Healthier together

EU Non-Communicable Diseases Initiative

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Discussion version

Does not engage the Commission or the Member States

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Healthier together
EU Non-Communicable Diseases Initiative

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Version	Date	Main changes
1.0	January 2022	n.a.
1.1	February 2022	Introduction of specific comments from Member States Introduction of comments from the WHO, OECD and the European Observatory on Health Systems Introduction of a section describing and highlighting the integrated approach Addition of more examples of policy options and best practices throughout the main text Introduction of possible options for Member State collaboration Shortening of the core chapters with detail transferred to annex Expansion of annex 2 Introduction of annex 3
1.2	March 2022	Introducion of comments from the Member States, OECD and stakeholders Shortening of section 2 to focus on Member States' priorities; explanatory text transferred to annex 2 Addition of possible options for Member State collaboration Restructuring of annex 3, distinguishing between types of actions Introduction of annex 5

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1th edition

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Executive summary

The European Commission has launched the **Healthier together - EU Non-Communicable Diseases Initiative** (EU NCD Initiative) to support EU countries in identifying and implementing effective policies and actions to reduce the burden of major non-communicable diseases (NCDs) and improve citizens' health and well-being.

The initiative will cover the period **2022-2027** and include five strands[1]: 1. a horizontal strand on **health determinants**, which applies to health promotion and prevention of all major NCDs, 2. **diabetes**, 3. **cardiovascular diseases**, 4. **chronic respiratory diseases**, and 5. **mental health and neurological disorders.** While the strands will allow to address particular challenges of each disease group, the initiative will promote a non-disease specific **integrated and coordinated approach to prevention and care**.

All the strands will cover transversal aspects such as **health inequalities, social determinants, vulnerable population groups, health literacy, and age/gender/culture sensitivity**. In parallel, the initiative will support, across multiple sources of morbidity, an interconnected **patient-centred pathway** including health promotion, disease prevention, screening and early detection/diagnosis, treatment, rehabilitation and support to quality of life.

The first step of this initiative is to co-create a document together with EU countries' competent authorities, with input from relevant stakeholders (January-May 2022). This document will help to **orientate policies and set up a basis for implementation** of actions over the next years. It consists of i) an overview of **evidence-based and/or promising actions** that EU countries' authorities could consider and prioritise to reduce the burden of NCDs, and ii) an overview of **EU financial and legal tools** that will then help translate the prioritised actions into reality on the ground.

In this way, the document will be a **toolkit to guide and coordinate action on NCDs**, identifying, and helping to create the **windows of opportunity for high-impact actions to be implemented** across EU countries. Such actions may include the uptake of nationwide or EU-level policies and transfer of good practices, the development and implementation of guidelines and recommendations, the piloting and rolling out of innovative approaches, or the launch of projects expected to have a significant impact.

This document consists of two parts. Part A provides an **outline of the co-creation process** to develop the EU NCD Initiative. This innovative process will include regular meetings with the competent authorities of the EU countries and with relevant stakeholders, to shape the initiative based on their needs and to explore opportunities for collaboration. Alignment will also be sought with the European Investment Bank (EIB), the World Health Organization (WHO), the European Observatory on Health Systems and Policies, and the Organisation for Economic Co-operation and Development (OECD).

Part B serves as a draft description of the EU NCD Initiative, meant to **collect suggestions and comments**. It starts with a brief description of the challenge that NCDs pose on EU countries and explains the added value of working together at EU level in this area. It then provides an overview of (potentially) **effective and ambitious policies, good practices and other actions** in each strand. This list, to be completed during the drafting process, is meant as a starting point and inspiration for a collaborative process, leading to the prioritisation of policies, good practices and other actions that will have a significant impact on the burden of NCDs in Europe. Suggestions will include both **collaborative actions between EU countries and between countries' competent authorities and stakeholders**.

[1] Note that actions on cancer, also considered a major NCD, will be supported via the Europe's Beating Cancer Plan: https://ec.europa.eu/health/system/files/2021-02/eu_cancer-plan_en_0.pdf.

Part B also includes an **overview of EU financial and legal tools**, to help countries' authorities and stakeholders make use of the full potential of EU instruments for reducing the human and financial cost of NCDs. In this way, the document will collect and suggest ideas and opportunities for collaboration to increase the implementation of high-impact actions, while also identify and create opportunities for support to those actions.

Part A – Outline

Complementing the Europe's Beating Cancer Plan, the European Commission launched in December 2021 the Healthier together - EU Non-Communicable Diseases Initiative (EU NCD Initiative). This initiative aims to support EU countries in reducing the human and financial burden of non-communicable diseases (NCDs), hence helping them to achieve the United Nations Sustainable Development Goal Target 3.4, i.e., to **reduce premature mortality from NCDs by one third by 2030, and promote mental health and well-being**.[2]

The EU approach to the challenge of NCDs involves an integrated response across all sectors and policy fields. It will do so by reinforcing and supporting **policy implementation and effective action of EU countries' health authorities and stakeholders** in five strands: 1. health determinants, which is a horizontal strand that applies to health promotion and preventive actions addressing all major NCDs, 2. diabetes, 3. cardiovascular diseases, 4. chronic respiratory diseases, and 5. mental health[3] and neurological disorders. Part B and Annex 1 provide more information about the rationale for selecting the five strands.

All the strands will cover transversal aspects such as **health inequalities, social determinants, vulnerable population groups, health literacy, and age/gender/culture sensitivity**. In parallel, the initiative will support, across multiple sources of morbidity, an interconnected **patient-centred pathway** including health promotion, disease prevention, screening and early detection/ diagnosis, treatment, rehabilitation and support to quality of life.

The focus of the EU NCD Initiative will be on **health promotion and disease prevention**, this arguably being one of the most underinvested areas. Nevertheless, and reflecting the experience with the Europe's Beating Cancer Plan, the Commission welcomes countries' competent authorities to identify and prioritise actions within a broader spectrum. As such, the initiative can support:

- improving knowledge and health data,
- health promotion and disease prevention, including screening and early detection,
- optimising tools for diagnostics, treatment and disease management,
- improving the quality of life of people living with NCDs and their families.

Concrete actions may consist of **implementing comprehensive public health policies, transferring good practices, developing guidelines, rolling out innovative approaches or launching projects expected to have significant public health impact**.

The EU4Health Programme[4] is a game changer for improving EU citizens' health, and with at least 20% of its budget reserved for health promotion and disease prevention, it will give substantial attention to the prevention of NCDs and the strengthening of health systems, including the effort to transfer and implement validated good practices, supporting the EU countries in tackling NCDs and addressing health inequalities.

Member State ownership

In an innovative way, the EU NCD Initiative will be **co-created with the EU countries' competent authorities with input from relevant stakeholders**. This participatory process will ensure

[2] Targets 3.a, strengthening the implementation of the WHO Framework Convention on Tobacco Control, 3.5, strengthening the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol, and Goal 2 on nutrition are also relevant.

[3] Under this topic, the Healthier Together aims to encourage positive mental health (and well-being), as well as prevent and tackle mental health conditions, and support people living with such conditions.

[4] https://ec.europa.eu/health/funding/eu4health-2021-2027-vision-healthier-european-union_en

engagement, support, commitment and ownership to orientate the process towards its goal of reinforcing ambitious policy action and implementation on the ground. The drafting process will last from January to May 2022, and will benefit from the support of a scientific secretariat. It will result in a document that will guide both policy and implementation action over the next years.

On 15 December 2021, the Steering Group on Health Promotion, Disease Prevention and Management of Non-Communicable Diseases (SGPP), chaired by DG SANTE, was informed on the launch of the initiative. Representatives of 21 EU countries attended the meeting, together with several Commission services, EU agencies, the EIB and the OECD. The SGPP welcomed and strongly supported the initiative and agreed to set up a subgroup to support its development. The new SGPP subgroup on NCDs had its first meeting on 28 January 2022, chaired by DG SANTE[5].

To share relevant materials, subgroup members could use a restricted network on the Health Policy Platform (HPP)[6]. Importantly, the process of co-creating the initiative will **promote the optimal use of the available financial and legal supportive tools**. In particular, the process will already prepare for two EU Joint Actions under the 2022 EU4Health Work Programme[7], one on health determinants, which will be coordinated with the Europe's Beating Cancer Plan, and a second one combining and integrating actions specifically addressing diabetes and cardiovascular diseases. Subsequently, the initiative will continue to help identify, create and use windows of opportunity for high-impact actions to be implemented with EU support, from the EU4Health Programme and other EU programmes and funding instruments.

Stakeholder engagement

While the policy lead of the EU NCD Initiative lies with the Commission and the EU countries' competent authorities, it is essential to engage civil society in the process to benefit from inputs from key stakeholder groups. The knowledge and experience of networks of patients, health professionals, civil society organisations, and academia are important, as their contributions can help accelerate the implementation of innovations in the area of health promotion and NCDs prevention, both at national and regional/local level. Also, inputs from international organisations, such as the OECD and the WHO, must be harnessed; opportunities shall be created for their meaningful participation and dedicated support.

Stakeholders from countries participating in the EU4Health Programme have been invited to register with a specific stakeholders' network on the HPP, which serves as a central channel for stakeholder communication and engagement. The network is used for relaying information and collecting inputs from stakeholders. They will have the opportunity to provide input at multiple occasions during the process. Most important will be the help of stakeholders in identifying good practices and suggesting and supporting ambitious actions that EU countries may prioritise during the development of the initiative. The same holds for the identification of actions that stakeholders

[5] The subgroup was created to advise on the identification of potential actions, such as the transfer of validated good practices; revision of guidance, protocols, screening guidelines or accreditation schemes; preparation of national plans on NCDs; redesign of prevention and care models; technical and legal preparation of innovative policy initiatives; pilot testing of approaches; preparation of training materials; twinning and sharing actions; to inform on the national and EU-level implementation of NCD related actions, to report on problems related to the voluntary uptake and/or implementation of actions and to provide recommendations to the Commission on ways to support EU countries overcome such difficulties; to provide input and advice on topics related to the reduction of the NCDs burden in EU countries; to highlight complementarities and synergies with other related policies and sectors, e.g., research, environment, employment, and agriculture; to promote the actions at national level and areas for targeted collaboration with stakeholders such as patient and professional associations, academia, etc.

[6] EU Health Policy Platform https://webgate.ec.europa.eu/hpf/

[7] 2022 EU4Health Work Programme (europa.eu)

could lead themselves, to support EU countries in achieving the objectives of the initiative. To collect their inputs, a template has been uploaded to the HPP in January 2022.

Furthermore, a first webinar was held for the NCD stakeholder community, chaired by DG SANTE, on 15 December 2021, in which circa 120 persons participated. During this webinar, the initiative was warmly welcomed and strongly supported by the participating stakeholders. A second stakeholder webinar took place on 3 February 2022, chaired by DG SANTE with about 200 participants. Stakeholders supported the identified areas for action and provided suggestions for priorities.

Process steps

The process steps to develop the EU NCD Initiative are summarised below. The results of steps 1 to 3 will be integrated in the text of the document by June 2022. Step 4 is then expected to follow, starting already in 2022, namely with implementation actions in the EU4Health Work Programme, and continuing beyond.

1. **Inventory of evidence-based and/or promising policies, good practices and other actions, and mapping of financial and legal support instruments**

To encourage EU countries in deciding to launch ambitious policies, good practices and other actions, potentially with EU support, the document includes a list of potential areas of work. This list includes proven effective or promising high-impact, equity-enhancing policies, good practices and other actions, gathered from the work of previous EU-funded Joint Actions, the EU Public Health Best Practice Portal[8], international reference institutions (e.g., OECD, WHO), research projects, systematic reviews of relevant prevention or NCD management interventions, and suggestions from EU countries' authorities and stakeholder organisations. **Countries' authorities and stakeholders are invited to continue to** comment on and suggest additional evidence-based or promising ambitious actions, ranging from, e.g., legislative changes to behavioural interventions targeting specific population or patient groups.

2. **Collecting priorities**

It is important to underline that the approach of this initiative is a **voluntary and flexible** one. EU countries may differ in the challenges they face concerning the incidence and prevalence of specific NCDs, in their approaches to prevent or tackle them, and in the organisation of the health system. Countries' competent authorities are therefore asked to indicate in which areas and actions they are most interested. Stakeholders may provide suggestions for consideration. Besides expressing their priorities, EU countries are also invited to share successful actions they already implemented. These experiences will be essential for providing helpful guidance and identify good practices for other countries to consider and benefit from.

3. **Clustering countries for teamwork**

Countries' ranking of priority areas and actions will allow to **group countries** according to their interests. This will enable to identify **opportunities for teamwork** and to suggest specific exchanges of experience, mentoring or peer support between countries. This may be based on the similarity of challenges and/or the teaming of countries that have successfully tackled a specific problem with

[8] https://webgate.ec.europa.eu/dyna/bp-portal/

countries that are at the start of doing so. **Opportunities for combining the efforts of public authorities and stakeholders** to achieve objectives or develop joint projects will also be identified.

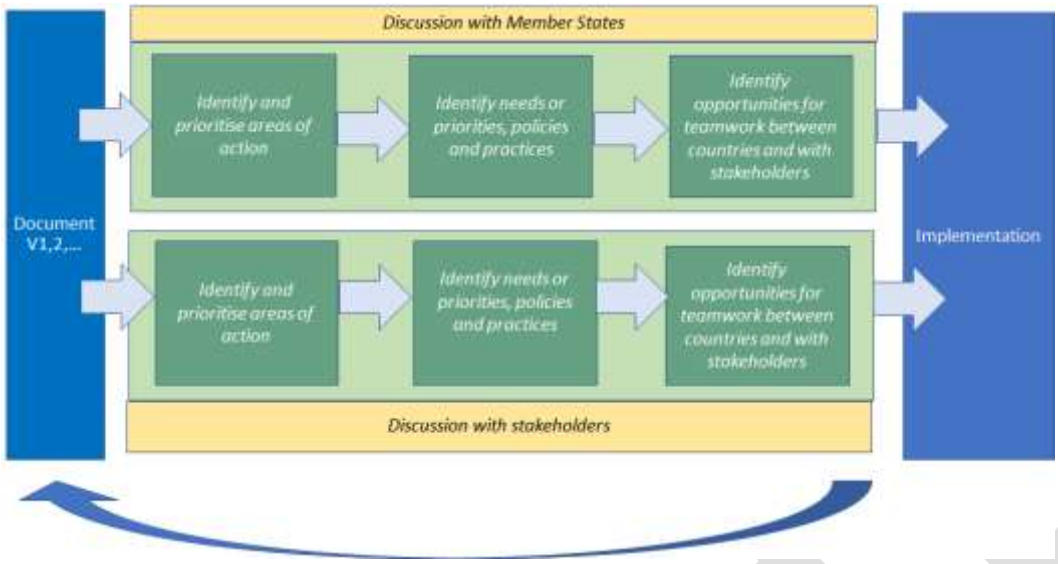
4. Implementation (with support of EU-level instruments)

The process should **ultimately result in the implementation of actions on the ground** – and selecting actions that could benefit from EU funding to achieve faster or wider deployment. The final step of this process will be for EU countries and stakeholders to apply for support and funding for the implementation of their selected actions using the EU level instruments. To facilitate this process, an overview of available financial and legal support instruments for the years 2022-2027 is provided in the document. This may support the overall efforts to help national authorities explore synergies and complementarities within the EU budget. Commission services participate in the discussions of the EU NCD Initiative and may in this way be better informed of countries' and stakeholders' needs and priorities, when conducting their programming. This may open additional doors for EU support to priorities identified.

Table 1 includes the provisional calendar of consultation meetings, while Figure 1 depicts the process of collecting inputs from both countries and stakeholders.

Dates (tbc)	*Event*
15 December 2021	SGPP and stakeholders webinars
28 January 2022	SGPP subgroup webinar
3 February	Stakeholders webinar
3 March	SGPP subgroup webinar
17 March	Stakeholders webinar
8 April	SGPP subgroup webinar
27 April	Stakeholders webinar
19 May	SGPP subgroup webinar (joint meeting with the SGPP subgroup on cancer)
3 June	Stakeholders webinar
22 June	Launch event

Figure 1. Collection of inputs from EU countries' authorities and stakeholders



Part B – Healthier Together - EU NCD Initiative

This part describes the EU NCD Initiative in more detail. Chapter 1 explains why and how EU countries may provide a strong response to the increasing burden of NCDs, including the EU added value of working together in this area. More background information on the burden of NCDs and their risk factors is included in Annex 1.
Chapter 2 provides an overview of areas for action in each of the five strands, including examples of potential policies, good practices and other interventions to consider for implementation. An extensive list of potential interventions, distinguishing large-scale policy options and targeted interventions or best practices, is included in Annex 3. This list, to be completed during the drafting process, is meant as inspiration for a collaborative process with the EU countries, with input from stakeholders, ultimately leading to the implementation of selected effective and/or promising interventions, which may include collaborative actions between countries as well as between authorities and stakeholder groups.
Chapter 3 will then provide an overview of relevant EU supportive instruments, including both legal and financial tools, to help countries make use of the full potential of EU support. In this way, the initiative will collect and suggest ideas and opportunities for collaboration within the EU, which will increase the chances of implementing high-impact actions, while also identifying and opening opportunities for adding support to those efforts.

1. Reducing the burden of NCDs

There is a strong rationale for increasing the efforts to address NCDs at this moment, which lies in the increasing burden of NCDs and the necessity to put more – and also more ambitious – efforts in priority areas to reduce this burden. Annex 1 provides an overview of the challenge of NCDs for Europe; this chapter explains the urgency as well as the opportunities for countries to act strongly upon NCDs, including the added value of concerted efforts at EU level.

Currently, about two thirds of all deaths in the European region result from diabetes, cardiovascular diseases, chronic respiratory diseases, and mental health conditions. Large inequalities in life expectancy exist between socioeconomic groups within EU countries. Significant inequalities also exist between EU countries, which relates to the much higher mortality rates of certain NCDs, in particular cardiovascular diseases, in some countries than in others. NCDs do not only affect life expectancy, they are also responsible for 77% of the disease burden in the European region.[9] They cause substantial human suffering and threaten the financial position of households, which reduces participation opportunities for all household members, including children. Moreover, the societal costs of NCDs are huge and expected to grow further, considering also the EU's ageing population. NCDs account for the largest part of countries' healthcare expenditures, costing EU economies EUR 115 billion, or 0.8% of GDP, annually.[10] NCDs also entail other societal costs, such as loss of productivity, loss of workforce, loss of informal care, costs of social insurance and social care.

Major lifestyle related risk factors of NCDs are tobacco use, alcohol consumption, an unhealthy diet and physical inactivity.[11] Effective health promotion and preventive strategies that address both individual behaviours and facilitate healthy choices are needed to substantially reduce the

[9] WHO/Europe | Noncommunicable diseases

[10] OECD/EU (2016), Health at a Glance: Europe 2016 – State of Health in the EU Cycle, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264265592-en

[11] https://www.who.int/health-topics/noncommunicable-diseases#tab=tab_1

prevalence and mortality of NCDs. Considering that improved health promotion and disease prevention can reduce the prevalence of NCDs by as much as 70%[12], implementing such integrated strategies on a large scale within the EU can be cost-effective and generate substantial health and wellbeing gain. Particular attention must be paid to social determinants, as these are responsible for large inequalities in the prevalence and mortality of NCDs.

While there is substantive knowledge of the major determinants underlying NCDs occurrence and progression, policy interventions that can have a significant impact have not been implemented to their full potential within the EU.[13] In 2018, no more than 2.8% of total health expenditure in the EU was spent on prevention[14], whereas the costs of treating NCDs are high. In addition, despite the high expenditures for NCDs management, many patients experience the quality of care as suboptimal, a lack of care coordination and integration, little involvement in decision-making and co-creation, and unmet needs.[15] These deficiencies are even more strongly felt by people with multimorbidity.[16] Considering the high challenge of NCDs for individuals, households, health systems and societies already now and in the future, authorities have a responsibility as well as opportunities to increase efforts to proactively combat NCDs and achieve the United Nations SDG Target 3.4 to reduce premature mortality from NCDs by one third by 2030, through prevention and treatment, and promote mental health and wellbeing.

Having collaborated on NCDs already for many years[17], the Commission and EU countries' health authorities underline that reducing the burden of NCDs has become even more urgent as a result of the COVID-19 pandemic. The almost exclusive focus of countries' health systems on COVID-19 since 2020, has had major consequences, with many instances of diagnosis and treatment of NCDs being forcibly postponed. In addition, people living with NCDs who become infected with the coronavirus SARS-CoV-2 are at increased risk of developing more severe illness as a consequence of that infection. In parallel, the related burden of mental illness has increased, reflected in a significant rise of reported anxiety and depressive disorders in most European countries.[18] The current humanitarian crisis in Europe, with many refugees arriving from Ukraine to find shelter in the EU for a short or longer period of time, will also inevitably increase the burden of NCDs and in particular of mental illness in EU countries, with substantial impact on countries' resources.

Furthermore, rises in unhealthy behaviours, such as worse nutrition patterns and physical inactivity, have been observed. As a consequence, a health situation that was already serious has become

[12] Reference to be included

[13] For example, the insufficient implementation of the WHO Framework Convention on Tobacco Control https://www.euro.who.int/en/health-topics/disease-prevention/tobacco/publications/2020/factsheets-on-who-fctc-implementation-through-mpower-in-the-who-european-region-2020

[14] 3% of healthcare expenditure spent on preventive care - Products Eurostat News - Eurostat (europa.eu)

[15] Fradgley EA, Paul CL, Bryant J. A systematic review of barriers to optimal outpatient specialist services for individuals with prevalent chronic diseases: what are the unique and common barriers experienced by patients in high income countries? *Int J Equity Health*. 2015; 14: 52. doi:10.1186/s12939-015-0179-6

[16] van der Aa MJ, van den Broeke JR, Stronks K, et al. Patients with multimorbidity and their experiences with the healthcare process: a scoping review. J Comorb. 2017; 7(1): 11-21. doi:10.15256/joc.2017.7.97

[17] The Commission and EU countries have worked together on NCDs for many years, and a reflection process to optimise the response to NCDs and the cooperation between EU countries took place already in 2011. This was supported via initiatives such as, the Joint Action on chronic diseases (JA CHRODIS), the Joint Action Reducing Alcohol Related Harm (JA RARHA), the Joint Action on frailty (ADVANTAGE JA), the Joint Action for Mental health and Well-being, and the Joint Action(s) on Dementia. Late 2016, the Commission set up a successful approach to transfer and replicate best practices on health promotion and disease prevention, with the Steering Group on Health Promotion, Disease Prevention and Management of NCDs (SGPP) being key to prioritise areas of work and to identify and transfer activities on the ground. Best practice transfer was then supported via additional Joint Actions on chronic diseases (CHRODIS+), nutrition (Best-ReMap) and mental health (ImpleMENTAL), and also through projects such as Young 50 and EUPAP (both aiming to reduce cardiovascular risks), WholEUGrain (nutrition), and EAAD-Best (suicide prevention).

