a database of death certificates containing information on all inhabitants of Slovenia who died in the reference year on the territory of Slovenia or abroad. Information on cause of death is an important source of information for the monitoring, planning, management and development of healthcare activities and for assessing the population health status. It also provides a basis for the reporting and international comparisons that form part of Slovenia's obligations to the European Union, the World Health Organization and other international organisations. This publication examines mortality of the population by level of educational attainment.

Mortality data has been supplemented by Statistical Office data on the highest level of education achieved by the time of death. This combination was used to prepare mortality indicators from various causes set against the educational attainment of the deceased person.

We studied both total mortality and mortality from specific causes (underlying cause of death and external cause of death), classified according to the International Statistical Classification of Diseases and Related Health Problems (ICD-10). Annual data on mortality for 2006–2008, 2012–2014 and 2017–2019 was used to calculate and compare mortality indicators by level of educational attainment. Data on the mortality of the population was also used to calculate the healthy life years and life expectancy indicators, with the Sullivan method being applied (297).

Perinatal Information System of the Republic of Slovenia

The Perinatal Information System of the Republic of Slovenia, which records information on births and newborns and is an important source of information for the monitoring, evaluation and planning of perinatal programmes, is an independent national medical register of births. Alongside births at maternity hospitals, it records births in other settings in Slovenia (at home, on the way to the maternity unit, at birthing centres and other places), and enters details on all live births regardless of birth weight and stillbirths with a birth weight of 500 g or more (and/or a gestational age of 22 weeks or more and/or body length of 25 cm or more) (298).

The database has been supplemented by data on the highest level of education achieved by the mother in the same way as the Mortality Database.

Slovenian Registry of Prescribed Drug Consumption

Monitoring the consumption of medical drugs is part of public health. Its widest aim is to prevent disease, prolong life, and protect and improve health. Under the Health Databases Act, pharmacies send information on drugs prescribed to the Health Insurance Institute of Slovenia (ZZZS), which then forwards it to the NIJZ. The main purpose of collecting information on drugs is to provide information useful for the monitoring and planning of the healthcare system. The Anatomical Therapeutic Chemical (ATC) Classification System classifies medicines into 14 main (anatomical) groups according to their active ingredients (299).

The annual database has been supplemented by data on the highest level of education achieved by a person in the year in question in the same way as the Mortality Database.

The key indicator is the proportion of people in a certain age and educational attainment group issued with at least one prescription drug in the year in question for the following groups of drugs as labelled under the ATC classification system:

- antihypertensives: C02, C03, C04, C07, C08, C09;
- drugs used in diabetes: A10.

The Cancer Registry of the Republic of Slovenia

The Cancer Registry of the Republic of Slovenia collects data on all new cancer cases (incidence), cancer prevalence and cancer survival in Slovenia. Registering incidences of cancer has been a legal requirement since the register was founded and is mandatory for all public health institutions in Slovenia, which are the primary data sources (117). To ensure that the data is complete, the cancer register makes use of data from several other databases (Mortality Database), hospital registers, cancer screening programme registers, the Central Population Register, the Surveying and Mapping Authority). We have used the ICD-10 to classify cancer cases by primary location since 1997. The data collected is crucial for assessing the burden of cancer in the country, reporting to international organisations, carrying out research activities, and planning and evaluating the operations of the National Cancer Control Programme (DPOR) (121).

The data from The Cancer Registry of the Republic of Slovenia has been supplemented by data on the highest level of education achieved in the same way as the Mortality Database.

We have used annual data on incidence for the 2012–2017 period to calculate and compare the cancer incidence by level of educational attainment. In relation to the frequency of individual groups of cancers among the population and the known link with socioeconomic status, we also selected five groups of cancers, alongside the incidence of all cancers together (ICD-10 codes C00–C96), in order to study the influence of educational inequalities: lung cancer (ICD-10 codes C33 and C34), stomach cancer (ICD-10 code C16), breast cancer in women (ICD-10 code C50), melanoma skin cancer (ICD-10 code C43) and cancer of the head and neck (ICD-10 codes C00–C14, C30–C32) (300).

European Health Interview Survey

The main aim of the European Health Interview Survey (EHIS) is to establish the health status of the population, how frequently they use various healthcare services, and the state of the population health as it relates to lifestyle.

The data shown in this publication was collected in the 2007, 2014 and 2019 European Health Interview Surveys. The surveys was carried out by NIJZ on a representative sample of the Slovenian population who live in private households and are aged 15 or over. In 2007 the data was collected face-to-face mode, while in 2014 and 2019 an online survey was used in conjunction with face-to-face surveys at the homes of those selected to be part of the sample. A total of 2,116 people took part in the survey in 2007, 6,262 in 2014 and 9,900 in 2019. The sampling plan was stratified two stage for all waves of the survey (301).

The data from the European Health Interview Survey is shown in relation to a range of demographic variables, such as gender, age and level of educational attainment. We have analysed data on self-assessed general health, smoking, alcohol consumption, physical activity, consumption of fruit and vegetables, body mass index, symptoms of depression, seeking help from a mental health professional, and back/neck problems.