[18] https://ec.europa.eu/health/system/files/2021-12/2021_companion_en.pdf

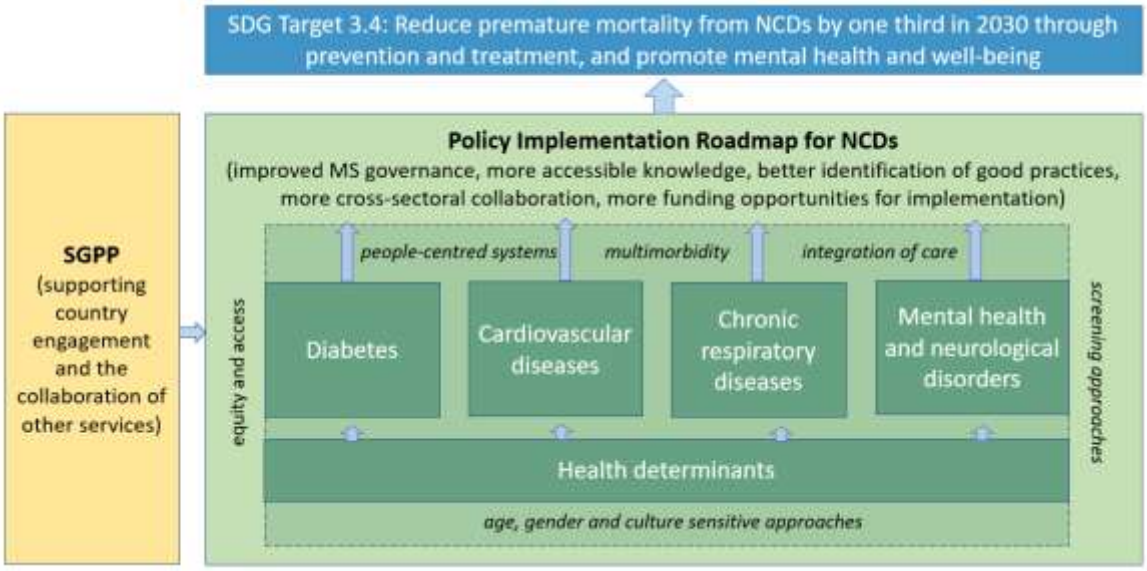
even more problematic. Working harder and smarter to reduce the burden of NCDs should now be part of our efforts to learn from the pandemic and build back better.

The European Commission aims to support EU countries in their efforts, and has therefore initiated the **EU NCD Initiative**. With this initiative the Commission wants to help EU countries implement effective strategies and interventions to combat NCDs. Figure 2 outlines the initiative, illustrating the five strands through which policy implementation and effective action of EU countries' health authorities and stakeholders could be reinforced and supported: 1. health determinants, a horizontal strand that applies to all major NCDs, 2. diabetes, 3. cardiovascular diseases, 4. chronic respiratory diseases, and 5. mental health and neurological disorders. Annex 1 provides more information about the rationale for selecting these five strands.

Within each of these strands the initiative will also focus on important transversal themes, such as the reduction of health inequalities within and across EU countries, including the empowerment of people and communities and multisectoral actions; effective screening approaches; the implementation of age-, gender-, and culture-sensitive interventions; and health system redesign to adopt a life course approach and prevention perspective, improve people-centredness and integration of care to prevent and better manage NCDs, also in the context of multimorbidity.

The focus of the EU NCD Initiative will also be on **health promotion and disease prevention**, this arguably being one of the most underinvested areas. Nevertheless, and reflecting the experience with the Europe's Beating Cancer Plan, the Commission welcomes countries' competent authorities to identify and prioritise actions within a broader spectrum.

Figure 2. The EU Non-Communicable Diseases Initiative



[In complementarity and synergy with the Europe's Beating Cancer Plan, namely in what concerns risk factors/health determinants]

The initiative provides opportunities and demonstrates the added value of a collaborative approach to combat NCDs at EU level, namely in:

- Areas of EU (legal) remit: tobacco advertising, promotion and sponsorship (Tobacco Advertising directive), tobacco product regulation (Tobacco Products Directive - including labelling, ingredients, quality and safety measures, etc.), smoke-free environments (Council Recommendation), alcohol and tobacco excise duties, occupational health and safety, audio-visual media services, cross-border public procurement, Value Added Tax, etc.;

- Topics with major initiatives and political guidance: European Social Pillar, European Child Guarantee, cancer screening recommendations, etc.;
- Areas of economies of scale or for which scientific developments should translate into similar approaches for evidence-based (health) systems, interventions, and policymaking. This may include the European Cancer Code or collaboration on better feedback to policy or on setting research agendas to effectively address gaps while avoiding overlaps and waste;
- Sharing of good practices taking advantage of the EU as a natural test bed for experimentation and evaluation of different approaches and interventions, possibly advancing towards increased coordination of methods and standards;
- Voluntary collaboration and peer support, considering that avoiding pitfalls, learning from others' mistakes, and leaning on each other is especially important when addressing complex, controversial issues, or topics where important legitimate interests collide or where long-term horizons and action are required but difficult to implement;
- Direct management, indirect management and shared management programmes that can boost, expand, and accelerate the investment in key areas for fighting NCDs burden, from health promotion and disease prevention, to building primary care centres, to supporting professional training to testing new cross-silo approaches.

The above will be accomplished in complementarity and synergy with the Europe's Beating Cancer Plan. Launched in February 2021, the Europe's Beating Cancer Plan[19] aims to tackle the entire disease pathway, focusing on the key action areas where the EU can add the most value: (1) health promotion and disease prevention; (2) early detection; (3) diagnosis and treatment; and (4) quality of life of people living with (a history of) an NCD.

The Europe's Beating Cancer Plan and the EU NCD Initiative will be aligned by their joint focus in the areas of health promotion and prevention, as well as early detection.

[19] Including the EU Mission - Cancer https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/cancer_en

2. Pursuing ambitious action

This chapter starts with an introduction of transversal aspects that apply to all strands of the NCD Initiative as part of an integrated approach towards the prevention and management of NCDs.

Next, it provides an overview of possible areas for action per strand with a focus on ambitious policy and population-wide approaches, as requested by several EU countries. The purpose is to inspire EU countries to identify their priorities and choose their preferred course of action under the EU NCD Initiative. This section also provides some examples of potentially (cost-)effective intervention strategies that may be considered under each area. A more extensive list of possible actions, distinguishing large-scale national/regional policy options and targeted interventions or best practices, can be found in Annex 3. This list will continue to be updated throughout the development process of the initiative, with inputs from countries' authorities, stakeholders, and international organisations such as the OECD and the WHO.

2.1. Integrated approach

While the strands will allow to address specific challenges of each disease group, the initiative will promote a non-disease specific integrated and coordinated approach to health promotion, prevention and management of NCDs. This is because major NCDs share many risk factors, which could be addressed more effectively and efficiently by an integrated and coordinated approach. The initiative will therefore support, across multiple sources of morbidity, an interconnected person-centred pathway including health promotion, disease prevention, screening and early detection/diagnosis, treatment, rehabilitation and support to quality of life.

2.1.2 Possible priority areas

Transversal actions that EU countries may consider to further develop and implement may relate to the following prority areas:

- Reducing health inequalities by addressing social determinants, health literacy and digital literacy;
- Digital tools to support health promotion, disease prevention and management;
- Integration of health promotion and disease prevention in the health system;
- Enhancing and implementing effective screening approaches;
- Implementing (updated) evidence-based guidelines for healthcare professionals;
- Health system redesign to deliver person-centred and integrated care;
- Age-, gender- and culture-sensitive strategies for health promotion, disease prevention and management;
- Regulation and support for people with NCDs and their caregivers to facilitate social and labour participation;
- Regulation and interventions to support the availability of NCD data for decision-makers.

These areas are described in more detail in Annex 2, in order to inspire countries to consider the implementation of high-impact transversal actions within or alongside each of the strands. A list of possible actions on an integrated approach is included in Annex 3.

2.1.1 Member State considerations

The table below shows the Member States' views on possible priority areas with respect to transversal aspects that apply to all strands of the NCD Initiative.

Table 2.1. Priority areas of Member States

Integrated approach	Number of Member States that endorse the priority areas
Reducing health inequalities by addressing social determinants and health literacy	13
Age, gender and culture sensitive health promotion, disease prevention and management	11
Effective screening approaches	6
Health system redesign to deliver person-centered and integrated care	13
Supporting people with NCDs and their caregivers to remain active and participate in the labour market	8
*Addressing healthy lifestyles in the health system in an integrated way**	*1*
*Improving the availability of NCD data for decision-makers**	*1*

** Added by Member States.*

2.2. Health determinants

Actions under this strand will contribute to **reduce the risks of developing NCDs by focusing on health promotion and disease prevention.** This strand of the initiative therefore welcomes actions to address health determinants with a focus on **lifestyle determinants**, in particular those that contribute to the development of the major NCDs: tobacco and nicotine use, harmful alcohol consumption, unhealthy diets and physical inactivity. Addressing these lifestyle determinants will also reduce the occurrence of personal risk factors in many people, such as high blood pressure, glucose intolerance, overweight and obesity. Health determinants other than lifestyle determinants may also be addressed, depending on the priorities indicated by EU countries and in cooperation with relevant Commission departments. The actions under this strand will be complemented by specific actions under the other strands, while also paying attention to the reduction of health inequalities.

2.2.2 Possible priority areas

EU countries may wish to introduce:

- ambitious policies and interventions to reinforce a healthy lifestyle and prevent unhealthy behaviours, for instance, by improving health literacy and awareness raising campaigns (also using social media or other channels to reach all population groups) and support interventions for smoking cessation, guidelines for brief interventions on alcohol, reducing

aggressive online and TV marketing to children and teenagers, setting targets for food reformulation, using behavioural approaches to promote healthy choices in school canteens, revising public procurement guidelines for purchasing food, launching actions to fight physical inactivity in the workplace, etc.

- a 'health in all policies' approach, or increased coordination of work between different ministries, to reinforce the collaboration between health promotion and disease prevention services and occupational health and safety in the workplace, or to improve the nutritional balance of food provided to the most disadvantaged population groups.
- policies to reduce income inequality, improve public housing, address climate change, or reduce exposure to air pollution or noise, to radon, or to pesticides. Note that the scope of this third type of policies would make them eligible for support only outside of the EU4Health programme.

Suggested priority areas in this strand are:

1. Control smoking of tobacco and related products among the general population
2. Prevent children, adolescents, and young adults from starting to smoke tobacco and related products
3. Reduce harmful consumption of alcohol among the general population
4. Prevent the consumption of alcohol among children, adolescents, and young adults
5. Reduce unhealthy eating, physical inactivity, overweight and obesity among the general population
6. Reduce unhealthy eating, physical inactivity, overweight and obesity among children and adolescents
7. Creating healthy environments.

Annex 2 describes the suggested priority areas in more detail, and also includes some examples of specific actions countries may wish to implement in these areas. A more extensive list of possible actions is included in Annex 3.

Countries and stakeholders have been invited to complement this list, and identify their interests and priorities for action. Note that intervening on lifestyle determinants will improve the health of European citizens in general, while also being the most powerful approach to prevent the major NCDs. As such, actions in this strand may also directly impact the other strands of this initiative.

2.2.3 Member State considerations

The table below shows the Member States' views on possible priority areas within the health determinants strand.

Table 2.2.1. Priority areas of Member States

Health determinants	Number of Member States that underline the priority areas
Reduce tobacco use among the general population	9
To reduce tobacco prevalence:* *a) Continuous monitoring of tobacco use and of the impact of the tobacco control policy.*	*1*

b) *Protecting people from tobacco smoke by implementing new smoke-free spaces.* c) *Ensure the implementation of legislation related to novel tobacco product and avoid legislative gaps in the face of new forms of use.*	
Prevent children, adolescents, and young adults from starting smoking	12
a. Raising taxes on tobacco. *b. Implement neutral packaging.* *c. Enforcing legislation on advertising, promotion and sponsorship ban for emerging tobacco products and other relative products and brands.*	*1*
Reduce harmful consumption of alcohol among the general population	9
Prevent the consumption of alcohol among children, adolescents and young adults	8
Reduce unhealthy eating, physical inactivity, overweight and obesity among the general population	13
Reduce unhealthy eating, physical inactivity, overweight and obesity among children and adolescents	13
Creating healthy environments	12

** Added by Member States.*

2.2.4 Collaborative action

Relevant for the health determinants strand, a joint action will be launched under the 2022 EU4Health Work Programme. In collaboration with Europe's Beating Cancer Plan[20], this will allow EU countries to readily find support to implement some of their priorities as identified in the EU NCD Initiative.

Based on the discussions and input received until now, EU countries are invited to comment on the possible work packages below as possible options to translate their priorities above into actions.

Table 2.2.2. Health promotion and NCD prevention by addressing health determinants

Work Packages		Content	
0	Integrated approach	Ensure that all work packages cover transversal aspects such as health information, health inequalities, social determinants, vulnerable population groups, health literacy and digital literacy, commercial determinants and age/gender/culture sensitivity. Suggestions:	
		Health information	Design/review and pilot-test a plan to improve **health information** to increase awareness of NCDs and their risk factors among the general population, vulnerable population groups,

[20] Coordination at the level of governance will take place within the SGPP; both the subgroup on cancer and the subgroup on NCDs will be informed of each other's streams of work and actively propose synergies.

			and among professionals (health sector, schools/training, work sector, etc.)
		Health inequalities and social determinants	Design/review and pilot-test a plan to reduce **health inequalities**, including by addressing **social determinants**. For example, the design/review and pilot-test of a plan to include health determinants in the efforts to fight poverty and exclusion and reaching out to vulnerable groups.
		Health literacy and digital literacy	Design/review and pilot-test a plan to address **health literacy** and **digital literacy**. *(complementing the Europe's Beat Cancer Plan initiatives aiming to improve health literacy on cancer risks and determinants).*
		Health in All Policies	Design/review and pilot-test a plan to achieve a **Health in All Policies** approach, **i**ncluding, for example: – Improvements of intra-government governance and policy coherence (*example: Slovenia)* – Increase of the use of health impact assessment (e*xample: Utrecht)* – Revision of urban planning guidelines (zoning/food deserts, soft mobility, marketing permits, water fountains, green areas, noise, air quality, etc) *(possible links to the Sustainable and Smart Mobility Strategy).* – Increase cooperation with health and safety at work *(*see suggestions under the table for HiAP and work-based interventions below)*
		Work-based interventions (as part of HiAP)	**Encourage companies to act for the promotion of workers' health**, using their resources disposal, by making recommendations on healthy lifestyles, encouraging the practice of physical activity by providing access to dedicated areas on the premises or by facilitating access to dedicated external structures, encouraging the creation of internal sports teams, providing bycicle garages, encouraging healthy nutrition through the provision of balanced dishes in their canteens, providing water fountains, establishing extender smoke-free areas, promoting complementary educational measures, such as the promotion of the European Code Against Cancer; training of managers on prevention of psychosocial risks and harassment at work.
1	Smoking and nicotine use	Actions specific for smoking from the possible priorities section:	
		Smoke-free generation	Design/review and pilot-test a plan to achieve a **smoke-free generation**, including support action for end-game policies (sharing of the New Zealand and Danish experience, twining of countries with lower/higher prevalence rates of tobacco/nicotine use and/or of countries with little/more reduction of prevalence rates of tobacco and nicotine use).
		Regulation and taxation	– Design/review and pilot-test a plan to improve **compliance and enforcement of existing regulation**. – Ensure implementation of policies **to related products**, such as e-cigarettes and heated tobacco products. – **Limit cross-border purchasing** of tobacco by private individuals. – Support **raising tobacco taxation**. – Support the **implementation of the WHO FCTC**.

		Commercial determinants	Design/review and pilot-test a plan to more effectively enforce regulation and **frame tobacco/nicotine products advertising**.
		Brief interventions	Design/review and pilot-test a plan to improve **cessation** efforts (tobacco and nicotine use), including by increasing **brief interventions**.
		Use of tobacco and nicotine use by youth	Implement additional actions to **limit youth access** to emerging tobacco and related products.
		Healthy environment	**Limit access** (e.g. geographic, such as school areas, online sales, etc.)
		Tobacco control education and research plans	**Update evidence** of the effects of tobacco/nicotine products on public health and individual health.
2	Harmful alcohol consumption	Actions specific for alcohol from the possible priorities section:	
		Health in All Policies	Design/review and pilot-test a plan to **increase the coherence of all alcohol-related policies (HiAP).**
		Regulation and taxation	– Design/review and pilot-test a plan to **reinforce compliance with existing regulations** and review their effectiveness. – Improve **coherence with fiscal policies**, including by considering the WHO initiative on **minimum level of excises** for alcohol products and the automatically adjustment of excise duties for inflation. – Design/review and pilot-test a plan to enforce a minimum number (per 100,000 people) of **sobriety checkpoints**.
		Commercial determinants	Design/review and pilot-test a plan to more effectively **frame alcohol advertising**, in particular in digital and social media.
		Improve knowledge and raise awareness	Design/review and pilot-test a **package of scientifically accurate information** for both the general population/customers and healthcare professionals.
		Identify and treat individuals with harmful alcohol consumption within the healthcare system	Design/review and pilot-test a plan to increase the capacity of healthcare systems to **identify and treat individuals with problematic drinking** by enhancing screening and brief interventions. *(Brief interventions as well as developments of treating protocols can benefit from the Far Seas project (far-seas.eu)*
3	Nutrition	Actions specific for nutrition from the possible priorities section:	
		Health in All Policies	– Design/review and pilot-test a plan to **increase the coherence of all nutrition-related policies (HiAP)**. – Design/review and pilot-test a plan to increase the implementation at a wider scale the public procurement, reformulation and marketing policies piloted in Remap.
		Regulation and taxation	– Promote **food reformulation** and develop comparable **public procurement standards** based on nutrition guidelines. – **Improve coherence with fiscal policies**. – Design/review and pilot-test a plan **to improve menu labelling**, piloting on chain restaurants, and share best practices.

			(Of relevance: the EU Food And Beverage Labels explorer will allow policy makers, researchers and the public to explore the information in food labels across the EU).
		Commercial determinants	– Develop coordinated policies to more effectively **frame advertising of food high in fat, sugar or salt**, in particular on the digital and social media areas. Design/review and pilot-test a plan to effectively **promote that shelf placement, promotion policies, packaging of own brands, nudging, etc**. in major distribution (supermarkets) contribute to the consumer opting for the healthier choice. *(This could be seen in relation to initiatives on reducing online marketing to children of products high in sugar, fat and salt and initiatives on access to information provided in a child-friendly way, to secure a coherent approach to children's nutrition (from the EU Strategy on the Rights of the Child).*
		School-based interventions	– Design/review and pilot-test a plan to **increase the national effectiveness of the educational measures supported by the EU school fruit, vegetables and milk scheme** (collect best practices, develop innovative approaches, reach out to vulnerable groups, test behavioural insights). – Design/review and pilot-test a plan to **improve food offered in school canteens**. *Interesting examples: Swedish Food Agency, Copenhagen municipality, Remap Joint Action*
		Workplace-based interventions	Design/review and pilot-test a plan to **improve food offered in work-place canteens**. *See also work-based interventions under Integrated approach.*
		Identify and treat individuals with unhealthy diets within the healthcare system	Design/review and pilot-test a plan to increase the capacity of healthcare systems to **identify and treat individuals with unhealthy diet** and enhance brief interventions.
4	Increasing physical activity	Actions specific for physical activity from the possible priorities section:	
		Health in App Policies	Increase **cooperating with health and safety at work**. *See also work-based interventions under Integrated approach.*
		Identify and treat individuals with physical inactivity issues within the healthcare system	Design/review and pilot-test a plan to increase the capacity of healthcare systems to **identify and treat individuals with physical activity/inactivity issues** and enhance brief interventions and prescription of physical activity. *(The EUPAP project supporting the replication of the prescription of physical activity as a best practice is relevant.)*
		School-based interventions	Design/review and pilot-test a plan to **increase extra-curricular physical activity in school-settings**.
		Workplace-based interventions	Design/review and pilot-test a plan to **promote an active lifestyle in the workplace**, for example through sedentary behaviour programmes or incentives to use public transportation/biking for commuting to the workplace.

5	Commercial deter-minants	*Suggestions to address commercial determinants have been integrated in the suggested work packages on tobacco/nicotine use, harmful alcohol consumption, nutrition and physical activity above. Countries may wish to combine their actions to address commercial determinants in a dedicated work package*	
		Tobacco/ nicotine use	Design/review and pilot-test a plan to more effectively **frame tobacco/nicotine products advertising**.
		Alcohol	Design/review and pilot-test a plan to more effectively **frame alcohol advertising**.
		Food	Develop coordinated policies to more effectively **frame unhealthy food advertising**. Design/review and pilot-test a plan to effectively **promote that shelf placement, promotion policies, packaging of own brands, nudging, etc**. in major distribution (supermarkets) contribute to the consumer opting for the healthier choice.

2.3. Diabetes

Diabetes is a group of metabolic disorders that are identified by the presence of chronic hyperglycaemia (raised blood sugar).[21] Two major types[22] of diabetes can be distinguished: type 1 diabetes, which is characterised by an insulin deficiency because of an auto-immune and definitive destruction of beta cells in the pancreas[23], and type 2 diabetes, which results from a progressive deterioration of beta cell function, typically combined with varying degrees of insulin resistance.[24]

Although type 1 diabetes is less common than type 2 diabetes, the impact of the disease on the lives of patients (already from early childhood or adolescence) and their families is great, as it requires daily self-management throughout life, it may negatively impact children's and adolescents' development, make it more difficult for them to attend school, which may result in a lower educational attainment. At all ages, but particularly during adolescence, type 1 diabetes patients may develop mental health issues, such as low self-esteem, anxiety or depression. Furthermore, people with type 1 diabetes may have difficulty establishing and maintaining social relationships, participating in social activities; it may cause reproductive dysfunction, complicate labour participation, and affect the financial position of households. Type 1 diabetes cannot be prevented, but effective disease management, which consists predominantly of self-management and a healthy lifestyle, can prevent complications and premature death.

Type 2 diabetes is the most common type of diabetes, accounting for more than 95% of all cases.[25] It can be prevented or delayed by a healthy diet, regular physical activity, maintaining a normal body weight and not using tobacco.[26] As incidence rates increase with age, nearly half of all people

[21] 9789241515702-eng.pdf (who.int)

[22] Other types include gestational diabetes, which may occur in pregnant women, and is identified by blood glucose values above normal but below those diagnostic of diabetes. Impaired glucose tolerance (IGT) and impaired fasting glycaemia (IFG) are considered intermediate conditions in the transition between normality and diabetes that may result in diabetes type 2, if not managed timely and adequately. (https://www.who.int/news-room/fact-sheets/detail/diabetes)

[23] Genetics and Diabetes (who.int)

[24] https://www.nature.com/articles/s41574-021-00512-2#Sec2

[25] Diabetes (who.int)

[26] https://www.who.int/news-room/fact-sheets/detail/diabetes

living with type 2 diabetes are adults aged 65 and over[27], of whom the great majority also have other long-term conditions such as hypertension, hyperlipidaemia, overweight or obesity, cardiovascular disease and chronic kidney disease.[28] However, it is important to note that type 2 diabetes is now also more frequently diagnosed at younger age, and even in children[29], which relates to increased overweight and physical inactivity among children, adolescents and young adults. The negative impact of type 2 diabetes on young people's lives will be similar to what young people with type 1 diabetes experience.

The number of adults diagnosed with diabetes in the EU has almost doubled over the last decade, from about 16.8 million in 2000 to 32.3 million in 2019. The increase among men is even larger (+56%), as men are more prone to develop diabetes due to biological factors and an increased risk when being overweight.[30] The International Diabetes Federation estimates the number of adults aged 20 to 79 years living in the European region with diabetes at 61.4 million in 2021, of which 21.9 (35.7%) with undiagnosed diabetes. The economic burden of diabetes in the European region is huge, with an estimated total diabetes related health expenditure of more than 2700€ per person in 2021.[31] Mortality linked to diabetes is also substantial. Its lethal effect is even larger when taking into account that diabetes increases the risk of cardiovascular diseases and that people with diabetes who are affected by COVID-19 run a higher risk of becoming severely ill.[32]

The (age-standardised) prevalence of diabetes varies substantially across European countries, with 3.2% of the Irish population aged 20-79 years in 2019 being diagnosed with diabetes compared to 10.4% of the German population of the same age. The prevalence rate seems to have stabilised in recent years in particular in the Nordic countries, whereas it has continued to go up slightly in central, eastern and southern European countries.[33] Inequalities within countries also exist: adults with the lowest level of education are more than twice as likely to report having diabetes than those with the highest level of education across EU countries. It should be mentioned that this difference can partly be explained by the average lower education level of older people.

Many countries have developed policy interventions to decrease the burden of diabetes, but the investment in and implementation of comprehensive strategies for the prevention and treatment of diabetes vary.[34]

2.3.1 Possible priority areas

As mentioned above, type 1 diabetes cannot currently be prevented, but complications can be prevented or delayed by effective disease management, which consists for the largest part of self-management and a healthy lifestyle. The burden of type 2 diabetes type 2 can be reduced by interventions that support and facilitate a healthier lifestyle, in particular a healthy diet, physical activity and not smoking tobacco.[35] The growing number of children and adults with overweight or obesity require decisive action. Comprehensive interventions that support individual behaviour

[27] Khan MAB, et al. Epidemiology of type 2 diabetes — global burden of disease and forecasted trends. J. Epidemiol. Glob. Health 10, 107–111 (2020).

[28] https://www.tandfonline.com/doi/full/10.1185/03007995.2016.1168291?needAccess=true

[29] https://www.who.int/news-room/fact-sheets/detail/diabetes

[30] 2020_healthatglance_rep_en.pdf (europa.eu)

[31] https://diabetesatlas.org/data/en/region/3/eur.html

[32] 2020_healthatglance_rep_en.pdf (europa.eu)

[33] 2020_healthatglance_rep_en.pdf (europa.eu)

[34] https://www.euro.who.int/__data/assets/pdf_file/0009/307494/National-diabetes-plans-Europe.pdf

[35] https://www.who.int/news-room/fact-sheets/detail/diabetes

change and healthy choices as well as address social determinants should be considered. Potentially effective interventions to address these determinants have been mentioned in the previous section on health determinants.

In addition to the health promotion and preventive actions suggested in the health determinants strand, countries may wish to work additionally on reducing the burden of diabetes **among high-risk populations and people with undiagnosed or diagnosed diabetes**:

- prevent the onset of type 2 diabetes among high-risk populations;
- reduce undiagnosed diabetes by raising awareness, targeted screening or early detection approaches;
- prevent or delay complications by ensuring (access to) high-quality diabetes care;
- support diabetes patients' self-management;
- implement care models that integrate proactive diabetes management in person-centred care;
- support people with diabetes of all ages and their families in living with diabetes;
- increase awareness of the impact of diabetes for functioning and participation, and fight stigmatisation of people with diabetes.

In Annex 2 more information is provided on the suggested areas for action, with some examples of interventions or good practices implemented in countries. A more extensive list of large-scale and more targeted actions to reduce the burden of diabetes (in addition to those mentioned in the health determinants strand) can be found in Annex 3.

2.3.2 Member State considerations

The table below shows the Member States' views on possible priority areas within the diabetes determinants strand.

Table 2.3.1. Priority areas of Member States

Diabetes	Number of Member States that underline the priority areas
Prevention of the onset and progress of diabetes type 2	8
Early detection of diabetes	7
Improved diabetes care and management	8
Increased labour participation of adults with diabetes at working age	4

2.3.3 Collaborative action

Relevant for the diabetes strand is that a joint action (likely combined with cardiovascular diseases) will be launched under the 2022 EU4Health Work Programme. This will allow EU countries to readily find support to implement some of their priorities as identified in the EU NCD Initiative.

Based on the discussions and input received until now, EU countries are invited to comment on the possible work packages, as outlined in Table 2.4.2. of the Cardiovascular disease strand, as possible options to translate their priorities above into actions.

2.4. Cardiovascular diseases

Cardiovascular diseases are a vast group of disorders that include diseases of the heart, vascular diseases of the brain and diseases of blood vessels. Many of them are related to a process called atherosclerosis and include coronary heart disease, cerebrovascular disease, and peripheral arterial disease. Other cardiovascular diseases, which are not always related to atherosclerosis include rheumatic heart disease (damage to the heart muscle and heart valves from rheumatic fever, caused by streptococcal bacteria), congenital heart disease (malformations of heart structure existing at birth), cardiomyopathies and cardiac arrhythmias.[36,37]

Cardiovascular diseases are the main cause of mortality in the EU resulting in 1.8 million deaths every year, which accounts for 37% of deaths in the EU[38], in addition, in 2019[39] it was estimated that almost 63 million people live with cardiovascular diseases in the EU. CVD are estimated to cost the EU economy €210 billion a year[40] (including healthcare costs, productivity loss, burden of informal care). Multimorbidity is a key challenge in this area and in particular the prevention and management of cardiovascular diseases should be directly linked with the prevention and management of type 2 diabetes.

Besides gender, age, socioeconomic position, immigration status, environmental factors and a family history of the disease, risk factors for cardiovascular diseases include hypertension, diabetes, obesity, hypercholesterolemia, tobacco/nicotine use, stress, sleep disorders, sedentary lifestyle and alcohol consumption[41].

Healthy eating, quitting tobacco/nicotine products, reduce alcohol consumption, sufficient physical activity, screening for hypertension, diabetes and familial hypercholesterolemia, and timely getting preventive medicine and lifestyle interventions will reduce the onset and undesired outcomes of these diseases.[42] Postponing or evading the onset of cardiovascular disease by effective prevention will contribute the most in terms of healthier life years, longer quality of life, less healthcare costs and less premature mortality.

2.4.1 Possible priority areas

Note that the area of primary prevention of cardiovascular diseases is also covered in the first strand on health determinants, addressing the main risk factors of cardiovascular diseases and other NCDs. Furthermore, the integrated approach covered the topic of health inequalities, which

[36] 9789241564373_eng (3).pdf

[37] Cardiovascular diseases (CVDs) (who.int)

[38] 82129230-en.pdf (oecd-ilibrary.org)

[39] GBD Results Tool | GHDx (healthdata.org)

[40] Wilkins, E, Wilson, L, Wickramasinghe, K, Bhatnagar, P, Leal, J, Luengo-Fernandez, R, Burns, R, Rayner, M & Townsend, N 2017, European Cardiovascular Disease Statistics 2017. European Heart Network, Brussels.

[41] World Heart Federtion. The impact of alcohol consumption in cardiovascular health. Myths and measures. Policy Brief. 2022. Availabe at: The Impact of Alcohol Consumption on Cardiovascular Health: Myths and Measures - World Heart Federation (world-heart-federation.org)

[42] https://www.escardio.org/Guidelines/Clinical-Practice-Guidelines/2021-ESC-Guidelines-on-cardiovascular-disease-prevention-in-clinical-practice

is also an important priority area for CVD.[43] [44] Continuous monitoring, specific policies at the EU-level as well as harmonised data registries in the Member States, could help to identify and effectively address inequalities, including inequalities in CVD.

Furthermore, countries may wish to implement a set of actions to increase efforts in the prevention and management of cardiovascular diseases. Possible priority areas that countries may wish to work on in this strand are:

- Prevention of the onset and progress of cardiovascular diseases;
- Early detection of cardiovascular diseases;
- Improving (access to) high-quality CVD care;
- Improving CVD self-management;
- Increase awareness of the impact of CVD.

In Annex 2 these areas are described in more detail, including some examples of concrete actions countries may wish to implement in these areas. A more extensive list of actions for each of the suggested priority areas can be found in Annex 3.

2.4.2 Member State considerations

The table below shows the Member States' views on possible priority areas within the cardiovascular diseases strand.

Table 2.4.1. Priority areas of Member States

Cardiovascular disease	Number of Member States that underline the priority areas
Prevent onset and progress of cardiovascular diseases	10
Early detection of cardiovascular diseases	10
Improved cardiovascular disease care and management	8
Increase labour participation of adults with cardiovascular diseases at working age	4

2.4.3 Collaborative action

Relevant for the cardiovascular (and diabetes) strands, it is likely that one joint action will be launched under the 2022 EU4Health Work Programme to allow EU countries to readily find support to implement some of their priorities as identified in the EU NCD Initiative.

[43] Kist JM et al. Large health disparities in cardiovascular death in men and women, by ethnicity and socioeconomic status in an urban based population cohort. EClinicalMedicine. 2021 Aug 29;40:101120

[44] Movsisyan NK, Vinciguerra M, Medina-Inojosa JR, Lopez-Jimenez F. Cardiovascular Diseases in Central and Eastern Europe: A Call for More Surveillance and Evidence-Based Health Promotion. Ann Glob Health. 2020 Feb 26;86(1):21

Based on the discussions and input received until now, EU countries are invited to comment on the possible work packages below as possible options to translate their priorities above into actions.

*Table 2.4.2. Collaborative action on **diabetes and cardiovascular disease***

Work Packages		Content	
0	Integrative approach	Ensure that all work packages cover transversal aspects such as health information, health inequalities, social determinants, vulnerable population groups, health literacy and digital literacy, and age/gender/culture sensitivity. Suggestions:	
		Information and raising awareness on diabetes, CVD and their risk factors	Design/review and pilot-test a plan to improve **information on diabetes and CVD and their risk factors and raise awareness of these conditions and their risk factors** among the general population, and among vulnerable and high-risk groups.
		Health literacy	Improve **health literacy specific for diabetes and CVD**, in addition to a more general approach to improve health literacy and digital literacy in the suggested collaborative action on Health determinants.
		Data on diabetes and CVD	Design/review and pilot-test a plan to improve **data availability, i**ncluding, for example, the establishment and networking of diabetes or CVD registries.
		Person-centred pathway from health promotion to disease management and quality of life support.	Support an interconnected **person-centred pathway in health systems** that provides health promotion, disease prevention, screening and early detection, treatment, rehabilitation and support to quality of life for patients with diabetes and/or cardiovascular diseases.
1	Improve screening for (high risk of) diabetes and CVD	Update plan for opportunistic and population screening; revise guidelines based on scientific updates.	Design/review and pilot-test of **evidence-based guidelines for population and/or opportunistic screening on diabetes, CVD and clinical risk factors**, including, for example, the joint definition of ethical guidance, minimum standards, and packages for the training of healthcare professionals. In this context, consider developing and implementing integrated/combined screening strategies, i.e. for type 2 diabetes, high blood pressure, and hypercholesterolemia.
2	Improve patient care pathways (personalised) and promote integration of care		Design/review and pilot test of a health system model to deliver person-centred and **integrated care** adjusted to multi-morbidity and encompassing prevention (Re-orienting health systems towards health promotion and disease prevention, integrating lifestyle assessment and intervention into the practice of primary care professionals)
4	Improve support to patients with diabetes, and diabetes (self-) management, including digital tools		Design/review and pilot-test a plan to improve support to patients' (self-)management of diabetes or cardiovascular diseases, including the use of digital tools by healthcare professionals and patients to support disease (self-) management.
5	Increase and support labour participation of people living with diabetes		Design/review and pilot-test a plan to increase and support labour participation of people living with cardiovascular/diabetes diseases. *See also work-based interventions under Health determinants, Integrated approach*

6	Improving information for decision-making	(may be considered under the Integrated approach)

2.5. Chronic respiratory diseases

Chronic respiratory diseases (CRDs) are diseases of the airways and other structures of the lung. Some of the most common are chronic obstructive pulmonary disease (COPD), asthma, occupational lung diseases and pulmonary hypertension.[45] Lung-Covid could be seen as a new lung disease in this context and might therefore need attention as well.

Respiratory diseases account for 8% of all deaths in the EU and 3% of all deaths are caused by chronic obstructive pulmonary disease (COPD).[46] Mortality rates because of respiratory diseases vary across EU countries, but also within countries. A larger proportion of men (8.1%) than of women (6.9%) die because of respiratory diseases in the EU (2016). The difference between men and women is most pronounced (>2%) in Cyprus, Latvia, Lithuania and Romania.[47] About 5.7% of the adult EU population reported to have asthma and 4.7% another medically confirmed lower respiratory disease, including COPD.[48]

Although CRDs are not curable, many CRDs, including asthma and COPD, are treatable and to a large extent preventable. Besides genetics, tobacco use, chronic exposure to air pollutants (in particular fine particulate matter) and airways allergens, occupational chemicals and dusts, and frequent lower respiratory infections during childhood are the major causes of CRDs.[49,50]

Second hand exposure to tobacco smoke is a risk factor for CRDs, especially in the case of children and adolescents, as they are at greater risk than adults of being adversely affected by regular second-hand exposure tobacco smoke within their home environments.

Occupational chemicals, dusts particles, fungal spores, and certain animal droppings are examples of exposures at the workplace that are important risk factors of developing CRD, and more specifically occupational lung diseases.

Outdoor air pollution accounts for a large proportion of deaths in all European countries, but indoor air population also contributes to a sizeable number of deaths, particularly in countries where solid fuels are still used for heating, warm water and cooking.[51]

2.5.1 Possible priority areas

Countries may wish to implement a set of actions to increase efforts in the prevention and management of chronic respiratory diseases. Possible priority areas that countries may wish to work on in this strand are:

[45] https://www.who.int/health-topics/chronic-respiratory-diseases

[46] OECD/European Union (2020), Health at a Glance: Europe 2020: State of Health in the EU Cycle, OECD Publishing, Paris, https://doi.org/10.1787/82129230-en

[47] Eurostat. Statistics Explained.Respiratory diseases statistics, August 2021. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Respiratory_diseases_statistics&oldid=541149#Self-reporting_of_respiratory_diseases

[48] Eurostat. Statistics Explained.Respiratory diseases statistics, August 2021. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Respiratory_diseases_statistics&oldid=541149#Self-reporting_of_respiratory_diseases

[49] https://goldcopd.org/wp-content/uploads/2020/11/GOLD-REPORT-2021-v1.1-25Nov20_WMV.pdf

[50] https://www.who.int/health-topics/chronic-respiratory-diseases

[51] OECD/European Union (2020), Health at a Glance: Europe 2020: State of Health in the EU Cycle, OECD Publishing, Paris, https://doi.org/10.1787/82129230-en

- The prevention of the onset and progress of chronic respiratory diseases, in particular COPD, which may include the prevention of tobacco use; exposure to second-hand tobacco smoke; prevention of exposure to occupational chemicals and dust; reduction of indoor and outdoor pollutants;
- Vaccination programmes;
- Early detection of chronic respiratory diseases;
- Ensuring (access to) high-quality CVD care;
- Improving CRD self-management support.

In Annex 2 these areas are described in more detail, including some examples of concrete actions countries may wish to implement in these areas. A more extensive list of actions for each of the suggested priority areas can be found in Annex 3.

2.5.2 Member State considerations

The table below shows the Member States' views on possible priority areas within the chronic respiratory diseases strand.

Table 2.5.1. Priority areas of Member States

Chronic respiratory diseases	Number of Member States that underline the priority areas
Prevention of onset and progress of chronic respiratory diseases	4
Improved care and management of chronic respiratory diseases to prevent exacerbation and acute events	5

2.5.3 Collaborative action

[placeholder]

2.6. Mental health and neurological disorders

The promotion of mental health and well-being is covered under SDG 3.4, yet separately from non-communicable diseases. In 2018, 'mental health and neurological disorders' was placed within the wider global NCD agenda, when it was added to that agenda as a specific (fifth) disease cluster[52]. The Healthier Together initiative follows this approach, also acknowledging that mental health and brain health (i.e., neurological diseases, including dementia) each pose different challenges.

[52] http://www.un.org/ga/search/view_doc.asp?symbol=A%2F73%2FL.2&Submit=Search&Lang=E

Mental health

Under this topic, the Healthier Together aims to encourage positive mental health (and well-being), prevent and tackle mental health problems and mental disorders[53], and support people living with such disorders.

Before the onset of the COVID-19 pandemic, mental health problems affected about 84 million people in the EU, amounting to one in every six citizens, at an estimated cost of over € 600 billion (more than 4% of GDP)[54][55]. There were also indications of increased risk of mental health issues among young people aged 12–24 years[56], especially those living with chronic health conditions, living in rural areas, and/or young people not studying or employed[57].

The **COVID-19 pandemic** exacerbated these already sobering data. A significant decrease in mental wellbeing and an increase in sleep disorders was recorded across all age groups since summer 2020, reaching its lowest level across all age groups in spring 2021[58]. A correlation between increases in mental distress, the strictness of lockdown measures, and increases in COVID-19 cases and deaths could be observed as the crisis continued. Population groups whose mental health has been particularly affected by the pandemic include **young people, people with less secure employment, and people with less education or a lower income**[59]. The COVID conditions have also increased the exposure of the population (including very young children) to an excessive use of screens. This has potential consequences on children's neuro-development and interactions with peers or within families.

Suicide numbers (the only indicator for mental health within the SDG framework) remained largely unchanged or even declined in the early months of the pandemic[60]. The longer-term impact on suicide rates is likely to be complex: the pandemic caused disruption and fear, but also triggered protective factors such as feelings of togetherness, hope and resilience[61].

Anxiety disorders are the most common mental disorders in the EU, followed by depressive disorders, addiction to tobacco and alcohol, and several severe mental health conditions, such as bipolar disorders and schizophrenia. Comorbid physical conditions are common among people with mental health conditions, with a poor mental health increasing the risks of additional physical conditions, such as diabetes[62].

The impact of poor mental health can **affect people throughout their lifetime**. Mental health issues in early childhood and adolescence increase the risk of poor academic performance[63] and job

[53] In line with the definitions of these concepts in https://ec.europa.eu/health/system/files/2020-02/2018_healthatglance_rep_en_0.pdf

[54] https://ec.europa.eu/health/sites/health/files/state/docs/2018_healthatglance_rep_en.pdf

[55] The most common mental disorder across EU countries is anxiety disorder, followed by depressive disorder, drug and alcohol use disorder, and several severe mental illness, such as bipolar disorder and schizophrenia, see https://ec.europa.eu/health/sites/health/files/state/docs/2018_healthatglance_rep_en.pdf

[56] https://www.eurofound.europa.eu/publications/report/2017/fourth-european-quality-of-life-survey-overview-report

[57] https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef19039en.pdf

[58] COVID-19: A changed Europe | Eurofound (europa.eu)

[59] https://doi.org/10.1080/13811118.2021.1955784

[60] https://doi.org/10.1016/S2215-0366(21)00091-2

[61] https://doi.org/10.1080/13811118.2021.1955784

[62] https://www.annualreviews.org/doi/full/10.1146/annurev-publhealth-040617-013629

[63] https://link.springer.com/content/pdf/10.1007/s00127-020-01934-5.pdf

opportunities. Adults with mental health issues are less productive at work and more likely to be unemployed. Older people with mental health issues are more likely to be isolated and be less active in their community[2].

The Healthier Together initiative encourages and supports EU countries to implement mental health-in-all-policies and acknowledges the importance of implementing a prevention-oriented approach. As such, the initiative will support EU countries to implement high-impact actions across the entire spectrum: preparing the ground for well-being (by creating favourable conditions that address environmental and social determinants, and supporting the development of social and emotional skills in childhood), promoting mental health and strengthening mental health resilience, preventing ill-health, sleep disorders and suicide, providing equitable and timely access to high-quality mental health care, and supporting people with mental health issues to live their lives as fully as possible by offering integrated support.

Neurological disorders

Neurological disorders are conditions of the central and peripheral nervous system that include epilepsy, headache disorders, neurodegenerative disorders, cerebrovascular diseases including stroke, neuroinfectious/neuroimmunological disorders, neurodevelopmental disorders and traumatic brain and spinal cord injury.