Health Behaviour in School-Aged Children

Health Behaviour in School-Aged Children (HBSC) is a periodic international quantitative research study carried out at four-year intervals. It covers a large number of aspects of adolescent health and life: self-assessed (mental) health, life satisfaction, injuries, oral health and other health-related behaviours (e.g. risky behaviours, eating behaviours, physical activity). It also examines the adolescent's social context (family, school, peers). The survey covers 11-, 13-, 15- and 17[25]-year-olds. The health problems encountered by children and adolescents are mainly connected with growth and development, way of life and wider social phenomena. The survey is carried out during school hours, which is why it only covers children and adolescents who are in the education system. The sampling unit is the class or department. Sampling design is stratified two-stage (302), (303).

Slovenia joined the HBSC research study in 2002. In 2014 and 2018, the surveys were carried out via an online survey on school computers. This differed from the 2002, 2006 and 2010 surveys, which were completed through self-completion paper questionnaires. New questions and new groups of content, e.g. the use of electronic technologies, were also added in 2014 and 2018.

The HBSC is carried out using a uniform methodology in 50 countries across Europe and wider. The data therefore allows us to make international comparisons. The main objective of the research is to improve adolescents' health and well-being. The data used in this publication comes from the surveys carried out in 2002, 2006, 2010, 2014 and 2018. The final sample contained 3,707 boys and 3,742 girls in 2018, 2,449 boys and 2,548 girls in 2014, 2,765 boys and 2,671 girls in 2010, 2,558 boys and 2,572 girls in 2006 and 2,298 boys and 2,216 girls in 2002. Although the final sample for 2018 also included 17-year-olds, they were not included in our analysis because comparability over time could not be achieved (214).

Living Conditions

This study is based on European Commission regulations and is carried out in all EU Member States. This means that the data from all Member States is directly comparable. The Statistical Office (SURS) began carrying out the research in Slovenia in 2005. The data required for calculating the indicators of income, poverty and social exclusion is obtained from two sources (which is why the research is also in two parts): the Living Conditions Questionnaire (this data relates to the year of implementation of the SILC), and administrative databases and registers (this data relates to the year prior to implementation of the research, making this the reference year for income). Data relating to income, along with certain other data, is obtained from existing registers and administrative records. It is subsequently linked to the data obtained from the questionnaire. Using registers and administrative sources decreases the burden from survey respondents considerably, and also significantly reduces the costs of the research.

The gross sample size is around 12,900 households a year. As some households refuse to take part, we are unable to establish contact with others and some are unsuitable for research, the final (net) sample size is around 9,000 households (or approximately 28,000 people) each calendar year.

The research is carried out every year.

Household Consumption

Data is collected through the Household Budget Survey (APG) and obtained:

- by face-to-face interview using the Household Budget Survey questionnaire;
- via diaries of expenditure kept by members of a household for 14 days (a record of daily expenditure and the quantities of household necessities purchased);
- from administrative and other databases; from the Financial Administration (income tax), the Ministry of the Interior (Central Population Register, register of households), the Ministry of Labour, Family, Social Affairs and Equal Opportunities (social and family benefits, scholarships), the Employment Service (unemployment benefits) and the Surveying and Mapping Authority (register of property);
- from the SURS's own sources: composition of the population (DEM-PREB/ČL).

The interviewing of households is evenly spread across the year, with each household taking part in the survey for 14 days. At the start of the survey process, the interviewer enters basic information on each member of the

[25] Although 17-year-olds were included in the research sample for the first time in 2018, they were not included in the analyses contained in this publication.

household. This is the extent to which any member aged under 15 is interviewed. For members aged 15 or over, questions are then asked in relation to themselves, their formal (employment) status and expenditure on education. Questions to the household as a whole relate to expenses on the household's residence and any other property, motor vehicles, household fittings and fixtures, and on the entire range of expenditure in the household (e.g. housing and upkeep, clothing and footwear, furniture, the purchase of household appliances and devices, audio-visual and computer equipment, expenditure on recreation and culture, expenditure on children and assistance to other households, etc.).

Research is conducted every three years (2012, 2015, 2018). Between 1997 and 2010, it was conducted every year.

Methodology used in comparisons between years and between different sociodemographic groups

- Mortality

  The analysis of mortality by level of educational attainment included absolute comparisons between the age-standardised mortality rates relative to highest level of educational attainment, and relative comparisons of mortality among people with different levels of educational attainment (e.g. the age-standardised rate ratio) for the 2006–2008, 2012–2014 and 2017–2019 periods. The two groups at each end of the scale (people with lower and higher levels of educational attainment) were included in the comparison. A part of the analysis of inequalities in mortality also took in regional differences – specifically, a comparison of life expectancy between the 12 statistical regions of Slovenia.