Major neurological disorders are Alzheimer's disease, which is the main cause of dementia and other dementias, stroke, Parkinson's disease, multiple sclerosis, epilepsy, and various headache disorders among which migraine. A large group of other, mostly rare diseases of genetic origin also cause major neurological problems. These diseases are addressed in EU programmes and actions on rare diseases.

Migraine and epilepsy represent a substantial part of the burden of neurological disease (about one-fifth and one fourth) but Alzheimer's disease and dementia and Parkinson's disease are the major contributors and they rank among the top 15 conditions with the most substantial increase in burden in the past decades[64]. The prevalence of dementia in people aged over 60 years increased in the EU from 5.9 million in 2000 to an estimated 9.1 million in 2018. A further increase in the number of EU citizens with dementia is expected, to about 14.3 million in 2040[65].

For many of the neurological disorders the underlying risk factors are not fully known, they still lack sufficient evidence [66] or they are complex. For instance brain injury and spinal cord injury are for a large part caused by accidents or birth trauma. Epilepsy can have many causes ranging from birth trauma or accidents to stroke or a genetic predisposition. A recent review [67] found that the 84 types of health risks that are quantified in the GBD study explain less than 10% of burden of the neurological disorders, except for stroke, for which 88% of DALYs are attributable to known risk factors, as well as, but to a lesser extent for Alzheimer's disease and other dementias (22·%) and idiopathic epilepsy (14 %).

[64] Murray CJL, Vos T, Lozano R, Naghave M, Flaxman AD et al. 2012. Disability-Adjusted Life Years (DALY's) for 291 Diseases and Injuries in 21 Regions, 1990-2010: A Systematic Analysis for the Global Burden of Disease Study 2010. The Lancet 380.

[65] OECD/EU 2018

[66] Mentis A-F A, Dardiotis E, Efthymiou V, Chrousos GP. Non-genetic risk and protective factors and biomarkers for neurological disorders : a meta-umbrella systematic review of umbrella reviews. BMC Medicine 2021 ; 19 :6. Doi.org/10.1186/s12916-020-01873-7.

[67] GBD 2016 Parkinson's Disease Collaborators. Global, regional, and national burden of Parkinson's disease, 1990-2016 : a systematic analysis for the Global Burden of Disease Study 2016. Lancet Neurol 2018;17 :939-953. Dx.doi.org/10.1016/S1474-4422(18)30295-3.

The risk factors for stroke are discussed in the chapter on cardiovascular diseases together with options for policies and interventions to reduce the incidence and prevalence of stroke and its consequences.

Without clear risk factors, the opportunities for the prevention of many of the neurological disorders are very limited and actions may, for the time being, be restricted to improving early detection, educating the patient and the general public together with the introduction of effective new treatments and focusing on more fundamental research.

In 2016 there were about 900.000 patients with Parkinson's disease in the EU27 [19], but Parkinson's is often recognized very late and its prevalence is increasing steadily. The risk factors for Parkinson's disease are, besides a person's age, generally understood as multifactorial and resulting from a gene-environment interaction, such as toxic chemicals and head injury. The causes are partly genetic (10-15%) but most patients lack the identifiable genetic mutations. Healthy lifestyle factors such as enough physical activity and a healthy diet have been identified as protective factors [68].

Alzheimer's disease and dementia

The risk factors of Alzheimer's disease are partly genetic, but also lifestyle related, coinciding with some determinants of cardiovascular disease and diabetes. Smoking, diabetes, high blood pressure, obesity, hypercholesterolemia, physical inactivity, depression, head trauma, heart failure, strokes and sleep apnea syndrome have been found to be associated with a higher risk of Alzheimer's disease.[69]

Mediterranean type diet, consumption of unsaturated fatty acids and some oral antidiabetic medicines seem to have a protective effect on the development of Alzheimer's disease.[70] [18]

Although in the onset of dementia various non-modifiable risk factors (e.g. age, gender and genetic predisposition) play an important role, up to 40% of dementia prevalence might be preventable through interventions targeting the above mentioned modifiable risk factors, including air population, infrequent social contact, and less education)[71].

This opens up possibilities for public health interventions that can help prevent or delay the onset and progression of dementia, through lifestyle and cognitive interventions across the life course, prevention and management of (co-)morbidities.[72] These could be integrated into wider programmes addressing these areas, also taking into account that many amenable risk factors cluster among socio-economic and/or otherwise vulnerable communities. Efforts to improve the quality and availability of care for patients with dementia should also be coupled with investments in primary prevention measures[73].

Timely diagnosis of dementia is of utmost importance, yet it is often misdiagnosed. Persons living with dementia may have to wait several years to receive a diagnosis or may not be diagnosed at all. The stigma associated with the disease is an important barrier to early diagnosis and care[74]. In the

[68] Simon DK, Tanner CM, Brundin P. Parkinsons disease epidemiology, pathology, genetics and pathophysiology. Clin Geriatr Med 2020 ;36(1) : 1-12. Doi :10.1016/j.cger.2019.08.002.

[69] WHO 2019, Guidelines

[70] Rochoy M, Rivas V, Chazard E, Decarpentry E, Saudemont G et al. Factors associated with Alzheimer's Disease: An overview of reviews. J Prev Alheimer Dis. 2019;6(2):121-134.

[71] Dementia prevention, intervention, and care: 2020 report of the Lancet Commission. https://doi.org/10.1016/S0140-6736(20)30367-6

[72] WHO Guidelines on risk reduction of cognitive decline and dementia, 2019. https://apps.who.int/iris/rest/bitstreams/1257946/retrieve

[73] Dementia Prevention. Joint Research Centre Health Promotion and Disease Prevention Knowledge Gateway. Dementia prevention | Knowledge for policy (europa.eu)

[74] Alzheimer's Innovation Readiness Index 2021. Alzheimer's Disease International, 2021. https://www.alzint.org/u/GCOA_AIRI_AlzIndeXReport_FINAL.pdf

absence of a cure, and with ageing of populations and the rising numbers of people living with dementia, it is also highly important to empower people living with dementia and their family/carers, to improve their quality of life by strengthening opportunities for enabling, supportive communities and high-quality care.

2.6.1 Possible priority areas

A list of possible areas for action that countries may wish to prioritise for this strand is provided below. Annex 2 describes the suggested priority areas in more detail, including some examples countries may wish to consider for implementation. A more extensive list of actions to consider for implementation is included in Annex 3.

Possible priority areas for mental health:

1. Supporting favourable conditions for mental health, and increasing resilience;
2. Promoting mental well-being and preventing mental health disorders;
3. Improving timely and equitable access to high quality services;
4. Protecting rights, enhancing social inclusion, and tackling stigma.

Possible priority areas for neurological diseases:

5. Changing attitudes and tackling stigma associated with dementia;
6. Prevention and early detection of neurological diseases, in particular Alzheimer's disease and dementia;
7. High-quality care in managing neurological diseases and supporting quality of life.

2.6.2 Member State considerations

The table below shows the Member States' views on possible priority areas within the strand on mental health and neurological disorders.

Table 2.6. Priority areas of Member States

Mental health and neurological disorders	Number of Member States that endorse the priority areas
Supporting favorable conditions for mental health and wellbeing and implementing mental health-in-all policies (priority area 1)	12
Strengthening mental health resilience, raising awareness and destigmatising mental health issues among the general population (priority area 2)	9
Suicide prevention *(and self-harm reduction)** (priority area 2)	8

Mental health promotion and prevention of mental conditions among young people (priority area 2)	10
*Promote mental health in the workplace: wellbeing promotion, stress reduction, prevention of sleep disorders, mental health awareness (MHFA training)** (priority area 2)	*1*
Improve timely and equitable access to high quality services (priority area 3)	6
*Promotion, prevention and early detection of mental health problems** (priority area 2)	*1*
*Service access, coordination and continuity of care** (priority area 3)	*1*
*Social inclusion** (priority area 4)	*1*
*Accountability and continuous improvement** (priority area 3)	*1*
Actions on neurological diseases other than dementia (priority areas 5/6)	4
Changing the attitudes towards dementia and destigmatisation (priority area 5)	5
Prevention and early detection of dementia (priority area 6)	5
High-quality care to manage dementia and support the quality of life of people with dementia and their family/carers (priority area 7)	7
*Prevention of excessive exposure to screens among children (impact on neuro-development and mental health)** (priority area 2)	*1*
Prevention of pathological grief (priority area 2)	*1*

** Added by Member States.*

2.6.3 Collaborative action

Suggestions for possible work packages on Mental Health and Neurological Disorders (beyond 2022) are provided in the table below.

Work Packages		Content
1	Mental health in all policies	Developing supportive structures, mechanisms, processes for integrated policies and actions to support mental health. Learning from examples implemented in other countries, and/or initiate further steps to expand existing mechanisms and approaches, for instance by strengthening cooperation between health and other sectors, joint budgeting/commissioning, or mental health equity impact assessment and monitoring.

2	Well-being and mental resilience for future generations.	Encouraging social/life skills and resilience, tackling adverse life events, parental support, mental health literacy, anti-bullying programmes, online safety, preventing eating and treating disorders in young people, mental health in school settings; loneliness; intergenerational support
3	Investing in mental health at work and employment opportunities for people with mental health problems	Return-to-work programmes for people with mental health problems; tackling stigma and stereotypes, preventing stress, burn-out and bullying; right to disconnect.
4	Strengthening services in the community (e.g. in primary care/out-patient settings)	Further develop and roll out peer support models; strengthen capacity in primary/community care; increase capacity to meet increased needs; improve access for underserved and minority populations;
5	Dementia-friendly communities	Further develop this approach and encourage/support implementation at local level; tackling stigma and supporting population-wide campaigns; supporting people living with dementia to live full and independent lives as much as possible; support programmes for informal carers;
6	Improving integrated care and rehab pathways for stroke patients	Improving early response; Supporting integrated care pathways; smart devices and other eHealth solutions for patients; return-to-work programmes; self-care programmes;
7	Mental health support for refugees and displaced persons	Developing centres of expertise to gather and share cultural-sensitive approaches; Boosting capacity; eTranslation facilities to support clients and service providers;
8	Continuity of mental health service provision for adolescents	Ensuring seamless and continuity of service provision in transfer from child and adolescent services to adult services, for instance via policy measures, integrated service delivery, and financing models.

3. Supporting implementation

The policy guidance part of the EU NCD Initiative is complemented by a mapping of financial, legal and policy tools that can support Member State action on the ground.
In this section, the initiative identifies various, legal frameworks and financial instruments that can be activated to facilitate investments that may contribute to reduce the burden and consequences of NCDs, and specifically to implement best practices at wider scales. An overview of such opportunities is given below, with additional detail in Annex Y.

3.1. EU4Health

The **EU4Health Programme**[75], with a total budget of €5.3 billion, has the overall objectives to improve and foster health in the Union, protect people from serious cross border health threats, improve access to medicinal products, medical devices crisis relevant products and strengthen health systems.

The EU4Health Programme is the main financial instrument to fund the Union health initiatives and a minimum of 20% of the Programme's total budget shall be reserved for health promotion and disease prevention actions.

The Programme is implemented through annual work programmes and the countries are consulted on the priorities and strategic orientations for the work programmes and work together with the Commission in the EU4Health Steering Group to ensure consistency and complementarity with national health policies. As part of the governance of the EU4Health Programme, stakeholders, including representatives of civil society and patients' associations, academics and organisations of healthcare professionals, provide input on the priorities and needs to be addressed through the annual work programmes.

The 2022 work programme support the EU NCD Initiative with dedicated funding, starting with the strands of cardiovascular diseases and diabetes, and health determinants, in coordination with Europe's Beating Cancer Plan.

The drafting of this initiative will inform the implementation of the upcoming actions [76] and future annual work programmes in this area.

3.2. Main financial programmes

Next to the options for actions, policies and interventions as shown under the five strands of action to be funded under the EU4Health Programme, there are many other possibilities for Member States to get financial EU support that may positively impact on the burden and consequences of NCD's.

These financial instruments are provided by various DG's and are based on underlying strategies that are aiming at social, infrastructural and economic support for Member States to improve their social and economic systems, develop and improve relevant infrastructures such as healthcare or social systems or workplace safety and combat regional and socio-economic inequalities. In this

[75] Regulation (EU) 2021/522 of the European Parliament and of the Council establshing a Programme for the Union's action in the field of health ('EU4Health Programme') for the period 2021-2027, and repealing Regulation (EU) No 282/2014.

[76] Joint actions CR-g-22-08.01 and DP-g-22.6.03 in the EU4Health work programme 2022)

way the EC implicitly supports various major elements of a health in all policies strategy. The financial support is also meant to counteract the serious negative effects on Member States' health systems of the COVID-19 crisis. The NCD-initiative points at these options to facilitate a broader, integrated approach to combat NCD's by also acting on the wider determinants of health. Here we discuss in some detail a selection of instruments that have substantial budgets and will in addition mention several other potentially relevant programmes and funding possibilities. The inventory presented here will overlap and coincide with a similar inventory that has been made for the Europe Beating Cancer plan.

The Digital Europe Programme and Connecting Europe Facility

The Digital Europe Programme has an overall budget of €7.5 billion to shape and support the digital transformation of Europe's society and economy. It will support, for example work in technologies for Artificial intelligence, Supercomputing and cybersecurity; Investing in building Europeans' digital skills; and in Developing very high-capacity digital networks and Joining forces against cyberattacks. It can be applied also to support the use of digital technologies in areas of public interest, including health.

NB: The 'Digital strand' of the Connecting Europe Facility has a budget of €2 billion which will finance digital connectivity infrastructure support high-capacity digital networks and infrastructure of common European interest, e.g., in ensuring that socio-economic drivers such as schools and hospitals have access to future-oriented broadband.

The Recovery and Resilience Facility (RRF)

Next, the Recovery and Resilience Facility (RRF) is the centrepiece of the Next Generation EU recovery instrument. The RRF provides €723.8 billion (in current prices: €338 billion in grants and €385.8 billion in loans) to support reforms and investments undertaken by countries. The aim is to mitigate the economic and social impact of the coronavirus pandemic and make European economies and societies more sustainable, resilient and better prepared for the challenges and opportunities of the green and digital transitions and strengthen the resilience of their health systems. The RRF is a multi-year programme that runs until 2026. It supports reforms and investments in countries to address country-specific recommendations identified in the 2019 – 2020 European semester. To date, the Commission has adopted positive assessments of 22 countries' Recovery and Resilience Plans (RRPs) and the assessment was approved by the Council.

All of these 22 plans include measures related to healthcare. The total expenditure on healthcare-related measures amounts to approximately €37 billion, which corresponds to 8% of the plans' total expenditure. The measures included in the plans contribute to a variety of health objectives, such as the improvement of primary healthcare, the transition from hospital care to outpatient care, the reorganisation of hospital networks, the upscaling of prevention (including treatment of cancer patients), the increase in the quality of diagnosing and treating patients, the strengthening of the healthcare workforce and the modernisation of healthcare facilities In particular, ca. €15 billion in investments in the RRPs include primary care or prevention. These investments aim at increasing the allocation for primary care in rural areas and opening of new primary care outpatient clinics in deprived areas, introducing mobile pharmacies offering primary care services, and strengthening the role of general practitioners in primary care. Countries plan to adopt and implement an ambitious reform agenda to complement investments in the healthcare sector. This agenda features reforms to strengthen the resilience of the health sector and increase the availability of integrated and high-quality healthcare services. Health reforms are also geared towards improving access to healthcare: some RRPs envisage to adopt national public health programmes to support primary, secondary and tertiary prevention. In particular, reforms focus on setting up and rolling

out national preventive screening programmes, promoting psychosocial integration and improving palliative care.

Within the RRF, the Technical Support Instrument (TSI) with a budget of €864 million will provide tailor-made support to all countries for their institutional, administrative, and growth-enhancing reforms in line with the European Semester and the Recovery and Resilience Plans. The TSI support covers the entire reform process, from the preparation and design to the implementation of reforms. It is demand driven and does not require co-financing from countries. It will provide both technical assistance on how to implement the reforms as well as financial support to carry out for the actual reform.

The REACT-EU Programme

REACT-EU is one of the largest programmes under NextGenerationEU, with a budget of €50.6 billion. It aims to continue and extend the crisis response and repair measures delivered through the Coronavirus Response Investment Initiatives, as a top-up to the 2014-2020 Cohesion programmes. Part of the €50.6 billion, in the form of grants, can support regional and national health authorities in countries to increase the response capacity of their health systems (e.g., in hospitals and primary care), and to purchase critical medical products and supplies (e.g., vaccines, medicines, medical and protective equipment, medical devices) necessary to strengthen the resilience of health systems. REACT-EU has as new thematic objective fostering crisis repair in the context of the COVID-19 pandemic and preparing a green, digital and resilient recovery of the economy. Investments as part of the European Regional Development Fund (ERDF) are primarily for a) product and services for health services and working capital or investment support to SMEs, b) investments in transition towards a digital and green economy, and c) investments in infrastructure providing basic services to citizens, or economic measures in the most affected regions and sectors. In addition, investments under the European Social Fund (ESF) are primarily for job maintenance and job creation, youth employment measures, skills development, and – most relevant in this context - enhancing access to social services of general interest (including for children). Combined, both the ERDF and ESF are part of the Regional Development and Cohesion Plan 2021-2027 which has a strengthened link with the European Semester, a simplified framework and less red tape for the beneficiaries of the funds, and last, more tailored approach to regional development.

The European Regional Development Fund and European Social Funds Plus

The Cohesion Policy Funds 2021-2027 ('European Regional Development Fund' - ERDF and 'European Social Fund Plus' - ESF+, with an overall budget of €373 billion) have a number of overarching policy objectives. Investments in health and long-term care may be envisaged mainly under two of these objectives: namely under PO1 (A smarter Europe) and PO4 (A more social Europe). ERDF and ESF+ can support a wide range of health system and public health policies, and national and regional authorities in countries need to ensure that projects are part of a broader investment strategy and link to reform agendas. ERDF and ESF+ can provide grants to improve health systems resilience, accessibility and effectiveness, for instance: development of health infrastructure (including digital), innovation and efficiency enhancing reforms in health, health promotion, disease prevention, integrated care, health workforce training, digital tools and solutions such as telemedicine, medical products and supplies to strengthen the resilience of health systems. Part of the €373 billion will be used by countries for investments in health according to priorities defined by their national and regional authorities, which will be negotiated with the European Commission. There is still opportunity for discussion about the focus of national plans as not all have been submitted, and this discussion has to be done domestically as national authorities in countries are also responsible for prioritising, programming and implementation of their allocations of Cohesion Policy funds. The ESF+ funds can be used by organizations in Member States

to invest in, among others, information and awareness campaigns for healthy lifestyles and wellbeing at work.

The InvestEUProgramme

The InvestEU Programme is intended to mobilise public and private investment using a budgetary guarantee and resources from the EU budget. The InvestEU Fund (guarantee) of €26.2 billion is expected to mobilise more than €372 billion of additional investment in various economic sectors, including in health. Under InvestEU, national and regional authorities need to work with the InvestEU Implementing Partners (such as the European Investment Bank, some national promotional banks and others) to configure projects that can attract co-investments from the private sector. Through this Implementing Partners, InvestEU will offer loans and other types of financing for investments in, for example, hospitals; primary care facilities; eHealth; innovative health services and care models; as well as in the research, development and manufacturing of pharmaceuticals, vaccines and medical devices. The InvestEU Programme includes also the InvestEU Advisory Hub which provides technical financial advice to investment project promoters seeking financing, and the InvestEU Portal aims to bring together project promoters and investors.

Horizon Europe

Horizon Europe is the EU's key funding programme for research and innovation with a budget of €95.5 billion. It tackles among others climate change, helps to achieve the UN's Sustainable Development Goals and boosts the EU's competitiveness and growth.

The programme facilitates collaboration and strengthens the impact of research and innovation in developing, supporting and implementing EU policies while tackling global challenges. It supports creating and better dispersing of excellent knowledge and technologies.

The aims of the health cluster of Horizon Europe include improving and protecting the health and well-being of citizens of all ages by generating new knowledge, developing innovative solutions and integrating where relevant a gender perspective to prevent, diagnose, monitor, treat and cure diseases.

Further aims include developing health technologies, mitigating health risks, protecting populations and promoting good health and well-being in general and at work.

Finally, this cluster also aims to make public health systems more cost-effective, equitable and sustainable, prevent and tackle poverty-related diseases and support and enable patients' participation and self-management.

In the Horizon branch focusing on the farm to fork strategy there is a research area that focuses on integrated surveillance systems to prevent and reduce diet-related NCD's and an area that deals with trustworthy Artificial Intelligence tools to predict the risk of chronic NCD's and/or their progression.Other relevant and contributing EU actions

In the description the strands attention has already been given to various EU programmes and strategies that in a direct or indirect way have an input on the NCD's in question and their determinants. The importance of the Europe Beating Cancer plan is repeatedly referred to in this regard as well as the Best Practices Portal at JRC. Without aiming to be complete we like to mention some other EU actions that were not discussed before but have relevance for the initiative. We mention the EU Public Procurement tools including cross-border joint public tenders, the Climate and Health Adaptation strategy and the EU strategy on the rights of the child. In the "EU strategic framework on health and safety at work 2021-2027 - Occupational safety and health in a changing world of work" , the Commission announces among others that in the area of occupational circulatory diseases further research and data collection should be initiated as well as health promotion at work both at EU and national level. In addition there will be attention for workers

mental health also focusing on healthcare workers. With the Health Promotion and Disease Prevention Knowledge gateway the Commission aims to increase the accessibility of policy relevant information.

Next there is the new Urban Mobility Framework with the aim to create healthier and safer mobility and to support active mobility modes such as walking and cycling and reduce the impact of environmental factors on respiratory diseases. Support for actions in this area will be available from the before mentioned financing instruments.

Actions under the Zero Pollution Action Plan (ZPAP) aim, among others, to contribute to reducing health inequalities through working towards zero pollution and aiming at better cardiovascular, respiratory and mental health next to focusing on cancer. In this area the EC has implemented the European Climate and health observatory.

The European Commission has also launched a large two-year campaign, HealthyLifestyle4All, that aims to link sport and active lifestyles with health, food and other policies.

In addition to a number of projects and joint actions that are mentioned in the chapter on the five strands there are a number of projects currently or previously funded by the Commission that bear relevance to the five strands discussed in this initiative. It goes beyond the purpose of this document to mention all of them and end up by still leaving some out unjustifiably.

3.3. Other EU instruments

Table 3.3.1 Overview of EU legal and financial frameworks

1. Cardiovascular diseases					
N°	**Specific policy/action**	**Contribution**	**Lead DG**	**Indicative timeline**	**State of play**
1.	EU strategic framework on health and safety at work 2021-2027	Improve working conditions and health promotion at work for people with NCDs. The initiative will contribute with research and data collection on occupational circulatory diseases as well as health promotion at work.	EU-OSHA	2021-2027	
2.	Health Promotion and Disease Prevention Knowledge Gateway	Information resource on health and non-communicable diseases for public health policy makers.	SANTE		
3.	EU public procurement tools (Relevant for all NCDs)	Increased negotiation power for the EU member states and value based procurement allowing to improve the health outcome of the patient			
2. Diabetes					
N°	**Specific policy/action**	**Contribution**	**Lead DG**	**Indicative timeline**	**State of play**
1.	Health Promotion and Disease Prevention Knowledge Gateway	Information resource on health and non-communicable diseases for public health policy makers.	SANTE		

2.	Disease Gateway for disease monitoring purposes utilizing data from disease registries across the EU.	The initiative will collect data from the various data sources, clean and harmonise them and derive indicators with particular attention to ensuring the necessary level of quality, starting from diabetes and possibly expanding to Alzheimer's disease and long COVID.	SANTE/ECDC		
3.	Europe's Beating Cancer Plan provide evidence-based recommendations for screening and diagnosis and a voluntary quality assurance scheme covering the entire care pathway	The methodology used to create the recommendations based on latest scientific evidence could be adapted to other NCDs.	SANTE		
4.					
3. ***Chronic respiratory diseases***					
N°	**Specific policy/action**	**Contribution**	**Lead DG**	**Indicative timeline**	**State of play**
1.	Directive 98/24/EC on the protection of workers from the risks related to chemical agents at work.	Protect workers from the risks related to chemical agents at work.	EMPL	EU works on updating the directive	
2.	Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work	Protect workers from the risks related to exposure to carcinogens or mutagens at work	EMPL	EU works on updating the directive	
3.	Directive 2009/148/EC on the protection of workers from the risks related to exposure to asbestos at work	Protect workers from the risks related to exposure to asbestos at work.	EMPL	EU works on updating the directive	
4. ***Mental health and neurological disorders (see also separate mapping)***					
N°	**Specific policy/action**	**Contribution**	**Lead DG**	**Indicative timeline**	**State of play**
1.	E-tools and guidance for risk assessments related to green and digital jobs and processes, including	Practical tool to help both employers and workers, particularly of small businesses, contribute to prevent NCDs. (e.g. understand and manage stress and psychological risks).	EU-OSHA		Available

	psychosocial and ergonomic risks and initiatives investing in health at the workplace (EU strategic framework on health and safety at work 2021-2027)				
2.	Expert panel on effective ways of investing in health: opinion on supporting the mental health of healthcare workers and other essential workers (EU strategic framework on health and safety at work 2021-2027)	Reflects on factors influencing the mental health of health workforce and (other) essential workers, provides recommendations to strengthen this.	SANTE	Adopted in October 2021	
3.	Initiative on research. The EU strategic framework on health and safety at work 2021-2027	Results from ongoing research on occupational safety and health will provide valuable input, for example on mental health at work.	EU-OSHA		
4.					

5. *Health determinants*						
N°	**Specific policy/action**	**Contribution**	Financial instruments	**Lead DG**	**Indicative timeline**	**State of play**
1.	Integrated surveillance system to prevent and reduce diet-related Non Communicable Diseases (Horizon Europe Work Programme 2021-2022)	Improved public health and public awareness on a healthier diet will reduce NCDs, in particular in vulnerable population groups across Europe.	Total indicative budget for the topic is EUR 11.00 million	EFSA	2021-2022	
2.	Research and innovation action to reduce risks of non-communicable diseases in adolescence and youth (Horizon Europe Work Programme 2021-2022)	Results from ongoing research will contribute to improved insights and evidences on the NCDs related to behaviors and conditions in youth and adolescence. Guidelines on how to support adolescents and young people to decrease future risks of developing NCDs.	The total indicative budget for the topic is EUR 25.00 million.	EFSA	2021-2022	
3.	Trustworthy AI tools to predict the risk of chronic non-communicable	Improved health care measure superior to the standard-of-care.	The total indicative budget for the	EFSA		

	diseases and/or their progression (Horizon Europe Work Programme 2021-2022)	Public are better informed for managing their own health. Possible to identify and follow-up individuals with high risk for chronic non-communicable diseases.	topic is EUR 60.00 million			
4.	The new EU Urban Mobility Framework	Prevent NCDs by contributing to create healthier and safer mobility and support active mobility modes such as walking and cycling.			.	Presented December 2021
5.	The HealthyLifestyle4All Initiative two-year campaign The HealthyLifestyle4All Initiative | Sport (europa.eu)	Reducing the burden of NCDs by linking sport and active lifestyles with health, food and other policies.	-		2021-2023	Presented September 2021
6.	Erasmus + (EU's programme to support education, training, youth and sport in Europe.)	Reducing the burden of NCDs by supporting education, training, youth and sport.	EUR 26.51 billion		2021-2027	
7.	The European Regional Development fund (ERDF) and European Social Fund Plus (ESF+)	ERDF and ESF+ can provide grants to improve health systems resilience, accessibility and effectiveness, for instance: development of health infrastructure (including digital), innovation and efficiency enhancing reforms in health, health promotion, disease prevention, integrated care, health workforce training, digital tools and solutions such as telemedicine, medical products and supplies to strengthen the resilience of health systems.	EUR 88 billion	EMPL	2021-2027	
8.	Developing and Extending Evidence and Practice from the Standard European Alcohol Survey (DEEP SEAS)	Results from the Standard European Alcohol Survey could contribute to improved insights and evidences on the consumption of alcohol.				
9.	Fetal Alcohol Reduction and exchange of European knowledge after SEAS (FAR SEAS)	Insights on best practices to reduce alcohol-related harm, focusing on alcohol problems faced by women, and evidence and action to reduce prenatal exposure to alcohol and associated harm.				
10.	Alcohol Harm – Measuring and Building Capacity for Policy Response and Action	Studies and capacity building activities to reduce alcohol related harm.				Launched in December 2020

	(ALHAMBRA project)					
11.	Mapping of pricing policies & fiscal measures applied to foods high in sugar, fat and salt and, non-alcoholic & alcoholic beverages.	Pricing policies and fiscal measures could help improve people's diet and hence promote better health and prevent NCDs.		The Consumers, Health, Agriculture and Food Executive Agency (CHAFEA)	The report is envisaged to be delivered by Q2/Q3 of 2022.	
12.	European Cancer Inequalities Registry (Europe's Beating Cancer Plan)	Mapping provide overview of disparities between countries for health determinants (i.e. Smoking, obesity, physical inactivity), which are shared by cancer and other NCDs (diabetes, CVD, respiratory diseases).		SANTE	Europe's Beating Cancer Plan	Launched February 2022
13.	Health Promotion and Disease Prevention Knowledge Gateway	Information resource on health and non-communicable diseases for public health policy makers.				
14.	Steering Group on Health Promotion, Disease Prevention and Management of Non-Communicable Diseases (SGPP)	Collect and disseminate best practices related to health promotion, disease prevention, and the management of non-communicable diseases. Using EU financial instruments it helps interested Member States to implement best practices they are interested in.	-	SANTE		Ongoing
15.	Food And Beverage Labels explorer (FABLE)	FABLE will allow policy makers, researchers and the public to explore, interact with, and visualise the information collected from food labels across the EU (i.e. energy content; content of sugars, total and saturated fats, salt, fibre; ingredients).		JRC		
16.	EU Reformulation Monitoring (EURMORE)	Monitoring system of reformulation initiatives and evaluation of its feasibility in terms of efficiency and cost-effectiveness.		JRC		
17.	Implementing effective health Interventions (Joint action best ReMap)	Healthier offer of healthier option of processed food (by reducing salt, sugar and fat from the processed foods)		JRC		
18.	European Standardised Monitoring system for the reformulation of	Reduce unhealthy (digital) food marketing to children and adolescents		JRC		

	processed foods (Joint action best ReMap)	and to use already developed tools for harmonised monitoring of (digital) marketing				
19.	The InvestEU programme	The InvestEU Programme is intended to mobilise public and private investment using a budgetary guarantee and resources from the EU budget. InvestEU will support financing and investment related to social infrastructure, including health infrastructure; Health innovation - clinical development, validation and market entry; Health and care systems, including via the strengthening of research, development and testing of innovative solutions in health systems and via the digitalization of health systems.	The InvestEU Fund (guarantee) of €26.2 billion is expected to mobilise more than €372 billion of additional investment in various economic sectors, including in health.	ECFIN	2021-2027	
20.	Align EU's air quality standards with WHO guidelines (Zero Pollution Action Plan)	Improve air quality as to reduce risks related to exposure of air pollution.				
23.	Pollutant lists and corresponding regulatory standards updated in Environmental Quality Standards, Groundwater and Water Framework Directives limiting carcinogenic pollutants (Zero Pollution Action Plan)	Protect public from the risks related to exposure of air pollution and hence prevent NCDs (especially cardiovascular and respiratory disease).				
24.	Explore removal of carcinogenic chemicals in revision of Urban Waste Water Treatment Directive. (Zero Pollution Action Plan)	Protect public from the risks related to exposure of carcinogenic chemicals.				
25	Promotion of depolluted and re-naturalised sites as potential public green areas (Zero	Promote better living conditions and protect public from the risks related to exposure of pollution.				

	Pollution Action Plan)					
26.	Article 5, on adaptation to climate change, of the European Climate Law	The running of the observatory, and some actions carried out under its roof, are supposed by EU4Health, LIFE, and Horizon Europe	-	European Climate and Health Observatory		Adopted in July 2021

4. Closing Remarks

This document points at areas, policies and interventions that may support ambitious action to reduce the burden of NCDs.

During the discussions supporting the drafting of this initiative, that will last until June, countries are expected to comment and complement the list, identify which of the actions they prefer and prioritise. Inputs from stakeholders will also be key to reach this.

The Commission plans to complement the text with additional references, including where available on effectiveness, cost-effectiveness and successful national experiences. Future versions of this document will further expand by making use of previous and ongoing efforts by international organisations (WHO, OECD), by expert networks (e.g., the Cochrane collaboration), by EU supported activities (Joint Actions, work by the JRC) as well as by national institutes and by the existing body of international research in compiling the evidence for effective policies, actions and interventions and evaluating the best ways to implement these. As such evidence is highly context-dependent, countries are invited to provide linkage to national level experts, e.g., at delegated bodies, whom can be consulted and potentially brought together during this process.

The aim is to assist countries in making their preferred choices and in the implementation process.

Annex 1 – Non-communicable diseases burden and risk factors

Non-communicable diseases (NCDs) are diseases that are often of a combination of genetic, physiological, environmental and behavioural factors.[77] More than a third of all people aged 16 years and older living in the EU-27 has at least one long-standing self-reported illness or health problem (2019)[78]; higher estimates of NCD prevalence have been found using other definitions and assessment methods. Because of population ageing, unhealthy lifestyle and better medical treatments reducing the mortality of NCDs, it is expected that this proportion will further increase. Therefore, it is essential to promote healthy aging and prevent frailty and ageism. Furthermore, multimorbidity is on the rise. Managing multimorbidity has become a major additional challenge for European health systems and societies as both the diseases and the treatment may interfere with each other, thus complicating disease management and patient care.

The burden of NCDs

The major types of NCDs are cardiovascular diseases, diabetes, cancer, chronic respiratory diseases, and mental health conditions.[79] These five conditions account for an estimated 86% of all deaths in the WHO European region.[80] Given that cancer is responsible for about 20% of all deaths[81], still two thirds of all deaths in the European region result from cardiovascular diseases, diabetes, chronic respiratory diseases, and mental health conditions. Within the EU, cardiovascular diseases are the leading cause of death (37% of all deaths in 2017), followed by cancer (26%) and chronic respiratory diseases (8%) (Figure A1). Dementia because of Alzheimer's disease or other causes accounted for 5% of all deaths in 2017, and diabetes for 2%. Suicide (1% of all deaths in 2017) is the most frequent cause of violent deaths.[82]

[77] https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases

[78] Statistics | Eurostat (europa.eu)

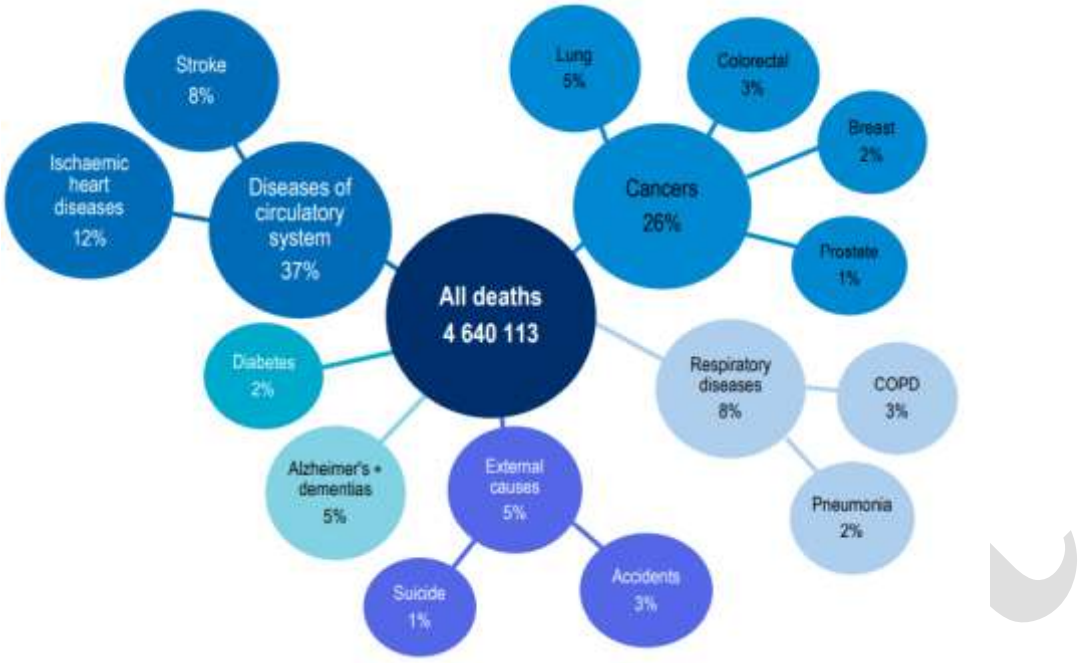
[79] https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases

[80] WHO/Europe | Non-communicable diseases

[81] https://www.euro.who.int/en/health-topics/noncommunicable-diseases/cancer/cancer

[82] OECD/European Union (2020), Health at a Glance: Europe 2020: State of Health in the EU Cycle, OECD Publishing, Paris, https://doi.org/10.1787/82129230-en

Figure A1. Main causes of deaths within the EU



Source: Health at a Glance Europe 2020, OECD/European Commission; data from Eurostat (2017; except for France: 2016)

The causes of death have been evolving diversely, and with different time trends, thus impacting EU countries and requiring appropriate reaction from health systems. The main causes of death vary between gender and socioeconomic groups, which is reflected in large inequalities in life expectancy. Life expectancy is particularly lower for men of working age with a low education level, as a result of the much higher mortality rates from all the main causes of death.[6] Significant health inequalities also exist between countries. While the overall mortality rate in the EU-27 was 1007 per 100 000 persons in 2017, more than 40% higher (age-standardised) mortality rates were found in Bulgaria, Hungary, Latvia, Lithuania, and Romania. The main reason for the much higher mortality rates in these countries is the higher mortality from cardiovascular diseases. In Hungary, higher mortality rates from cancer also contribute to the difference with the EU average.[83]

NCDs are also responsible for 77% of the disease burden in the European region.[84] They cause substantial human suffering and threaten the financial position of households, which reduces participation opportunities for all household members, including children. Moreover, the societal costs of NCDs are huge and expected to grow further, considering also the EU's ageing population. NCDs account for the largest part of countries' healthcare expenditures, costing EU economies €115 billion, or 0.8% of GDP, annually.[85] NCDs also entail other societal costs, such as loss of productivity, loss of workforce, loss of informal care, costs of social insurance and social care. This is particularly marked in the case of mental health issues, where only a third of the total (€600 billion) costs related to mental ill-health reflect direct spending on health care[86].

[83] OECD/European Union (2020), Health at a Glance: Europe 2020: State of Health in the EU Cycle, OECD Publishing, Paris, https://doi.org/10.1787/82129230-en

[84] WHO/Europe | Noncommunicable diseases

[85] OECD/EU (2016), Health at a Glance: Europe 2016 – State of Health in the EU Cycle, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264265592-en

[86] OECD/EU (2018), Health at a Glance: Europe 2018: State of Health in the EU Cycle, OECD Publishing, Paris. https://doi.org/10.1787/health_glance_eur-2018-en (based on data from 2015)

Role of lifestyle and opportunities for intervention

Major lifestyle related risk factors of NCDs are tobacco use, alcohol consumption, an unhealthy diet and physical inactivity.[87] Effective health promotion and preventive strategies that address both individual behaviours and facilitate healthy choices are needed to substantially reduce the prevalence and mortality of NCDs. Considering that improved health promotion and disease prevention can reduce the prevalence of NCDs by as much as 70%[88], implementing such integrated strategies on a large scale within the EU can be cost-effective and generate substantial health and wellbeing gain. Particular attention must be paid to social determinants, as these are responsible for large inequalities in the prevalence and mortality of NCDs; therefore, interventions aimed at preventing NCDs must always take into account an equity approach.

While there is substantive knowledge of the major determinants underlying NCD occurrence and progression, policy interventions that can have a significant impact have not been implemented to their full potential within the EU. In 2018, no more than 2.8% of total health expenditure in the EU was spent on prevention[89], whereas the costs of treating NCDs are high. In addition, despite the high expenditures to NCD management, many patients experience the quality of care as suboptimal; they experience a lack of care coordination and integration, little involvement in decision-making and co-creation and unmet needs.[90] These deficiencies are even more strongly felt by people with multimorbidity.[91]

Impact of COVID-19 on NCD prevention and management

Since the outbreak of the COVID-19 pandemic, the challenge for countries to effectively prevent and manage NCDs has become even bigger. The past year has shown that people suffering from NCDs run a higher risk of being affected by COVID-19 and run a higher risk of complications and dying from COVID-19. At the same time (early) diagnosis and treatment of NCDs was forcibly postponed.
COVID-19 has not only disproportionately impacted people living with NCDs, but also those at risk of NCDs, among others by rises in unhealthy behaviours (such as worse nutrition patterns and lack of physical activity) as well as significant increases in the burden of mental illness of our populations and especially among young and disadvantages groups.
As a result, the pandemic further magnified persistent inequalities in health outcomes and health determinants, both within and across countries. Health prevention and promotion activities, and care services, have been put on hold exactly when people's lifestyles and mental health deteriorated. In other words, a situation that was already serious has thus become even more challenging.

The COVID-19 pandemic has also revealed the fragility of overstretched health care systems. As noted in a recent report by the World Health Organisation on the prevention and control of NCDs this also implies that 'meeting the objectives and targets of the NCD-GAP and SDG target 3.4 in a post-COVID-19 world requires a concerted response and integration of the NCD agenda into existing global and national efforts to rebuild resilient health systems'[92]. While this can cover a wide range of areas, one that is particularly harmful for the introduction of many forms of innovation in

[87] https://www.who.int/health-topics/noncommunicable-diseases#tab=tab_1

[88] Reference to be included

[89] 3% of healthcare expenditure spent on preventive care - Products Eurostat News - Eurostat (europa.eu)

[90] Reference to be included

[91] Reference to be included

[92] https://apps.who.int/gb/ebwha/pdf_files/EB150/B150_7-en.pdf

the area of prevention and its linkage with health care provision (e.g., in primary and community care settings) is the widely shared shortage of qualified health workers.

Potentially, the COVID-19 pandemic can provide opportunities to reduce the burden of NCDs and build back better. One opportunity is that COVID-19 has made the area of health much more prominent in the minds of citizens, which may create momentum for a shift to more healthy living and for taking an active role as citizens, which is critical in the area of prevention and early detection. Additionally, COVID-19 created greater awareness, including among decision makers outside the health field, of the need to provide reliable and evidence-based information about public health risks and opportunities across all channels. Thirdly, the COVID-19 crisis led to the accelerated introduction of some new technologies by both national authorities and citizens. For instance, there has been a significant rise in the use of telemedicine in healthcare settings and this may also benefit the prevention and treatment of NCDs.

Annex 2 – Possible priority areas

This annex provides more information on the possible priority areas suggested in the body of the document, for the integrated approach and for each strand.

Integrated approach

Integrated approach area 1: Reducing health inequalities by addressing social determinants, health literacy and digital literacy

There are substantial health inequalities within and across EU countries and they are also based on social determinants, such as socio-economic position, income and education. For example, obesity and overweight rates are about twice as high in children living in the lowest income families compared to those living in the highest income families. Also, exposure to risk factors such as air pollution and tobacco use is less favourable for those living in lower income households.[93] Effectively **addressing social determinants involves a multifaceted approach**, working on strengthening protective factors and reducing risk factors. This requires long-term investment to create and ensure safe living and working environments, good housing, and access to healthy food, and income protection for families dealing with unemployment, occupational disability or high costs due to illness or disability, such as co-payments for medical care or nursing, expenditures for medical or support aids, house adaptations, etc. Moreover, **education is a key factor to tackle social determinants**, which may require countries to improve financial access for less wealthy families to educational facilities, but also to raise awareness of social inequalities at schools and training institutes. Health in All Policies are needed to ensure a multifaceted approach.