  We studied the differences in mortality between different levels of educational attainment using the Poisson regression, where the dependent variable was the mortality rate and the independent variables were age, period, education and the interaction between the latter two. The trend in inequalities (i.e. the increase or reduction in inequalities by education during the 2006–2008, 2012–2014 and 2017–2019 periods is tested by observing the statistical significance of the interaction between the period and education.

  Additional measurements of inequalities were calculated for the mortality indicators, namely the Slope Index of Inequality (SII), the Relative Index of Inequality (RII) and Population Attributable Fraction (PAF). In contrast to the above measurements of the absolute and relative difference, which reflect the differences or inequalities only between the most and least under-privileged groups (in our case, the gap between those with the lowest and highest levels of educational attainment), the SII and RII are indices of inequalities that operate on the basis of regression, take into account the whole population and are therefore susceptible to distribution of the population across all socioeconomic groups (in our case, including groups with medium levels of educational attainment). The SII obtained represents the absolute difference, which is determined by the slope of the regression line between the lowest and highest levels of educational attainment. The RII, which is calculated by dividing the SII by the total/average value of the selected indicator, constitutes a relative coefficient of inequalities, thereby enabling a comparison of inequalities between different healthcare indicators and over time. The third additional measurement, the PAF, shows the proportion of the value of the indicator (e.g. the lung cancer mortality rate) that could have been avoided if the value of the indicator for the whole population were equal to the value of the indicator for the most privileged socioeconomic group (i.e. the group with the highest level of educational attainment) (304), (305), (306).

- Fertility

  We observed births in Slovenia in three different periods: 2006–2008, 2012–2014 and 2017–2019. We examined the basic differences in level of educational attainment and the mother's first country of residence for the selected outcomes, such as preterm birth before the 37th week, by conducting an analysis based on the absolute differences in the structural proportions and the ratios between the proportions.

  We studied the differences in the outcomes relative to levels of educational attainment using binary logistic regression, where a specific outcome (e.g. preterm birth before the 37th week) was used as the dependent variable and the age of the mother, period and education (and the interaction between the latter two) were taken as the independent variables. The trend in inequalities (i.e. the increase or reduction in inequalities) relative to education during the 2006–2008, 2012–2014 and 2017–2019

periods was tested by observing the statistical significance of the interaction between the period and education.

Two selected outcomes (smoking in pregnancy and attendance at parenting school) were included in the regional comparison. We checked whether there was a statistically significant difference in the proportions between the selected statistical region and the rest of the country using a statistical test for comparing the two proportions (z-test).

- Prescription drugs

  The data for prescription drugs was reviewed for the 2012–2019 period for the two groups of drugs referred to earlier. The analysis only covered people who were over 25 years of age in the year observed. For each year, the age-specific rates of recipients of drugs were calculated separately by gender and three levels of educational attainment. The gap in the age-specific rate by gender was defined as the absolute difference between the rates for the lower and higher levels of educational attainment. The age-standardised rate of recipients of drugs, by gender and three levels of educational attainment, were also compiled for each year. The comparison of the rates between the lower and higher levels of educational attainment could be absolute or relative. The gap in the age-standardised rate between the two levels of educational attainment and by gender was defined in the same way as for mortality above.

  Additional measurements of inequalities were also calculated: the Slope Index of Inequality (SII), the Relative Index of Inequality (RII) and Population Attributable Fraction (PAF). The higher the absolute SII value, the greater the difference in the age-standardised levels for a particular phenomenon between the lower and higher levels of educational attainment. A negative SII value means that the age-standardised rate for a phenomenon decreases as the level of educational attainment increases. We examined the trend in the age-standardised rates over the years separately by gender, higher and lower levels of educational attainment, and the difference (gap) between them, using the Poisson regression, where the rate is the dependent variable and the year is the independent variable.

- Cancer Incidence

  We included in the analysis all cancer cases among adults aged 25 and over who fell ill between 2012 and 2017 and for whom data on education was available. Cases where the individual's education could not be determined (0.8% of all new cancer cases) were excluded from the analysis.

  We calculated the age-standardised rate (ASR; European standard population 2013, version 85+) of incidence per 100,000 inhabitants, stratified by gender and education (low, medium and high) and the absolute and relative measure of inequalities (difference between the ASRs and ratio between the ASRs, respectively), both together with a 95% confidence interval. The two groups at each end of the scale (people with lower and people with higher levels of educational attainment) were included in the comparison. We also calculated the PAF measure of inequality, which is the percentage of how much more (in the case of a negative PAF value) or how much less cancer (in the case of a positive PAF value) there would be in the population if everyone in the population had the highest level of educational attainment.

  We calculated the ASR of incidence for individual years between 2012 and 2017 (for a calculation of the trends over time of individual educational attainment groups by gender), for the whole of the 2012–2017 period (for a presentation or calculation of the absolute and relative gaps) and as a three-year moving average between 2012 and 2017 (for a presentation of the trend in the absolute gap). We also show the age-specific incidence rate per 100,000 inhabitants, by gender and education, between 2012 and 2017.