To **reduce social inequalities, promote inclusiveness and the rights** of all EU citizens, the European Pillars of Social Rights[94] (twenty principles) have been formulated. For each principle, the Commission has presented several actions; furthermore, it has set out concrete initiatives to deliver on the pillars with the European Pillars of Social Rights Action Plan[95]. This action plan includes a number of EU level actions, complementary to national level actions, and three EU level targets to help steer national policies and reforms, in particular on education and labour participation: 1. at least 78% of the EU population aged 20 to 64 should be employed by 2030, 2. at least 60% of all adults should participate in training each year, and 3. the number of people at risk of poverty or social exclusion should be reduced by at least 15 million in 2030.

Within healthcare, increasing awareness of social inequalities among care professionals is important, to help them identify and recognise social determinants in individuals and families with – or at high risk of developing – NCDs, and refer to available resources and support services. Providing integrated care and support, in collaboration with local social and community services, is essential, as health and social needs are often intertwined. Countries may check the health equity resource database at the Health Inequalities Portal (https://health-inequalities.eu/toolbox/jwddb/) to find policies, good practices, research outputs and initiatives that address health inequalities; the portal also provides an overview of EU funding options for developing and implementing actions

[93] OECD/European Union (2020), Health at a Glance: Europe 2020: State of Health in the EU Cycle, OECD Publishing, Paris, https://doi.org/10.1787/82129230-en

[94] https://ec.europa.eu/info/strategy/priorities-2019-2024/economy-works-people/jobs-growth-and-investment/european-pillar-social-rights/european-pillar-social-rights-20-principles_en

[95] https://op.europa.eu/webpub/empl/european-pillar-of-social-rights/en/

to reduce health inequalities: https://health-inequalities.eu/financing-services-that-promote-health-and-wellbeing/eu-funding/)

Example: Healthy Overvecht Utrecht (The Netherlands)

Overvecht is a neighbourhood in the city of Utrecht where relatively many less wealthy citizens live who have both health and social issues. Healthy Overvecht is an intersectoral integrated care approach to improve the health and lives of people living in this neighbourhood. Characteristics of the integrated care model are:

- Robust and integrated basic social and medical care oriented towards prevention, focusing proactively on the 15-20% of the population with elevated health risks and/or high healthcare costs.
- The 4-Domain model has been designed by general practitioners in consultation with professionals from other disciplines. The model is used for communication and analysis by professionals in the medical and social fields. The model enables GPs to work together with a patient and allows them to understand what is going on in different areas of a patient's life and how this influences the patients' perception of health. The model is also used as a tool for a common language for cooperating, for risk assessment, and for addressing physical, mental, social and societal issues with the patient or client.
- Good ICT and good data management support the care model, facilitate identification of high-need patients or clients, proactive management and intersectoral collaboration. It provides information and communication tools for patients.
- Healthcare professionals have direct lines of communication with social workers and exercise coaches ('wellbeing by prescription'). Patients are encouraged to contact social workers to find facilities for physical activity and social activities in their neighbourhood.

Source : Health inequalities portal: https://health-inequalities.eu/ (EuroHealthNet)

Besides social determinants, health literacy and digital literacy are important to explain and address health inequalities. **Health literacy** is a person's ability to access, understand, appraise and use health-related information. Limited health literacy is related to poorer health related outcomes, such as a lower receipt of screening and vaccination, more difficulty to self-manage conditions (e.g., to take medications appropriately), more difficulty to interpret labels and health messages, and – among older persons – a poorer overall health status and higher mortality rates.[96] The proportion of citizens facing difficulties because of limited health literacy range between 8% and 43% in European countries.[97]

Digital literacy is associated with the skills that enable the use of information available to citizens: access, analyze, organize, produce and disseminate using the available technologies.[98] The proportion of citizens who have at least basic digital skills varies widely across EU countries, with

[96] Berkman ND, Sheridan SL, Donahue KE, Halpern DJ, Crotty K. Low health literacy and health outcomes: an updated systematic review. Ann Intern Med. 2011 Jul 19;155(2):97-107. doi: 10.7326/0003-4819-155-2-201107190-00005. PMID: 21768583.

[97] The HLS19 Consortium of the WHO Action Network M-POHL (2021): International Report on the Methodology, Results, and Recommendations of the European Health Literacy Population Survey 2019-2021 (HLS19) of M-POHL. Austrian National Public Health Institute, Vienna.

[98] Couto MJ, Lucas C, Brites M-J, et al. Digital literacy in Europe: Best practices in six European countries. July, 2018. DOI:10.21125/edulearn.2018.0913

the lowest rates found in 2019 in Bulgaria (29%) and Romania (31%), and the highest (>70%) in Finland, the Netherlands and Sweden (Member States), and Iceland and Norway.[99]

To respond adequately to public health challenges and engage in self-management of NCDs, improving citizens' and patients' health and digital literacy is important. To help countries steer their policies on digital literacy, the EU has set a target, as part of the above mentioned European Pillars of Social Rights Action Plan: at least 80% of those aged 16 to 74 living in EU countries should have at least basic digital skills by 2030.[100] At the same time, countries should ensure that **health information is easily accessible and understandable for all citizens**. This requires careful attention to the readability and content of health messages as well as to the communication channels that are being used to reach citizens with various levels of health and digital literacy. It may also require health information to be available in languages spoken by (large) minority groups, or setting up help desks within local communities or online. Specific groups of citizens that are hard to reach through traditional communication channels may be **reached by innovative approaches involving representatives of the target population** in designing the health message or behavioural intervention and reaching out.

Moreover, countries have the responsibility to **facilitate access to high-quality of care for all citizens**, and to ensure that healthcare and support is provided that meet the needs, preferences and competencies of all citizens and patients, including those with limited health or digital literacy. Strategies to improve the quality of care for patients with limited health or digital literacy may focus on **raising awareness** of health and digital literacy issues among healthcare professionals, ensure these topics are addressed in relation to attitude and communication skills of (future) healthcare professionals in basic **medical and nursing training** and in accreditation programmes, provide tools to healthcare professionals to assess patients' health literacy and support communication, and set up community services to help people with limited health or digital skills.

Integrated approach area 2: Digital tools to support health promotion, disease prevention and management

Taking account of the various levels of health literacy and digital literacy of citizens in countries, digital tools can bring benefits for large groups of citizens, as health information and self-monitoring of health risks and NCDs could be tailored to their needs, preferences and literacy level. Furthermore, implementing digital tools to support patients or healthcare professionals may contribute to reduce unmet needs, facilitate shared decision-making and patients' self-management of NCDs, and improve the quality of care through providing easy access to up-to-date evidence-based guidelines and consulting specialists through remote access services. Making use of the full potential of digital solutions within the health system as a whole can contribute to reducing health inequalities, for instance, by providing care in the most remote areas, and it could facilitate the provision of person-centred integrated care, while also increasing efficiency of care delivery.

Example: ETAPES

ETAPES is a public health initiative from the French authorities to pilot the use of remote monitoring (telemedicine) solutions. The programme focuses on the implementation of remote monitoring solutions for several chronic conditions, including diabetes, heart failure, chronic kidney disease and chronic respiratory disease. For each of these conditions healthcare professionals can choose among several apps

[99] Eurostat - Data Explorer (europa.eu)

[100] https://op.europa.eu/webpub/empl/european-pillar-of-social-rights/en/

for remote monitoring, for which they are offered reimbursement against fixed (negotiated) rates. Real-world data have shown that the programme is effective, and highly appreciated by patients

Source: ETAPES: La télésurveillance France https://solidarites-sante.gouv.fr/soins-et-maladies/prises-en-charge-specialisees/telesante-pour-l-acces-de-tous-a-des-soins-a-distance/article/la-telesurveillance-etapes

Integrated approach area 3: Integration of health promotion and disease prevention in the health system

Embedding health promotion and disease prevention efforts systematically in the health system, in particular in what regards advice on lifestyle, can improve results and contribute to patient-centred integrated care. Re-orienting health systems towards health promotion and disease prevention, integrating lifestyle assessment and intervention into the practice of primary care professionals (and linking it to community resources) is an opportunity to improve health outcomes and the efficiency of health systems.[101] Below the prevention and health promotion strategy of the Spanish National Health Service is provided as an example. Other countries also worked on integration of health promotion and disease prevention in the healthcare setting. For example, France adopted a "National sports and health strategy 2019-2024", which also includes actions to support and prescribe adapted physical activity by primary care physicians.[102]

Example: The prevention and health promotion strategy of the Spanish National Health Service

The strategy was launched in 2013. It proposes the progressive development of interventions aimed at improving health and preventing diseases, injuries and disability. The mission is to facilitate a common framework for health promotion and primary prevention in the course of life, harmonising its integration in the portfolio of services of the NHS and getting other sectors of society actively involved, promoting participation of individuals and population in order to raise their autonomy and capacity to have a greater control over their own health. It has a three-dimensional course of action: by populations, environments and factors to address. In the first stage, the populations prioritised were pregnant women, children (< 15) and those aged 50 years and older. The priority environments identified, in addition to the healthcare, were education and community. The factors addressed: healthy eating, physical activity, tobacco consumption and hazardous drinking, in addition to emotional wellbeing and a safe environment for preventing non-intentional injuries. Within the selected interventions for action it includes: comprehensive counselling about life styles in primary healthcare, linked to community resources (for child population, pregnant and breast-feeding women and adult population), positive parenthood programme, for promoting emotional wellbeing among the child population and frailty screening and preventive intervention for the elderly. The strategic lines include: strengthening public health, territorial coordination and governance, health equity, re-orientation of health services and intersectoriality in health.

Source:
https://www.sanidad.gob.es/profesionales/saludPublica/prevPromocion/Estrategia/estrategiaPromocionyPrevencion.htm

Integrated approach area 4: Enhancing and implementing effective screening approaches

Screening programmes are public health programmes that focus directly on the prevention of diseases and disabilities, and can have a great impact on the health of the population. Their

[101] https://www.sanidad.gob.es/profesionales/saludPublica/prevPromocion/Estrategia/docs/Consejo_Integral_EstiloVida_en_AtencionPrimaria.pdf

[102] rapport_snss_2019-2024_cs6_v5.pdf (sports.gouv.fr)

effectiveness depend not only on the prevalence of the condition among the population, but also on the actual effectiveness of the health system, acceptability, expertise and available resources. A programmatic approach can improve equitable access to health and non-health benefits for citizens. Screening programmes should be based on screening guidelines and recommendations, and must pass clinical efficacy and cost-effectiveness studies before being implemented in a national or regional health system.

Early intervention before the appearance of clinical symptoms prevents, in many cases, the appearance of deficiencies or reduces their severity in new-borns or in the screened population, allowing a better quality of life for both those affected and their families. In other cases, such as prenatal screening for chromosomal abnormalities, the disability associated with the anomality may not be avoidable, but having prenatal information allows the family to make decisions, and also allows faster access to early care and social benefits. Moreover, these programmes are often associated with a genetic counselling programme, which allows the family of a child with such a disease or anomality to have the necessary advice to make decisions about their reproductive options. Genetic counselling programmes should therefore address ethical, legal and social aspects. Genetic counselling can also reveal diseases in adult relatives and may help preventing complications and disabilities associated with the disease.

The main actions that might be carried out in relation to screening programmes include:

- Strengthen screening activities by implementing them as public health programmes;
- Implement improvement actions to ensure access, high-quality, efficacy and efficiency of national or regional screening programmes;
- Coordinate to standardise screening protocols for different diseases included in population screening programmes;
- Encourage neonatal metabolic screening (NBS) programmes to implement improvement actions to achieve high-quality objectives in terms of early detection, treatment and care, and build consensus on the diseases that should be included in the NBS programmes in countries[103];
- Encourage new-born hearing screening programmes to implement improvement actions to achieve quality objectives in terms of early detection, treatment and care;
- Strengthen and expand population screening information systems for continuous monitoring and evaluation of the quality of screening programmes;
- Reinforce information to citizens about screening programmes, so that they can understand their importance and access them equitably; and integrate low-threshold, target-group specific approaches in structures that are used by vulnerable or hard-to-reach groups;
- Develop clinical guides for healthcare professionals and guides for patients and their families that allow a better understanding of the detected disease or impairment;
- Advance in research and update the scientific evidence for continuous advancing in the incorporation of new diseases in screening programmes that allow their early detection and avoid morbidity, disability and mortality caused by them;
- Strengthen targeted opportunistic screening by healthcare professionals to detect specific NCDs among high-risk populations or families (e.g. familial hypercholesterolemia[104]).

Integrated approach area 5: Implementing (updated) evidence-based guidelines for healthcare professionals

To improve the quality of NCD prevention, screening, early detection and management, public health and healthcare professionals need evidence-based guidelines which they can easily access,

[103] Dima V. Actualities in neonatal endocrine and metabolic screening. Acta Endocrinologica (Buc), vol. XVII, no. 3, 2021. DOI: 10.4183/aeb.2021.294.

[104] Rosso A, Pitini E, D'Andrea E, Massimi A, De Vito C. Marzuillo C. Villari P. The cost-effectivness of genetic screening for familial hypercholesterolemia: a systematic review. Ann Ig 2017; 29(5): 464-480. DOI: 10.7416/ai.2017.2178.

for instance, through digital tools. Guidelines for NCD prevention, screening, early detection need to be updated regularly. Also, multidisciplinary guidelines may be needed to ensure high-quality through the whole patient care pathway. In addition, guidelines may be reviewed from the perspective of multimorbidity, as current guidelines to manage NCDs have been developed based on evidence from clinical trials that often exclude people with multimorbidity. As such, the effectiveness and cost-effectiveness of certain treatments for NCDs are unknown for people with multimorbidity is unknown, as are their side-effects and safety. To ensure high-quality NCD prevention and management across the EU, countries and stakeholders may wish to put effort in standardisation or alignment of guidelines. Countries may also wish to exchange good practices to improve the implementation of guidelines within the public health and healthcare setting, to reduce unwanted variation in quality and outcomes.

Integrated approach area 6: Health system redesign to deliver person-centred and integrated care

Multimorbidity is on the rise, which requires health systems to redesign service, as managing NCDs through single disease management approaches may no longer be appropriate, as they tend to ignore disease encompassing issues (e.g., coordination and integration of care provided by multiple care providers, polypharmacy, interfering preventive interventions and treatments). A system-wide approach is needed, preferably based in primary care, to facilitate person-centred integrated care that meet the comprehensive needs of people with multimorbidity. Integration of primary, hospital and specialised care can also improve the management of single NCDs. Such an integrated approach would also increase cost-effectiveness. **Digital tools** can support integration of care.

Example: DIGA - Germany

The Digital Healthcare Act in 2019 introduced the "app on prescription" as part of healthcare provided to patients. 73 million insured patients are entitled to healthcare through digital health applications. All medical apps in scope of DIGA – mobile apps that are CE-marked as a medical device – must have the EU regulatory approval as a prerequisite, ensuring the safety, performance and demonstration of a clinical benefit, as well as deploying a robust market surveillance system. The DIGA system then has a set of requirements and criteria that a medical app has to meet in order to be prescribed by physicians and psychotherapists and to be reimbursed by health insurers.

Source: BfArM - Digital Health Applications (DiGA)

Several countries have piloted or implemented person-centred integrated care models at a local or regional level. Good practices have been identified, developed and implemented in EU Joint Actions, such as JA-CHRODIS and CHRODIS+ (e.g., the JA-CHRODIS Multimorbidity Care Model), and projects, such as ICARE4EU and SCIROCCO, funded by the EU Health Programme. The EU Public Health Best Practice Portal contains a number of innovative care models that have been piloted or implemented in EU countries. Integrated care models developed with EU funding for research and innovation can be found in the CORDIS database[105] of EU research results, for example the model developed in the SELFIE project (Sustainable intEgrated care modeLs for multi-morbidity: delivery, FInancing and performancE; https://cordis.europa.eu/project/id/634288).

[105] The Community Research and Development Information Service (CORDIS) is the European Commission's primary source of results from the projects funded by the EU's framework programmes for research and innovation (FP1 to Horizon 2020).

Transfer of good practices is also supported by Joint Actions, such as JA-JADECARE for integrated care and a new Joint Action for primary care to be launched in 2022 under the EU4Health programme. Moreover, EU projects such as VIGOUR and SCIROCCO-Exchange, support the **scale-up** of integrated care implementation, via coaching and knowledge transfer to increase the capacity of healthcare authorities to implement successfully.

Integrated approach area 7: Age-, gender- and culture-sensitive strategies

An intersectoral approach would facilitate identifying vulnerable groups, and help design strategies to decrease the NCDs burden by addressing age, gender and cultural aspects. Age-, gender- and culture-sensitive health promotion, prevention and disease management could be achieved by resorting to co-design public health strategies and person-centred care models. In that regard, special attention should also be given to the specific needs, preferences and competencies of migrants and refugees. Destigmatising strategies should also be included, and target both citizens and healthcare professionals.

Integrated approach area 8: Regulation and support for people with NCDs and their caregivers to facilitate social and labour participation

Integrated intersectoral approaches are needed to support children, adolescents and young adults living with NCDs to attend school, follow educational training and participate in sports and social activities, to ensure equity and prevent mental health issues, loneliness and exclusion.

Adults living with NCDs also need guidance to **access the labour market and support to return to work** after acute illness or medical treatment, and both adults with NCDs and caregivers need support to maintain or adjust their work to prevent early dropout of the labour market, which may negatively impact their lives in many ways. To **improve inclusiveness and promote the rights** of EU citizens with disabilities, the Commission adopted the Strategy for the Rights of Persons with Disabilities 2021-2030. This strategy will contribute to the implementation of the European Pillar of Social Rights Action Plan, and help countries steer and support their policies on improving access to training and work for people with disabilities and carers. To support carers in combining care with work, the Commission will also ensure that countries fully transpose the EU Work-life Balance Directive[106], which provides options for leave of carers and the possibility to request flexible working arrangements.

In the Joint Action CHRODIS+ countries developed together with stakeholders a Workbox on Employment and Chronic conditions[107] which provides tools and suggestions to assess and strengthen the inclusiveness of workplaces, to prevent the development of NCDs, to foster health, wellbeing and workability of employees, to support return to work after sick leave, and to help people with NCDs to stay at work. The Workbox provides checklists and training tools for managers and a comprehensive toolkit for work places, with practical tools to address lifestyle factors, ergonomics, creating a supportive work environment and increasing knowledge and understanding, suggestions for work arrangements to support return to work and prevent early drop-out, and policies to foster employees' health and wellbeing, including attention to mental health.

[106] https://ec.europa.eu/social/main.jsp?catId=89&furtherNews=yes&newsId=9438&langId=en

[107] https://workbox.chrodis.eu/staging/

Integrated approach area 9: Improving the availability of NCD data for decision-makers

Data of high quality is crucial for all NCDs health promotion and disease prevention. Thus, NCDs surveillance system that includes national representative data on the prevalence of all NCDs including mental health and neurological disorders, premature mortality of NCDs, accurate measurement of lifestyle behaviours (e.g. smoking, physical activity), other risk factors (e.g. obesity, blood pressure, blood sugar level), NCD severity (e.g. lung function) and disability, is of great usefulness. Existing public databases include for instance the WHO European NCD dashboard[108].

In addition, considering the important role of social determinants in the development and progress of NCDs, accurate and up-to-date data are needed to monitor countries' progress in reducing social inequalities, poverty and unemployment.

Health determinants

Health determinants area 1: Control smoking of tobacco and related products among the general population

Despite progress made in previous years, still 23% of the EU overall population aged 15 and older were regularly smoking tobacco in 2020.[109] Some countries (e.g., Estonia, Finland, Iceland, the Netherlands, Norway, and Sweden) have been quite successful in reducing the number of daily adult smokers, but many did not make substantial progress in ten years, and large differences between countries still exist.[110] Furthermore, although smoking prevalence seems to be decreasing among young Europeans, the prevalence of emerging products such as e-cigarettes and HTPs follows an opposite trend, with consumption of these products steadily increasing. Importantly, higher smoking rates are persistently found among low-educated citizens, which contribute to the substantial difference in life expectancy between low- and high-educated citizens in EU countries. Therefore, high-impact actions are needed to improve awareness of the health risks of tobacco use among disadvantaged population groups, improve health literacy and support the resilience of individuals and communities.

Policies that have proven to be effective or promising in this area and which may be prioritised by EU countries' authorities may include:

- Measures to increase price, increase the use of warnings and labels, and reduce advertisement, sponsorship and promotion of tobacco products;
- Measures to control the availability and density of tobacco retailers;[111]
- Promotion of health literacy and awareness raising tailored to the needs of disadvantaged individuals and communities;

[108] https://www.euro.who.int/en/health-topics/noncommunicable-diseases/pages/who-european-office-for-the-prevention-and-control-of-noncommunicable-diseases-ncd-office/data-publications-and-tools/who-european-ncd-dashboard

[109] Attitudes of Europeans towards tobacco and electronic cigarettes. Special Eurobarometer 506. Report. European Commission, 2021. file:///H:/Downloads/ebs_506_en.pdf

[110] https://www.oecd-ilibrary.org/sites/82129230-en/1/3/2/2/2/index.html?itemId=/content/publication/82129230-en&_csp_=e7f5d56a7f4dd03271a59acda6e2be1b&itemIGO=oecd&itemContentType=book&_ga=2.194704677.901585610.1638700181-1696834570.1622818586

[111] For example: https://doi.org/10.1001/jamainternmed.2016.4535 and https://doi.org/10.1093/ntr/ntaa223

- Promotion of work-based support programmes to quit smoking, complemented by primary healthcare programmes that may reach also unemployed persons;[112]
- Promotion of programmes to quit smoking using eHealth technology;[113]
- Adjust legislation to cover new tobacco-related products to avoid legislative gaps in face of new forms of consumption.

Countries may benefit from studying the results of the most recent report of the Tobacco Control Scale, which is an international comparative effort that identifies and compares policies and actions that have been implemented in EU countries and other countries. The report of 2019 shows to what extent countries have made progress in implementing tobacco policies; it also shows that for many EU countries there are still lots of opportunities to implement new and effective tobacco policies.[114] The recommendations are summarised in the box below.

Recommendations of the Tobacco Control Scale 2019 in Europe report

1. Implement at least the six World Bank priority measures; a comprehensive tobacco control policy is an obligation under Article 4 of the WHO Framework Convention on Tobacco Control (FCTC).
2. Spend a minimum of €2 per capita per year on tobacco control.
3. Address tobacco industry interference in public health policy making, in accordance with the guidelines on Article 5.3 of the WHO FCTC.
4. Implement the FCTC Article 6 guidelines on tobacco taxation and revise the EU Tobacco Tax Directive in 2020, which should result in significant tax increases and smaller tax differences between cigarettes and hand rolled tobacco.
5. Introduce comprehensive smoke free legislation in line with the FCTC Article 8 guidelines, including a ban on smoking in private cars when minors are present.
6. Introduce standardised/plain packaging for all tobacco products.
7. Ban the display of tobacco products at the point of sale.
8. Accelerate the implementation of tobacco cessation support in line with Article 14 of the WHO FCTC and its guidelines.
9. Ratify the WHO FCTC Protocol to eliminate the illicit trade in tobacco products and adopt tracking and tracing standards in line with the Protocol.
10. Invest in research to monitor and measure the effect of tobacco control policies in line with Article 20 of the WHO FCTC.

Source: Joossens L, Feliu A, Fernandez E. The Tobacco Control Scale 2019 in Europe. Brussels. Association of European Cancer Leagues. Catalan Institute of Oncology, 2020.
https://www.tobaccocontrolscale.org/TCS2019.pdf

The WHO has formulated Best Buys and other recommended interventions to address NCDs, of which a number focus on the control of tobacco smoking (see below).

WHO Best Buys and other recommended interventions from WHO guidance

Best buys:

1. Increase excise taxes and prices on tobacco products.
2. Implement plain/standardized packaging and/or large graphic health warnings on all tobacco packages.
3. Enact and enforce comprehensive bans on tobacco advertising, promotion, and sponsorship.
4. Eliminate exposure to second-hand tobacco smoke in all indoor workplaces, public places, and public transport.

[112] https://doi.org/10.1111/add.14760

[113] https://doi.org/10.1111/add.14656

[114] Joossens L, Feliu A, Fernandez E. The Tobacco Control Scale 2019 in Europe. Brussels. Association of European Cancer Leagues. Catalan Institute of Oncology. 2020. https://www.tobaccocontrolscale.org/TCS2019.pdf

5. Implement effective mass-media campaigns that educate the public about the harms of smoking/tobacco use and second-hand smoke.

Other effective and recommended interventions:

6. Provide cost-covered, effective and population-wide support (including brief advice, national toll-free quit line services) for tobacco cessation to all those who want to quit.
7. Implement measures to minimize illicit trade in tobacco products.
8. Ban cross-border advertising, including modern means of communcation.
9. Provide mobile phone based tobacco cessation services for all those who want to quit.

Source: World Health Organization. Saving lives, spending less: the case for investing in non-communicable diseases'. December 2021. *Source: World Health Organization.* Saving lives, spending less: the case for investing in non-communicable diseases'. December 2021. https://apps.who.int/iris/rest/bitstreams/1399949/retrieve

Source: World Health Organization. 'Best buys' and other recommended interventions for the prevention and control of noncommunicable diseases. Updated (2017) appendix of the Global Action Plan for the prevention and control of noncommunicable diseases 2013-2020. https://www.who.int/ncds/management/WHO_Appendix_BestBuys_LS.pdf

A progress update on how countries perform regarding the implementation of the WHO Framework Convention on Tobacco Control (WHO FCTC may provide further suggestions for EU countries to implement policies to control the use of tobacco and related products among the general population (see below).

The WHO Framework Convention on Tobacco Control (WHO FCTC)

The WHO Framework Convention on Tobacco Control (WHO FCTC) provides the legal foundation for countries to implement and manage tobacco control. In 2008, the WHO introduced a package of six evidence-based measures under the acronym of MPOWER, which support scale-up of provisions of the WHO FCTC at country level. These measures include:

- **M**onitoring tobacco use and prevention policies;
- **P**rotecting people from tobacco smoke;
- **O**ffering help to quit tobacco use;
- **W**arning about the dangers of tobacco;
- **E**nforcing bans on tobacco advertising, promotion and sponsorship; and
- **R**aising taxes on tobacco.

The implementation of these measures have proven to reduce tobacco consumption. The WHO has published five progress reports on the activities of all countries in relation to these six measures as well as a factsheet on the implementation of the MPOWER measures specifically in the WHO European Region in 2019. Note that the results below apply to the whole European Region (53 countries) and not to the EU-27 in particular.

This factsheet describes that in 2019 most countries of the European Region appear to be performing well in monitoring tobacco use and prevention policies (74% of the countries offer this measure at the recommended implementation level) and in warning about the dangers of tobacco (72%). The European Region is also performing better than globally on raising taxes on tobacco (47%), although more than half of European Region countries levy taxes below best-practice level. Offering support to quit tobacco use is at the recommended implementation level in only 15% of the European Region countries. The percentage of countries with comprehensive smoke-free laws is lower in the European Region than at global level (26% and 32% respectively). With 21 countries having partial laws in 2019, more needs to be done to introduce comprehensive smoke-free laws to protect people from the harms of second-hand smoke. Furthermore, almost twice as many countries at global level ban all forms of advertising, promotion and sponsorship of tobacco products than in the WHO European Region (25% versus 13%).

Source: https://www.euro.who.int/en/health-topics/disease-prevention/tobacco/publications/2020/factsheets-on-who-fctc-implementation-through-mpower-in-the-who-european-region-2020

The European Network for Smoking and Tobacco Prevention (ENSP) is monitoring and supporting the implementation of the WHO FCTC measures in Europe. Related to the measure 'Offer help to quit smoking', the ENSP developed together with 15 European countries in 2018 an accredited eLearning training platform for healthcare professionals on tobacco treatment, which could be further implemented. The maintenance of the platform and the extension of the course in new languages and new modules is funded for EU countries by the EU Health Programme (see EU Public Health Best Practice Portal: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=379).

In several regions in the EU policies have been implemented to reduce smoking in various settings, including the workplace. An example of a work-based support programme is the best practice 'Lombardy Workplace Health Promotion Network' (below), which offers an integrated approach to support healthy behaviours, including a smoke-free environment and support to quit smoking. Also, the Toolbox for workplaces, developed in the Joint Action CHRODIS, provides policies and interventions for health promotion at the workplace, including no smoking policies and interventions (e.g. launching a challenge to motivate employees to quit smoking with incentives and commitment to the challenge by signing a contract).[115]

Example: Best practice 'Workplace Health Promotion - Lombardy Network'

The Lombardy Workplace Health Promotion Network is made up of companies which recognize the value of corporate social responsibility and undertake health actions (evidence-based) of different nature: informational (smoking cessation, healthy eating, etc.), organizational (canteens, snack vending machines, agreements with gyms, stairs health programmes, walking / biking from home to work, smoke-free environment, baby pit-stop, etc.) and collaboration with others in the local community.

Source: file:///H:/Downloads/Italy-Workplace-Health-Promotion.pdf

Health determinants area 2: Prevent children, adolescents, and young adults from starting to smoke tobacco and related products

Although the prevalence of tobacco smoking seems to be decreasing among young Europeans, a still high number of youth (21%) are taking up smoking. Of all smokers and former smokers in 2020, more than half (54%) started smoking regularly before their 18th birthday. Among the 15 to 24 years old (former) smokers, those who left full-time education before the age of 15 and those who are unemployed were most likely to start smoking already before the age of 15.[116] Furthermore, as mentioned above, the use of emerging products such e-cigarettes, nicotine pouches and HTPs is steadily increasing.

Regarding tobacco smoking, it appears that almost one in five 15 years old living in the EU smoked cigarettes at least once per month in 2018, with Bulgaria (32%), Italy (29%) and Lithuania (29%) having the highest smoking rates. Although smoking tobacco among 15 years old have decreased in most countries since 2014, this is not the case in Bulgaria, Italy, Latvia, Lithuania, and Romania. Croatia and Hungary - belonging to the countries with the highest smoking rates among 15 years old in 2014 - achieved a substantial reduction, though both are still above EU average. France also made significant progress in reducing smoking among 15 years old to EU average in 2018.[117]

[115]

[116] Attitudes of Europeans towards tobacco and electronic cigarettes. Special Eurobarometer 506. Report. European Commission, 2021. file:///H:/Downloads/ebs_506_en.pdf

[117] OECD/European Union (2020), Health at a Glance: Europe 2020: State of Health in the EU Cycle, OECD Publishing, Paris, https://doi.org/10.1787/82129230-en

Although smoking cessation is the most frequent reason to start using e-cigarettes, this is less the case among those aged 15 to 24 years using e-cigarettes. Among these young users, one third started with e-cigarettes to stop or reduce their tobacco consumption. Users of e-cigarettes aged 15 to 24 are more likely than older users to believe that vaping is less harmful than tobacco smoking, to consider e-cigarettes cool or attractive, to like their flavours and to have friends using e-cigarettes.[118]

A number of policies have proven to be effective or promising in this area, including approaches that particularly target girls or boys:

- School-based programmes for preventing smoking, which also involve parents and carers, and take social influence and social competence into consideration;
- Practices on influencing the environment, for instance in sport canteens.

Some best practices initiated by NGOs have been rewarded as outstanding initiatives on the prevention of tobacco use among young people (2018 EU Health Awards[119]). The three prize winning initiatives are mentioned below as examples; the eight other candidates are mentioned in annex 3).

Example: X-HALE youth smoking prevention programme Irish Cancer Society

Since 2011, the Irish Cancer Society has worked in partnership with over 270 youth groups from across Ireland to drive the movement towards a tobacco-free generation. Using a training the trainers approach, the X-HALE programme equips youth organisations with the skills and framework to address tobacco in their communities. In youth friendly sessions organised by the youth organisations, young people are encouraged to explore the impact of tobacco and the factors that influence their decision to start smoking. Young people that participate in these sessions are empowered to become tobacco free advocates. In 2015, the X-HALE programme was further extended to include training delivery and resource provisions to school teachers.

Source: https://ec.europa.eu/health/eu-health-policy/interest-groups/eu-health-award/eu-health-award-previous-editions/2018-eu-health-award-ngos_en

Example: Education Against Tobacco

Education Against Tobacco is a multinational network driven by >3.500 volunteering medical students and physicians from 82 medical schools located in 14 countries worldwide. Its mission is to deliver school-based prevention, to help smokers quit on a population basis via free evidence-based smoking cessation apps, to improve physician-delivered smoking cessation counselling by training physicians in elective courses at medical schools and to promote tobacco control by entering into dialogue with politicians.

Source: https://ec.europa.eu/health/eu-health-policy/interest-groups/eu-health-award/eu-health-award-previous-editions/2018-eu-health-award-ngos_en

The school-based prevention programme targets adolescents (10 to 15 years old) by using a multimodal approach, including the implementation of self-developed apps (i.e. the face morphing app 'Smokerface') on their smartphones.

Source: https://webgate.ec.europa.eu/dyna/bp-portal/getfile.cfm?fileid=340 (European Commission Best Practice Portal)

[118] Attitudes of Europeans towards tobacco and electronic cigarettes. Special Eurobarometer 506. Report. European Commission, 2021. file:///H:/Downloads/ebs_506_en.pdf

[119] 2018 EU Health Award for NGOs (europa.eu)

Example: Youth Network No Excuse Slovenia

The No Excuse Slovenia programme focuses on training young people as activists in the fight against tobacco. Through a training for activists targeting 14 to 15 years old and a subsequent school-based training targeting 7th grade primary students and 1st grade secondary students, the programme focuses on the following (1) development of social skills; (2) the development of drug prevention skills (3) the development of decision-making skills and (4) the correction of wrong normative assumptions among young people. Since its onset, 613 young people have completed the 1000 hour training programme for activists and another 135 000 participants have been reached through the school-based programme.

Source: https://ec.europa.eu/health/eu-health-policy/interest-groups/eu-health-award/eu-health-award-previous-editions/2018-eu-health-award-ngos_en

Health determinants area 3: Reduce harmful consumption of alcohol among the general population

Considerable differences exist between EU countries in the patterns of alcohol consumption and the trends therein. Between 2010 and 2016 these patterns either improved or deteriorated in countries, with an overall small improvement at EU level. Still, alcohol consumption in the EU is associated with significant numbers of deaths by cancer, cardiovascular disease, liver cirrhosis, and injuries.[120]

In relation to harmful alcohol consumption, countries may wish to pursue a range of policies that prioritise the protection of health in alcohol policies. Policies should also contribute to the objective of Europe's Beating Cancer Plan of reducing harmful alcohol consumption by at least 10%, taking into account the available evidence[121] and the WHO Global Alcohol Action Plan.[122]

Comprehensive packages of interventions that include both fiscal measures, regulations and health promotion actions have proven to be the most effective in reducing harmful alcohol consumption. For regulatory measures, enforcement has been proven key for success, for instance, for advertisement framing and alcohol consumption limits for driving.[123] Regarding the latter, it is of note that all EU countries have set maximum levels of blood alcohol concentration for drivers in their legislation, but these regulations are not always enforced rigorously.[124] Minimum pricing of alcohol units has shown to reduce alcohol purchases, especially among households that had the highest alcohol consumption.[125]

Policy options may include:

- Adopting measures on pricing (adequately taking into account inflation and income), advertisement, sponsorship and promotion of alcohol drinks (including cross-border

[120] WHO. 2019. Status Report on alcohol consumption, harm and policy responses in 30 European countries 2019. Copenhagen.

[121] https://www.euro.who.int/__data/assets/pdf_file/0009/386577/fs-alcohol-eng.pdf

[122] https://www.who.int/publications/m/item/global-alcohol-action-plan-second-draft-unedited#:~:text=The%20Board%2C%20in%20its%20decision,relevant%20stakeholders%2C%20for%20consideration%20by

[123] OECD/EU (2018), Health at a Glance: Europe 2018: State of Health in the EU Cycle, OECD Publishing, Paris. https://doi.org/10.1787/health_glance_eur-2018-en

[124] OECD. Tackling Harmful Alcohol Use: Economics and Public Health Policy. PaRIS, 2015: OECD Publishing. http://dx.doi.org/10.1787/9789264181069-en

[125] O'Donnell A, et al. Immediate impact of minimum unit pricing on alcohol purchases in Scotland: controlled interrupted time series analysis for 2015-18. *BMJ 2019*, p. l5274, http://dx.doi.org/10.1136/bmj.l5274

promotion). Such measures should cover low- and non-alcoholic product promotion, to prevent indirect promotion of alcoholic beverages;[126]

- Strengthening of restrictions on the availability of alcohol (number, density and location of places, opening hours, etc.), including distance selling (online or by phone) and delivery systems associated with alcohol, and reducing access to the youth and intoxicated persons;
- Strengthening health warnings and mandatory labelling of ingredients and energy and nutrient content on alcoholic beverages labels to increase consumers' information and awareness of the risks associated with drinking;
- Reinforcing surveillance and enforcement of existing (and novel) measures;
- Supporting programmes to stop or reduce drinking among the general population, heavy/binge drinkers, and the young;
- Facilitating access to screening, brief interventions and treatment. This should be specially targeted to pregnant women (or women/families who are willing to conceive) and generally contribute to identify and support people with harmful levels of alcohol use.

The EU Joint Action on Alcohol Related Harm (RARHA) has presented an inventory of various interventions with a classification of type, setting, stakeholder involvement and effectiveness.[127]Countries may also consider the interventions proposed by WHO in collaboration with international partners in the SAFER initiative or WHO Best Buys and other recommended interventions (below).

WHO SAFER initiative, Best Buys and other recommended interventions from WHO guidance

SAFER initiative

WHO launched the SAFER initiative in 2018, in collaboration with international partners. 'SAFER' is an acronym for the five most cost-effective interventions to reduce alcohol related harm :

S – Strengthen restrictions on alcohol availability

A – Advance and enforce drink driving counter measures

F – Facilitate access to screening, brief interventions and treatment

E – Enforce bans or comprehensive restrictions on alcohol advertising, sponhorship and promotion

R – Raise prices on alcohol through excise taxes and pricing policies

Source: https://www.who.int/initiatives/SAFER

Best buys and other interventions recommended by WHO

The WHO also formulated 'best buys' and other recommended interventions to address NCDs, of which the following focus on alcohol consumption:

Best buys:

1. Increase excise taxes on alcoholic beverages
2. Enact and enforce bans or comprehensive restrictions on exposure to alcohol advertising (across multiple types of media)
3. Enact and enforce restrictions on the physical availability of alcohol in sales outlets (via reduced hours of sale)

[126] https://www.deep-seas.eu/

[127] Rados Kmel S, Budde A, Van Dalen W, Van Dale D, Vegt K et al. Public Awareness, school-based and early interventions to reduce alcohol related harm. A tool kit for evidence-based good practices. National Institute of Public Health, Ljubljana, 2016.

Other effective and recommended interventions:

4. Enact and enforce drink-driving laws and blood alcohol concentration limits via sobriety checkpoints
5. Provide brief psychosocial intervention for persons with hazardous and harmful alcohol use
6. Carry out regular reviews of prices in relation to level of inflation and income
7. Establish minimum prices for alcohol where applicable
8. Enact and enforce an appropriate minimum age for purchase or consumption of alcoholic beverages and reduce density of retail outlets
9. Restrict or ban promotions of alcoholic beverages in connection with sponsorships and activities targeting young people
10. Provide prevention, treatment and care for alcohol use disorders and comorbid conditions in health and social services
11. Provide consumer information about, and label, alcoholic beverages to indicate, the harm related to alcohol

Source: World Health Organization. Saving lives, spending less: the case for investing in non-communicable diseases'. December 2021. *Source: World Health Organization.* Saving lives, spending less: the case for investing in non-communicable diseases'. December 2021. https://apps.who.int/iris/rest/bitstreams/1399949/retrieve

Source: World Health Organization. 'Best buys' and other recommended interventions for the prevention and control of noncommunicable diseases. Updated (2017) appendix of the Global Action Plan for the prevention and control of noncommunicable diseases 2013-2020. https://www.who.int/ncds/management/WHO_Appendix_BestBuys_LS.pdf

Below two examples are provided; the first is a nationwide approach from Spain, which may be inspiring for other countries too; the second is an example of a more targeted approach to train primary care professionals to offer a brief support intervention to users of primary care services with alcohol related problems.

Example: Spanish policy actions to reduce alcohol consumption

In 2020, Spain started a national working group with regional representatives on the prevention of alcohol consumption, complementing other pre-existing groups from the National Drug Strategy, but focusing specifically on alcohol. In 2021 the Group published a document with 23 lines of actions that were approved by the Public Health Commission of the Interterritorial Council. The 23 lines of actions are framed under three objectives: 1) Promote the prevention of alcohol consumption as a public health priority, 2) Establish a common framework for the prevention and control of alcohol consumption, and 3) Coordinate healthcare for the prevention and control of alcohol consumption in the Spanish National Health System with an equity perspective.

Source:
https://www.sanidad.gob.es/profesionales/saludPublica/prevPromocion/Prevencion/alcohol/docs/Lineasactuacion_PrevencionConsumoAlcohol.pdf

In 2021 the Spanish Ministry of Health published the Low Risk Alcohol Consumption Thresholds Update, which includes a review of literature of the available evidence with the collaboration of a panel of experts. Accompanying the document, relevant materials were developed, including:

- A video: "Information for policymakers. What can the public administrations do?"
- Materials for healthcare professionals, including information on how to discuss alcohol consumption during consultations with patients, and being aware of equity issues
- Materials for citizens, including tips to reduce alcohol consumption, addressing binge drinking, gender-specific issues, the difference of the effects for men and women, etc.

Source:
https://www.sanidad.gob.es/profesionales/saludPublica/prevPromocion/Prevencion/alcohol/docs/Lineasactuacion_PrevencionConsumoAlcohol.pdf

Example: Best practice "Drink Less" programme

The “Drink Less” programme aims to reduce risky drinking and alcohol-related problems affecting the population attending the primary health centres. In order to get an early and brief intervention for risky consumption, the programme provides the primary health centres’ professionals with training and suitable support instruments for consultations.

Source: https://webgate.ec.europa.eu/dyna/bp-portal/getfile.cfm?fileid=209 (European Commission Best Practice Portal)

Health determinants area 4: Prevent the consumption of alcohol among children, adolescents, and young adults

Alcohol consumption often starts in adolescence. About 38% of 15–16 years old reported having had an episode of binge drinking in the last month. High alcohol intake is associated with increased risk of heart and liver diseases and contributes to premature deaths and disabilities as a result of amongst others car accidents and violence[128].

A number of policies have proven to be effective to reduce alcohol use among young people, such as limiting accessibility to alcohol (e.g. through restrictions on location and hours of sales, and raising the minimum legal age for drinking), increasing prices (through taxation or minimum pricing of alcohol units), regulating advertisement in traditional and social media, and restricting industry sponsorship of sport and youth events.[129] In January 2018, Lithuania introduced new legislation on alcohol particularly targeting young people; the legal drinking age raised from 18 to 20 years, the opening hours for sales in retail stores were restricted, and all advertising for beers, wines and spirits were banned.[130]

Policy options that countries may consider to implement are:

- Limiting access to alcohol by raising the minimum age for drinking alcohol and limiting the options for selling alcohol and increase prices;
- Statutory regulations on alcohol advertising, sponsorship (especially in those events with children and young people (cultural, sports, etc.), advertising in consumer establishments, and promotion of alcohol drinks (including cross-border). Playing special attention to all digital and social media, and networks. And strengthen restrictions on the availability of alcohol (number, density and location of places – specially protection children environments, hours, etc.);
- School-based (eHealth or face-to-face) interventions that prevent engaging in multiple risk behaviours, including the use of alcohol, smoking and illicit drug use;
- (Brief) interventions to prevent recurrence and alcohol related problems in adolescents and young adults admitted to acute care services after an alcohol related event;
- Improve early diagnosis of Fetal Alcohol Spectrum Disorders (FASD), identifying populations at risk of prenatal exposure to alcohol (for example, with social risk factors) and at risk of FASD (for example, adoptions from Eastern European countries). Identify and train professionals directly involved in diagnosis and treatment, such as professionals in medicine (paediatrics, psychiatry, etc.), nursing, psychology, social work, education, etc.