  We determined the statistical significance of the education trends and trends over time between 2012 and 2017 on the basis of confidence intervals (where those intervals do not overlap, the trend is statistically significant) or by using joinpoint regression (with statistically significant results, the value of the annual percent change or APC is given). We used the Joinpoint Regression Program (version 4.1.1 – August 2014), which was produced based on the methodology developed by Kim et al (300). An analysis of trends over time is not reliable if only a six-year period is observed; however, data on education is not available for our analysis prior to 2012.

- Data from national research studies (EHIS, HBSC)

  We checked the statistically significant differences in proportions between different demographic categories (e.g. low, medium and high levels of educational attainment; in addition, below-average and above-average perceived family wealth) within a single year using the $\chi 2$-test, while we compared the proportions between individual pairs of demographic categories by means of a z-test (whereby we used the Bonferroni correction).

  For data from the EHIS study, we established the statistical significance of changes in inequalities in individual indicators with regard to gender, age and education between 2007, 2014 and 2019 using the Cochran-Armitage trend test. For the 'Self-assessed general health' indicator, we also employed distribution by statistical region, in addition to year, gender, age and education. Measurements of inequalities, i.e. the absolute difference in prevalence (gap), the ratio between prevalence and the population attributable fraction (PAF), were calculated for individual indicators. The absolute difference in prevalence (gap) and the ratio of prevalence show the absolute and relative differences, which reflect the differences or inequalities only between the most and least under-privileged groups (in our case, the gap between those with the lowest and highest levels of educational attainment). The PAF shows the proportion of the value of the indicator (e.g. the proportion of people physically active for at least 30 minutes a day or 150 minutes a week) that could have been avoided if the value of the indicator for the whole population were equal to the value of the indicator for the most privileged socioeconomic group (i.e. the group with a higher level of educational attainment).

  Similarly, for data from the HBSC study, we established the statistical significance of changes in inequalities in individual indicators with regard to perceived family wealth between 2002, 2006, 2010, 2014 and 2018 using the Cochran-Armitage trend test. Various measurements of inequalities, i.e. the absolute difference in prevalence (gap), the ratio between prevalence and the PAF, were calculated for individual indicators in the case of the HBSC as well. The absolute difference in prevalence (gap) and the ratio of prevalence show the gap between below-average and above-average perceived family wealth. The PAF shows the proportion of the value of a specific indicator that could have been avoided if the value of the indicator for the entire population observed were equal to the value of the indicator for above-average perceived family wealth.

6.3 Linked to the 'Groups with vulnerabilities in Slovenia – On the MoST research project' article

Author: Ivanka Huber (NIJZ)

Through the qualitative MoST research project ('Analysis of the vulnerability and inequalities in health in local communities'), we were able to study in depth the circumstances that help give rise to vulnerabilities and inequalities in health. The field research facilitated not only an observation of the various vulnerabilities and the many groups regarded as vulnerable, but also of the specificities of individual environments and the various social processes that lead to an increase or reduction in vulnerability and inequality. By means of this qualitative research, we were able to understand these dimensions within the wider socio-political and historical context of a specific group.

As part of the study, which took place in the field in three phases, 417 interviews were held with 629 people in 25 areas in Slovenia between April 2018 and August 2019. The study was conducted in the areas served by those health centres involved in the 'Health Promotion for All' project: Ajdovščina, Nova Gorica, Piran, Izola, Postojna, Logatec, Idrija, Kočevje, Kranj, Ivančna Gorica, Kamnik, Trebnje, Črnomelj and Metlika, Brežice, Žalec, Šentjur, Velenje, Slovenske Konjice, Slovenj Gradec and Dravograd, Slovenska Bistrica, Maribor, Lenart, Ormož, Gornja Radgona and Murska Sobota. During the first phase, we identified the extent and nuances of the phenomenon in question at the local level as perceived by the representatives themselves. The second phase identified the local actors (non-governmental organisations, civil-society associations, societies) working in specific areas. The third phase involved identifying those people with vulnerabilities who were most directly affected by the phenomenon being studied. From the point of view of vulnerability and inequalities in health, this phase addressed the direct experiences of people who were in a vulnerable position and who, in specific ways, encountered barriers to accessing healthcare. People with vulnerabilities are most often also so socially isolated and marginalised that gaining access to them is both difficult and ethically questionable. Broaching the subject of vulnerability and inequality in health often provoked feelings of shame, discomfort and guilt on the part of the people interviewed. Moreover, the concept of vulnerability is an 'attribute' that we give to individuals from the outside. Only on rare occasions was it something that the interviewee themselves identified with. As a result of this, the researchers sought out milder or more suitable methodological approaches, such as holding informal discussions, conducting unstructured interviews, and listening to personal stories, experiences and pressures. This enabled them to gain a deeper understanding of individual phenomena and barriers (for more on the methodology, see (188)).

When analysing the data, we relied on the hermeneutic method of analysis, which involved interpreting data in the forms of texts or statements relating to the subject of the research (307). In the narrower sense, the analysis was conducted via qualitative substantive analysis, which involved identifying and analysing the categories of the themes that had arisen in individual interviews (308). The data was first classified with the help of a pre-prepared form that enabled us to summarise the interviews systematically. The groups with vulnerabilities (as they emerged from the interviews) were first outlined in relation to the given environment. This was followed by a description of the barriers faced and of the practices for overcoming them as mentioned by the interviewees themselves. At the same time, the methodological aspects of the implementation of individual interviews were also described.

The MoST research project was designed in such a way as to identify the wide range of 'vulnerable groups' and of the factors that contributed to vulnerability and inequalities in health. Because the project cast its net fairly widely, it was not possible to analyse some of the phenomena and barriers in greater depth. The limited time available for the study was also a factor in this regard, and meant that it was not possible to monitor and analyse the processes and changes at the level of individual environments over a longer time period. The research can therefore serve as a starting point for more thorough, continuous and narrowly focused research efforts going forward (188).

6.4 Linked to the 'Five essential conditions for health equity' article

Author: Tatjana Kofol Bric (NIJZ)

Contributing factors that lead to gap in self-reported health among the 40% of most and least affluent citizens are presented by methods used in WHO Health Equity Status Report in Europe (18). Direct cooperation with the WHO expert contributed results using the same data source as used in the WHO HESRi report and the adapted model for Slovenia. Results for EU28 presented in the text were calculated using the same model. To explain the contribution to the gap of self-reported health from the five different areas of life among the socio-economic groups a variant of Oaxaca decomposition method proposed by Neumark and Oaxaca & Ransom was used (309), (310). We used data from the European Quality of Life Survey (EQLS) conducted in 2016 in Slovenia. The EQLS is a survey among adult population (18+) living in private households, based on a random statistical sample, and covering a cross-section of a society. Depending on country size and national arrangements, the 2016 sample ranged from 1,000 to 2,000 people per country (311).

Eurofound's survey partners, Kantar Public, carried out face-to-face interviews in people's homes using computer-assisted personal interviewing (CAPI) and covered a comprehensive list of questions regarding their quality of life. The EQLS 2016 questionnaire placed a considerable focus on public services (healthcare, long-term care, childcare and schools) and measuring different aspects of quality such as fair access, facilities, staff and information available to citizens (312). Details of the survey methodology are available online: https://www.eurofound.europa.eu/sl/surveys/european-quality-of-life-surveys/european-quality-of-life-survey-2016.

Demanding microdata requirements for the decomposition analysis means that this analysis is only possible for inequalities in a select number of health indicators with sufficient sample size, which provides statistically significant differences in inequalities in the five groups of factors involved. The decomposition analysis reveals the extent to which each factor contributes to health inequalities compared to each of the other factors. The decomposition is based on regression analysis of the relationships between self-reported health and the indicators of underlying conditions.

It should be noted that while this analysis provides an explanation of health inequalities in terms of statistical associations, the regression model used does not constitute a causal analysis and therefore the results should not be interpreted as a stand-alone guide to policy – the decomposition results should be interpreted with care and only in context with other evidence.

6,5 Linked to the 'Poor air quality as an element of health inequalities' article

Autors: Tanja Carli (NIJZ), Andreja Kukec (UL MF in NIJZ), Janja Turšič (ARSO), Peter Otorepec (NIJZ)

A systematic review of the academic and professional literature was carried out in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols (PRISMA-P 2015). For academic articles, we determined the time window for the review as the period between the first publications in this area and 31 January 2021, and for the grey literature as the period from 1 January 2018 to 31 January 2021. We searched academic articles in the MEDLINE bibliographical database with the help of the PubMed search system (Medical Subject Headings/MeSH thesaurus). For the search using Boolean operators ('AND' or 'OR'), we used key words in English: ([social inequalities[MeSH Terms]) AND ((ambient) OR (outdoor air pollution[MeSH Terms])). We obtained grey literature based on a targeted search. We included academic articles and documents in the analysis under the following inclusion criteria: 1) thematic relevance, 2) European geographical region (53 countries in the WHO European region), 3) research on people, 4) original, review and systematic review articles, and technical reports, 5) research at the individual (cohort, cross-sectional) and population levels, 6) access to the whole text, 7) text written in English. We excluded academic articles and documents from the analysis under the following exclusion criteria: 1) texts not thematically linked to the review, 2) outside the European region, 3) in vitro and in vivo experimental research, 4) research on animals, 5) meta-analyses, letters to the editor, commentaries, posters, interviews, 6) texts only accessible in the form of an abstract, 7) texts not written in English. We have provided a descriptive analysis of the correlation between social inequality and ambient air pollution. We performed a systematic literature review in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols (PRISMA-P 2015). During the first (identification) phase, and with the help of search criteria, we identified the documents found in the MEDLINE bibliographical database using the PubMed search system (n = 342), and the documents found with the help of other resources (n = 3). During the second (review) phase, we started by excluding duplicates (n = 5) and then reviewed the remaining documents by title and abstract (n = 340). By applying the inclusion criteria, we excluded a further 335 documents. During the third (suitability) phase, we reviewed those documents suitable for whole-text review (n = 5) and applied the inclusion criteria to exclude a further one (1) document. During the last (inclusion) phase, we included four documents for final analysis. More detailed information can be found in the scientific monograph.

6.6 Linked to the 'Applied research into child well-being' article

Author: Urban Boljka (IRSSV)

Methods used to produce the regional child well-being index (RIBO)

Data normalisation or linking

RIBO comprises 40 indicators expressed in their original form by means of various measurement scales (e.g. proportion of children, mortality rate, number of points, etc.). In order to ensure comparability between the data and to enable disproportionate indicators to be combined, we first normalised all the indicators. We used the **Min-Max** method, where 'b' is the maximum value of the interval (or 100) and 'a' is the minimum value (or 0). In this way, we normalised all indicators using the same ranking [0, 100]. We also 'reversed' the values of some of the indicators so that, in all cases, a high indicator value meant a positive direction of measurement.

Index aggregation and calculation

After recalculating the indicators/normalising the data, we first calculated ten sub-indices, i.e. for each area separately, and expressed them using the average value of all normalised indicators for a specific area. The final index therefore constitutes the average value of these ten sub-indices/areas. It follows from this calculation method that each area has the same weight within the index structure, i.e. one tenth. As areas are comprised of differing numbers of indicators, the indicators make different contributions to the final calculation.

Missing values

We entered these values using multiple imputation by chained equations (MICE) and the predictive mean matching (PMM) model. This is a very flexible model that places no preconditions on the distribution of data and also preserves distributions within the data so that the values entered are quite close to the remnants of the original data.

6.7 Linked to the Alcohol in Slovenia: How big is the problem, where have we been successful and where do the opportunities still lie?

Author: Sandra Radoš Krnel (NIJZ)

We employed several research methods in order to prepare an overview of issues relating to the alcohol problem in Slovenia. Alcohol consumption and part of the alcohol consumption burden in Slovenia were assessed based on data analysis on the recorded per-capita pure alcohol consumption, information on the drinking habits of people from population studies, and selected health consequences of alcohol consumption. We used two NIJZ population studies to assess the drinking habits of the Slovenian population: (i) the National Survey on Tobacco, Alcohol and Other Drugs (the ATADD research study), which twice surveyed the 15–64 age group in Slovenia (on the first occasion in two parts in 2011 and 2012, and on the second occasion in 2018) and (ii) the Health Behaviour in School-Aged Children study (HBSC study), which is an international research study that takes place every four years (2002, 2006, 2010, 2014 and 2018) and covers 11-, 13- and 15-year-olds (with 17-year-olds added from 2018). When observing the health consequences of alcohol consumption in the relevant chapter, we focused on the data on mortality from chronic liver disease and cirrhosis, which are largely the result of alcohol consumption. We obtained the figures on the number of deaths from chronic liver disease and cirrhosis from the Mortality database (IVZ46). Three diagnoses from the tenth revision of the International Statistical Classification of Diseases and Related Health Problems were included: alcoholic liver disease (K70), chronic hepatitis not elsewhere classified (K73) and fibrosis and cirrhosis of the liver (K74). A partial analysis of alcohol policy was also undertaken. It contained an overview of existing legislation, measures and literature. The TAKE CARE programme was designed using a transtheoretical model of change within the framework of motivational interviews, learning by experience, psychological education and peer education (230). The programme includes a selective and indicated (indicative) preventive and multi-level approach. The target groups for the selective preventive approach are specific groups of people whose degree of risk of developing dependence is considerably higher than the average even though they do not yet exhibit signs of hazardous alcohol consumption or illicit drug use. The TRATAC project is an applied development project conducted in several stages: the development of an interdisciplinary approach, the establishment of cooperation with stakeholders, the pilot implementation of measures with prior training, an evaluation that includes adjustments to the proposal, and the proposal for establishment of the approach at the level of the system as a whole. The target groups are providers of the approach and members of the community (professional circles and the general public). The pilot is being conducted in 18 interested local environments around Slovenia and includes the interdisciplinary cooperation of stakeholders at the local and regional levels (232).

6.8 Linked to the 'Inequalities in the relationship between the long-term care and healthcare of the elderly' article

Authors: Andrej Srakar, Miha Dominko (both IER)

The Survey of Health, Ageing and Retirement in Europe (SHARE) is a multidisciplinary, cross-national panel database of micro data on the health, socioeconomic status and social and family networks of over 140,000 individuals aged 50 and over. The survey covers 27 European countries and Israel.

Slovenia has been a part of SHARE since the fourth wave of the survey in 2011. We therefore make use of data from the fourth to seventh waves. SHARE data enables the creation of representative samples of persons aged over 50 in all participating countries, and is one of the best sources of data on older people currently available at international level. Our final sample covered 1,354 older people observed through four waves of the survey.

Our basic mediation analysis model is presented in Fig. 6.1. and shows that all three groups of variables (basic, indirect and final) were in a reverse correlation to each other.

We solved this problem by reformulating it into a longitudinal mediation analysis (using one of the most commonly used models in this area, the cross-lagged panel model), where, for example, the receipt of long-term care in time t-2 determines the health of an elderly person in time t-1, which in the end affects their need to use healthcare services in time t.

The model employed three groups of variables: dependent variables (indicating the use of healthcare services), indirect variables/mediators (indicating health status) and independent variables (indicating the receipt of long-term care).

The mediation analysis method used creates a rough estimate of the relationship with the independent variable X, which affects the final outcome directly and indirectly (by affecting the indirect variable M) Y. A basic picture of this analysis is shown in the figure below.

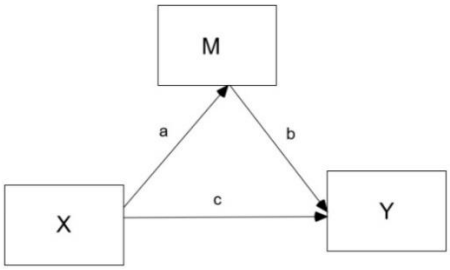


Fig. 6.1: Basic mediation analysis model
Source: Chen, LJ and Hung, HC 2016 (313).

In their paper, Gollob and Reichardt (1987) discussed the problems involved in using basic mediation analysis on cross-sectional data (314). For the purpose of our analysis, we therefore used a longitudinal mediation analysis that estimated the upper direct and indirect relationships over time and was a combination of the dynamic panel models familiar from statistics and econometrics, with the modelling of structural equations. This approach enables us to overcome the multiple reverse correlation present in our model, which can cause statistical problems.

6.9 Linked to the ' Inequalities in the receipt of long-term care from the aspect of life cycle' article

Authors: Andrej Srakar, Miha Dominko (both IER)

Our basic regression model is of the panel type and is decomposed using a suitable regression decomposition of the Oaxaca-Blinder type (315).

6.10 Linked to the 'Regional inequalities in child vulnerability during the coronavirus epidemic' article

Authors: Tamara Narat, Urban Boljka, Maja Škafar, Mateja Nagode (all IRSSV)

We drew the data for the analysis from the 'Everyday lives of children during the coronavirus epidemic' research study. As we highlighted at the outset, in May and June 2020 the Social Protection Institute (IRSSV) conducted a survey of primary and secondary school children to find out how they experienced the coronavirus epidemic.

Data collection

We obtained data on child vulnerability during the epidemic by means of an online questionnaire, which we sent to all primary and secondary schools in Slovenia (primary sampling unit) on 27 May 202026. We thereby obtained an implicit list of units of primary and secondary school pupils, who are the secondary sampling unit. We did not have lists of all units (primary and secondary school pupils) but relied on the schools themselves (headteachers and the persons charged by them with administering the questionnaire). Regarding the primary and secondary school pupils who responded to the questionnaire, we know which municipalities they come from and which year they are in (but not which school they attend). While we did not monitor the response on a school-by-school basis, we did issue a re-invitation to participate to schools in those statistical regions in which there was a lower level of response to the questionnaire27. In order to reach the most vulnerable groups of children, we also sent the questionnaire to non-governmental organisations that provide social protection programmes aimed at children and adolescents and are co-financed by the Ministry of Labour, Family, Social Affairs and Equal Opportunities.

The questionnaire was completed on a voluntary basis by children aged between 10 and 19, i.e. school-age children, but excluding those in the first three years of primary school. Research study preparations included the participation of the line ministry in coordination processes and the provision of advice on the content of the questionnaire, while comments were provided on content and implementation by the National Institute of Public Health (NIJZ).

We completed the survey process on 1 July 2020. A total of 5,291 pupils and students provided adequate responses to the questionnaire.

[26] We issued another invitation to all schools to take part (2 June 2020). We later issued another invitation to take part to those schools in statistical regions with lower levels of response (12 and 17 June 2020).

[27] 12 and 17 June 2020.

6.11 Linked to the 'Health inequalities resulting from COVID-19' article

Authors: Andrej Srakar, Miha Dominko (both IER)

For this purpose, we usually estimate several regression equations: one in which the dependent variable is the final outcome and the independent variable is the initial 'impulse', another in which the mediator replaces the initial impulse as the independent variable, the third in which the mediator is the dependent variable (the initial impulse is the independent variable) and the last in which we make all three variables dependent, and take the final outcome as the dependent variable and the initial impulse and the mediator as the independent variables. As shown in the diagram below, both direct and indirect effects can therefore be calculated from the results of these estimated equations.

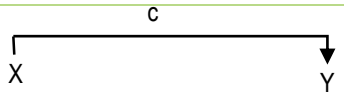
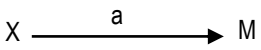
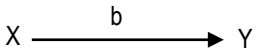
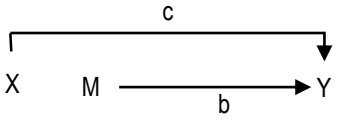
	Analysis	Visual Depiction
Step 1	Conduct a simple regression analysis with X predicting Y to test for path c alone, $Y = B_0 + B_1X + e$	
Step 2	Conduct a simple regression analysis with X predicting M to test for path a, $M = B_0 + B_1X + e$	
Step 3	Conduct a simple regression analysis with M predicting Y to test the significance of path b alone. $Y = B_0 + B_1X + e$	
Step 4	Conduct a multiple regression analysis with X and M predicting Y, $Y = B_0 + B_1X + B_2M + e$	

Fig. 6.2: Basic diagram of the methodological approach
Source: Baron, RM and Kenny, DA 1986 (316) in (317).

To assess the impact of the national lockdown during the first wave of the epidemic, we used data from the informal COVID-19 Tracker ('Sledilnik'), which was established at the start of the epidemic by a small group of enthusiasts. Luka Renko began by collecting data and was then joined by Miha Kadunc and Andraž Vrhovec. They also managed to bring into the project the internationally renowned Slovenian statistician, computer scientist and entrepreneur Dr Aleks Jakulin, who was detained in Slovenia during the first wave. The Tracker is probably the initiative that provided the most professional and unbiased data on the epidemic (collected from a variety of sources) during that period. At the same time, it published a large amount of content of public interest, as well as mathematical (simulation) and statistical models.

In our short analysis, we relied on the causal model of the epidemic produced by Victor Chernozhukov, Hiroyuki Kasahara and Paul Schrimpf, which is perhaps the best known model at international level (265). In this model, we estimate the direct and indirect impact of a certain measure on the final indicator of the epidemic, but with a suitable, pre-selected delay (in our case, ten days). The measure is mediated through people's behaviour, which we estimate ourselves using the changes in mobility variable (Google data). The model also contains several independent ('control') variables.

6.12 Linked to article: 'Will the COVID-19 pandemic deepen inequalities in the health of the Slovenian population?'

Authors: Darja Lavtar, Maruša Rehberger, Andreja Belščak Čolaković, Ada Hočevar Grom, Mojca Gabrijelčič Blenkuš (all NIJZ)

The Behavioural Insights Survey on COVID-19: Slovenia - (SI-PANDA) gives a better understanding of the behaviour of people during and after the COVID-19 pandemic in Slovenia (318). The survey, in the form of an online questionnaire, was conducted in twelve waves (once every two weeks) starting on 4 December 2020. The survey was conducted on behalf of the National Institute of Public Health (NIJZ) by the Mediana Institute for Market and Media Research. The data was analysed by the NIJZ.

Every two weeks, selected panel members were invited to take part in an online survey conducted through Mediana's web panel. The sampling framework was representative of the Slovenian population by gender, age groups and statistical regions. The people selected for the sample were selected randomly from the panel members and in proportion to the selected demographic characteristics relative to the structure of the population. A sample of around 1,000 adults aged between 18 and 74 took part in each wave of the online panel survey (319).

The study used a World Health Organization (WHO) questionnaire (320), which we translated and adapted to conditions in Slovenia in line with WHO instructions.

The publication presents data from the seventh and eighth waves of the online panel survey, which took place between 26 February and 1 March and 12 and 15 March 2021 respectively. The sample for the seventh and eighth waves contained 1,000 and 1,002 adults aged between 18 and 74 respectively (272), (273). Some comparisons are also made with previous waves of the survey.

The data presented in the publication is weighted by gender, age groups and statistical regions. The results of the survey of the impact of the pandemic on individuals' financial situation, contact with doctors, lifestyle and mental health are shown as total percentages for all respondents and for specific groups of the population.

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8 LIST OF FIGURES



The report on health inequalities makes a valuable contribution to the study of such inequalities in Slovenia. We can only hope that those charged with planning public policies and those that decide on them treat it as a vital pillar of their decision-making. In addition to analysing the numerous indicators of differences in health, the report draws attention to the structural inequalities that need to be addressed by health and social protection policies. It is distinguished by its interdisciplinary nature and its interpretations of inequalities, which implicitly and explicitly, and from different perspectives, point out the problematic nature of policies in the areas concerned.

Met ka Mencin-Čeplak

The process of reducing health inequalities can be tackled at various dimensions of the issue. The measures taken so far in Slovenia have tended to focus mainly on mitigating the consequences and less on eliminating the causes. The report defines itself as the first step on the path towards support for evidence-based political decision-making, which will be followed by a joint interdisciplinary research platform for bolstering measures to increase well-being and reduce health inequalities, and its insertion into the government's decision-making practices. Strong efforts will be required to overcome the current political power games going on between parties and groups, and to raise the common interest above that of a particular government – or at least, to bring those interests together.

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