[128] OECD/EU (2018), Health at a Glance: Europe 2018: State of Health in the EU Cycle, OECD Publishing, Paris. https://doi.org/10.1787/health_glance_eur-2018-en

[129] OECD/European Union (2020), Health at a Glance: Europe 2020: State of Health in the EU Cycle, OECD Publishing, Paris, https://doi.org/10.1787/82129230-en

[130] OECD/EU (2018), Health at a Glance: Europe 2018: State of Health in the EU Cycle, OECD Publishing, Paris. https://doi.org/10.1787/health_glance_eur-2018-en

Example: best practice 'Web-based individual coping and alcohol-intervention program'

The purpose of the programme Web-ICAIP is to strengthen adolescents' coping behaviour, improve their mental health, and postponing the onset or decreasing risky alcohol consumption.

Source: https://webgate.ec.europa.eu/dyna/bp-portal/getfile.cfm?fileid=219. (European Commission Best Practice Portal)

Example: statutory ban on alcohol advertising to children

This intervention covers a comprehensive ban for all forms of media (TV, radio, newspapers, billboard, internet, social media) and is modelled based on a study by Tanski et al. (2015)[131], which covers any form of marketing and develops a perceptivity score (based on exposure, liking and brand identification). Assuming a 10% failure rate, a total ban on advertising to children would reduce early onset of drinking by 35% in individuals aged 17 years or below. In addition, the model assumes a relationship between early onset of drinking and the probability of dependence, based on evidence that people starting to drink after the legal drinking age have a risk of dependence 30% lower than those who drink while underage (Hingson et al., 2006)[132].

Source: OECD (2021), Preventing Harmful Alcohol Use, OECD Health Policy Studies, OECD Publishing, Paris, https://doi.org/10.1787/6e4b4ffb-en.

Health determinants area 5: Reduce unhealthy eating, physical inactivity, overweight and obesity among the general population

The prevalence of overweight/obesity is much higher among the least educated.[133] In 2019, 59% of all adults with a low education level living in the EU were overweight, while this was 44% among those with a high education level. Similarly, of the people with a low education level, 20% were obese, whereas this was the case for 11% of the adults with a high education level.[134] Particular attention should therefore be paid to people with a lower education level or in a more vulnerable socioeconomic position (SEP). Stress is also a risk factor for obesity.

Community-based strategies and policies aimed at structural changes to the environment have proven to be effective among lower SEP populations, whereas this is not always the case for interventions that are primary based on information provision directed at individual behaviour change (an important exception being the Nutri-score label).[135]

Policy options include:

[131] Tanski, S. et al. (2015), "Cued recall of alcohol advertising on television and underage drinking behavior", JAMA Pediatrics, Vol. 169/3, pp. 264-271, http://dx.doi.org/10.1001/jamapediatrics.2014.3345.

[132] Hingson, R., T. Heeren and M. Winter (2006), "Age at drinking onset and alcohol dependence: Age at onset, duration, and severity", Archives of Pediatrics and Adolescent Medicine, Vol. 160/7, pp. 739-746, http://dx.doi.org/10.1001/archpedi.160.7.739.

[133] 2020_healthatglance_rep_en.pdf (europa.eu)

[134] https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20210721-2

[135] Beauchamp A, Backholer K, Magliano D, Peeters A. The effect of obesity prevention interventions according to socioeconomic position: a systematic review. Obes Rev. 2014 Jul;15(7):541-54. doi: 10.1111/obr.12161. Epub 2014 Mar 16.

- Increase healthy food intake (vegetables, fruits, fibres) and reduce unhealthy diets (less salt, sugar, and fat intake) by population-based programmes, including the creation of awareness and simple labelling of food[136].
- Create fiscal incentives to support family and industry decision-making. Taxes, fees and other fiscal measures can support reformulation, create markets for innovative products and nudge consumer decisions towards healthier options.
- Personalised lifestyle technology interventions
- Lifestyle promotion programmes on healthy eating, physical activity and weight control integrated in health system (primary health care)
- Lifestyle programmes on diet, physical activity, and weight control at workplaces and among unemployed people
- Measures to improve the nutritional quality of the food supply, e.g. nutritional standards, collective agreements.
- Promotion of healthy settings (health, work, local, education, etc.)
- [placeholder: to be completed with measures on food composition (including Remap), food labelling, food marketing and promotion (including Remap), food provision, food retail, food prices, food procurement (including Remap), and food trade and investment (as described in the Food-EPI tool https://www.informas-europe.eu/food-epi/); also the NOURISHING Framework give important input to what could be done; and reference the WHO/Europe | Physical activity - Policy https://apps.who.int/iris/bitstream/handle/10665/259232/WHO-NMH-NVI-17.9-eng.pdf?sequence=1&isAllowed=y] The WHO recommendations on the marketing of foods and non-alcoholic beverages to children can provide guidance to Member States to develop and implement effective policies in this area.[137] These policies would focus on foods high in saturated fats, trans-fatty acids, free sugars or salt.

Example: WHO Best buys

1. Reduce salt intake through the reformulation of food products to contain less salt, and the setting of maximum permitted levels for the amount of salt in food
2. Reduce salt intake through establishing a supportive environment in public institutions such as hospitals, schools, workplaces and nursing homes, to enable low-salt options to be provided
3. Reduce salt intake through behavior change communication and mass-media campaigns
4. Reduce salt intake through the implementation of front-of-pack labelling

- Reduce sugar consumption through effective taxation on sugar-sweetened beverages
- Promote and support exclusive breastfeeding for the first 6 months of life
- Implement subsidies to increase the intake of fruits and vegetables
- Replace trans-fats and saturated fats with unsaturated fats
- Limiting portion and package size to reduce energy intake and the risk of overweight/obesity
- Implement nutrition education and counselling in different settings (for example, in preschools, schools, workplaces and hospitals) to increase the intake of fruits and vegetables
- Implement nutrition labelling to reduce total energy intake (kcal), sugars, sodium and fats
- Implement mass media campaign on healthy diets, including social marketing to reduce the intake of total fat, saturated fats, sugars and salt, and promote the intake of fruits and vegetables

Source: World Health Organization. Saving lives, spending less: the case for investing in non-communicable diseases'. December 2021. https://apps.who.int/iris/rest/bitstreams/1399949/retrieve and https://apps.who.int/iris/bitstream/handle/10665/259232/WHO-NMH-NVI-17.9-eng.pdf?sequence=1&isAllowed=y

[136] OECD/EU (2018), Health at a Glance: Europe 2018: State of Health in the EU Cycle, OECD Publishing, Paris. https://doi.org/10.1787/health_glance_eur-2018-en

[137] https://www.who.int/publications/i/item/9789241500210

Example: increase awareness about the Keyhole food label

Denmark has implemented several national campaigns in order to increase awareness about the Keyhole food label and thereby to promote healthier eating habits. The campaigns have been implemented as a joint venture with the industry, retailers and different partnership organisations.

Source: www.oecd.org/health/obesity-update.htm, OECD 2017

Policies to reduce **overweight and obesity** focus on reducing unhealthy diets and increasing physical activity. However, chronic overweight and obesity in adults are conditions that may also need to be managed within the healthcare sector, with the aim to manage and reduce overweight by a combination of medical and lifestyle interventions. Many overweight and obesity focused interventions have been developed and effectively applied in primary care settings.

Furthermore, to provide better prevention and medical care for obesity patients, healthcare professionals may benefit from additional training and additional targeted research.

Health determinants area 6: Reduce unhealthy eating, physical inactivity, overweight and obesity among children and adolescents

Overweight at young age increases the risk of poor health at older age. In 2008, nearly one out of eight children was obese in the EU. The availability of high-energy foods and a sedentary lifestyle contributed to the growth of obesity prevalence[138]. For children, the WHO recommends at least 60 minutes of moderate to vigorous physical activity per day. In 2018, only one in four 11 years old and one in seven 15 years old reported these levels of physical activity. Heavy use of mobile devises and internet, and a lack of safe spaces and equipment to be able to exercise limit the physical activity of adolescents. Good habits regarding physical activity during childhood may be continued in adulthood[139]. Another dimension is to protect children and adolescents from exposure to food marketing for fatty, sugary, salty products, whose impact on health and in particular overweight and obesity in children has been demonstrated.

It should be noted that multi-component interventions, e.g., that combine interventions focusing on both healthy eating and increasing physical activity, and stress management, are more effective than interventions that focus on diet or physical activity only.[140] These interventions should involve both teachers and parents; including digital components are a promising strategy. Note that including aspects that particularly target girls or boys may be promising.

Policy options include:

- Update public procurement guidelines for purchasing food.
- Provide healthy meals at school and ensure compliance with regulations relating to school canteens.
- Update the regulation of marketing of unhealthy foods and beverages to children below 18 years in accordance with WHO's recommendations and ensure compliance.
- Update and ensure compliance with the regulations related to vending machines and canteens in schools.

[138] OECD/EU (2018), Health at a Glance: Europe 2018: State of Health in the EU Cycle, OECD Publishing, Paris. https://doi.org/10.1787/health_glance_eur-2018-en

[139] OECD/European Union (2020), Health at a Glance: Europe 2020: State of Health in the EU Cycle, OECD Publishing, Paris, https://doi.org/10.1787/82129230-en

[140] https://apps.who.int/iris/bitstream/handle/10665/204176/9789241510066_eng.pdf

- Develop integrate health-promoting approaches in schools, supporting healthy eating and physical activity (from food-related skills in the curriculum to free drinking water to using social media and gamification to nudge behavioural change).
- Develop tax benefits to the promotion of physical activity and active mobility.
- Promote breastfeeding.

Example: Smart Family (Finland)

Smart Family is a lifestyle counseling programme developed by healthcare professionals in 2006, to prevent and tackle childhood obesity. It is an ongoing programme used in almost every municipality in Finland. (It reaches approximately 90% of Finnish families in maternity clinics, child welfare clinics and school clinics.) It has been expanded for multiprofessional use, by all professionals working with families with childen. Smart Family provides professionals with a method and tools for bringing up lifestyle issues with families and provide lifestyle counselling. The method and tools could be used with every family (children from unborn to 12 y of age) For families, Smart Family provides information and support on lifestyle choices.

Source:

https://ec.europa.eu/health/other-pages/basic-page/online-marketplace-event-best-practices-risk-factors-non-communicable-diseases_pl (selected as 'best' practice at the EU BBP and presented at the Online Market Place event 30 June/1 July 2021)

Example: best practice 'Hungarian Aqua Promoting Programme in the Young (HAPPY) and HAPPY Week'

The aim of this programme is to promote water consumption and decrease the consumption of sugary soft drinks among pre-school and primary school students, contributing to halting the rise in overweight or obesity in children. The approach used is the provision of healthy choices (free drinking water by water coolers or bottled water), education, awareness raising, in few cases also change in built environment by installing water fountains.

Source: https://webgate.ec.europa.eu/dyna/bp-portal/getfile.cfm?fileid=173 (European Commission Best Practice Portal)

Example: best practice 'Intervention improving the food supply (excluding school meals) with educational support in middle and high schools'

The aim of this intervention is to improve the eating habits of adolescents by:

1. Sensitization of directors and teachers in middle and high schools to the importance of remove/limit fat and sugar products at school breaks (dissemination of national recommendations).
2. Improvement of the food supply sold during school breaks: remove/limit fat and sugar products sold and promote the sale of fruits and bread.
3. Health education actions to make adolescents aware of the concept of nutritional balance and steer their choice towards recommended products.
4. Sensitization of parents to the importance of breakfast for their children and of limiting morning snacks: flyers + conference.

Source: https://webgate.ec.europa.eu/dyna/bp-portal/getfile.cfm?fileid=161 (European Commission Best Practice Portal)

Example: National model 'Child to Healthier Weight'

One of the characteristics of Child to Healthier Weight is the close collaboration between professionals from both the care and social domains. One central care provider coordinates the counselling process and builds a relationship of trust with the child and the family. Together with other professionals, they are committed to improving not only the health of the child, but also the quality of life in the short and long term, by providing support in the field of education, debts or other psychosocial problems with the child and the family.

Source: https://kindnaargezondergewicht.nl/

Example: Combined lifestyle intervention (GLI) programmes

An example of how a country-specific Health Insurance Act can play a role in creating healthier lifestyles are the Combined Lifestyle Interventions (CLIs or GLIs in Dutch) implemented in The Netherlands.

There are four recognized combined lifestyle intervention (CLI) programmes in the Netherlands for children: BeweegKuur, SLIMMER, Cool and Samen Sportief in Beweging. The CLI programmes are intended to ensure lasting behavioural change and a healthy lifestyle in the long term. A participant receives guidance from several specialists, such as a dietician, physiotherapist, lifestyle coach or remedial therapist. The focus is on movement, nutrition, and behavioural change, which should lead to better physical fitness, weight loss and better quality of life.

CLIs thus offer a sustainable approach to changing the lifestyles of people with obesity or overweight. Interventions that are registered as CLIs by the National Institute for Public Health and Environment (RIVM), effectively combine dietary and physical exercise advice. Moreover, health insurance companies cover the costs for participation in registered interventions when fulfilling the eligibility criteria, namely: insured people with a BMI above 25 and at high risk of cardiovascular disease and diabetes type 2 or insured people with a BMI above 30. Health insurance coverage makes it easier for high-risk groups to access these interventions. Overall, the success of CLIs is driven by an effective collaboration between public institutes who assess and register interventions, health providers who refer patients to the interventions and health insurance companies who contract intervention providers in partnership with municipalities.

Source: https://www.rivm.nl/gecombineerde-leefstijlinterventie/programmas

Health determinants area 7: Creating healthy environments

An intersectoral and integrated approach can promote healthier behaviours more effectively, tailoring health promotion and prevention interventions to living settings, such as communities, schools and workplaces.[141]

- Promotion of networks on cities which promote the commitment of local entities to health and well-being in a comprehensive manner, in line with Phase VII of the European Network of Healthy Cities (WHO European Healthy Cities Network);
- Healthy urbanism: improving urban settings to encourage physical activity, emotional wellbeing, social living and reducing air and noise pollution through active mobility (walking and cycling), green infrastructure and tactic urbanism to reorganize public space share in favour of walking and cycling and at the expense of private motorized vehicles;
- Promotion of Networks of Health-Promoting Schools which encourage schools to include health and well-being within their educational project, conducting a situation analysis and a prioritization of interventions to gain health and wellbeing, with the participation of the whole school community, in line with the Schools for Health in Europe Network;
- Increase of the resilience against climate change and its impact on health, as addressed by the Joint Actoin on Health Equity Europe.

Diabetes

Diabetes area 1: Prevent the onset of type 2 diabetes among high-risk populations

Countries may consider to implement **national diabetes prevention plans** that include a host of policies (integrated, holistic approach) as well as specific interventions that target high-risk

[141] https://www.salute.gov.it/imgs/C_17_notizie_5029_0_file.pdf

populations, including adults with overweight/obesity, metabolic syndrome or prediabetes and tobacco users.

For high-risk populations preventive strategies are needed that address clinical risk factors (high blood pressure, dyslipidaemia, raised blood sugar level) by targeted **lifestyle interventions** focusing on a modification of diet in combination with exercise and (if applicable) smoking cessation[142]. A combination of intensive diet change and exercise seems most promising in reducing the risk of type 2 diabetes among high-risk individuals.[143] **Combinations with medication** may be considered, also dependent on individual preferences and self-management abilities. Lifestyle modification interventions are usually delivered by primary care providers, including nurses, but could also be delivered by means of interprofessional collaboration, i.e., dieticians, coaches for physical activity and psychologists. Complementary (personalised) lifestyle advise and support for modification by digital tools can be helpful.[144] Computerised alert systems could be considered to support primary care providers to detect high-risk patients susceptible for screening.

Furthermore, **community-based strategies** are needed to target people with an increased risk of developing type 2 diabetes who may not be sufficiently reached by other strategies. As mentioned in the section on integrated approaches, interventions should be tailored to people's healthy literacy level, information needs, preferences for educational and support and (digital) skills. Health in All Policies and intersectoral approaches are likely to be most effective. This also includes addressing commercial and social determinants. For instance, **healthier food and drink environments** may require reformulation or regulation through taxes or restricting, such as the Sugar-Sweetened Beverage (SSB) Tax, which has been implemented in a number of countries.[145]

Example: best practice DE-PLAN

DE-PLAN ("Diabetes in Europe – Prevention using Lifestyle, Physical Activity and Nutritional Intervention") is a large-scale diabetes prevention initiative, which aims to develop community-based type 2 diabetes prevention programmes for individuals at high risk across Europe. Led by the University of Helsinki, the project, implemented in 17 countries, aimed at developing and testing models of efficient identification and site specific interventions of individuals at high risk of type 2 diabetes in the community. The whole European DE-PLAN study aimed at implementing a lifestyle intervention programme to prevent T2DM within the national healthcare system of each participating country and by tailoring activities to the specific ''real-life'' local setting.

Source: http://chrodis.eu/good-practice/de-plan-study-greece-greece/

Example: best practice Diabetes prevention and screening in vulnerable populations of the Lisbon Metropolitan Area (Portugal)

This intervention was developed and implemented in collaboration with municipalities and local social partners. The main objectives were: to promote health in vulnerable communities in the Lisbon Metropolitan Area; to promote equity in access to healthcare; to implement diabetes prevention; to screen vulnerable populations for diabetes risk; to establish partnerships to consolidate the ability to act on vulnerable communities; and to contribute to the actions advocated by the Portuguese National Plan on Diabetes. Implemented activities included training sessions about diabetes prevention and management for healthcare and social care professionals, sessions about diabetes prevention and healthy lifestyles promotion for the adult population, and diabetes risk screening

[142] Smokers are 30 to 40 percent more likely to develop type 2 diabetes than nonsmokers. https://www.fda.gov/tobacco-products/health-effects-tobacco-use/cigarette-smoking-risk-factor-type-2-diabetes

[143] Madsen KS, Chi Y, Metzendorf MI, Richter B, Hemmingsen B. Metformin for prevention or delay of type 2 diabetes mellitus and its associated complications in persons at increased risk for the development of type 2 diabetes mellitus. Cochrane Database Syst Rev. 2019 Dec 3;12(12):CD008558. doi: 10.1002/14651858.CD008558.pub2.

[144] Wu X, Guo X, Zhang Z. The Efficacy of Mobile Phone Apps for Lifestyle Modification in Diabetes: Systematic Review and Meta-Analysis. JMIR Mhealth Uhealth. 2019 Jan 15;7(1):e12297. doi: 10.2196/12297.

[145] https://www.worldobesity.org/resources/policy-dossiers/pd-1/case-studies

sessions, also for the general population. The fact that the service was free of charge and conducted through a mobile unit, going directly to the communities, was highly valued. The involvement of a national governmental agency (DGS) and the patient association (APDP) was a condition for success. More information: http://www.fundacaoernestoroma.org/projetos/

Source: Best practices CHRODIS+: Diabetes Prevention and Screening in Vulnerable Populations of the Metropolitan Lisbon Area - Portugal - CHRODIS

Diabetes area 2: Reduce undiagnosed diabetes by raising awareness, targeted screening or early detection approaches

It has been estimated that more than 20 million people aged 20 to 79 years in the European region of the International Diabetes Federation (60 countries) live with undiagnosed diabetes. Early detection of diabetes is important, as timely and adequate diabetes management could prevent or delay complications, co-morbidity, poor quality of life and premature death, as such contributing substantially to decrease the burden of diabetes for individuals, health systems and societies.

To reduce the number of citizens with undiagnosed diabetes, countries may consider **targeted campaigns to raise awareness** of the disease, symptoms and risk factors among both citizens and primary care professionals. Diabetes information should be easily accessible to all citizens, tailored to their information needs, health literacy level, (digital) skills and preferred communication channels. Basic diagnostics, such as blood glucose testing, should be available in primary care facilities. Blood glucose testing by community pharmacists may also be considered to identify high-risk patients who could then be referred to the primary care centre.

Furthermore, **national screening programmes for type 2 diabetes** may be considered, targeting in particular adults with overweight, obesity, (symptoms of) metabolic syndrome and tobacco users. Targeted screening of people at high risk of developing diabetes or prediabetes may be **integrated with high blood pressure and hypercholesterolemia screening** within primary care. Selective screening for diabetes and prediabetes is also recommended for patients with established cardiovascular disease[146]. To increase screening efforts and improve early detection, countries may need to **strengthen primary care** through investment in relevant resources and expertise, and by setting up multidisciplinary teams. Primary care based screening for presymptomatic type 1 diabetes among children may also be considered.[147]-[148]

Furthermore, in many countries **screening for gestational diabetes** among pregnant women has been implemented based on guidelines WHO-2013, NICE-2015, ADA-2018, SOGC-2016, ES-2013, FIGO-2015, USPSTF-2014, IADPSG2015 and ACOG-2018.[149] These guidelines differ according to screening approaches and criteria for gestational diabetes, which results in various screening practices across and within EU countries. To improve the quality and outcomes of gestational screening, guidelines may need to be updated and aligned, and good practices could be exchanged.

[146] Cosentino F, Grant PJ, Aboyans V, et al., ESC Scientific Document Group, 2019 ESC Guidelines on diabetes, pre-diabetes, and cardiovascular diseases developed in collaboration with the EASD: The Task Force for diabetes, pre-diabetes, and cardiovascular diseases of the European Society of Cardiology (ESC) and the European Association for the Study of Diabetes (EASD), *European Heart Journal*, Volume 41, Issue 2, 7 January 2020, Pages 255–323, https://doi.org/10.1093/eurheartj/ehz486

[147] Ziegler A-G, Kick K, Bonifacio E, et al.; for the Fr1da Study Group. Yield of a Public Health Screening of Children for Islet Autoantibodies in Bavaria, Germany. *JAMA* 2020; 323(4): 339-351. doi:10.1001/jama.2019.21565.

[148] Cost and Cost-effectiveness of Large-scale Screening for Type 1 Diabetes in Colorado. Diabetes Care 2020; Jul; 43(7): 1496-1503. doi: 10.2337/dc19-2003.

[149] Li-zhen L,Yun X, Xiao-Dong Z, et al. Evaluation of guidelines on the screening and diagnosis of gestational diabetes mellitus: systematic review. BMJ Open 2019;9:e023014. doi:10.1136/bmjopen-2018-023014

Example: best practice 'The Diabetes Screening Palermo Study'

The Diabetes Screening Palermo Study evaluated the effectiveness of a screening strategy for type 2 diabetes mellitus. The proactive approach towards diabetes screening, based on the analysis of databases of general practitioners, facilitated the early diagnosis of type 2 diabetes and individuals with prediabetes.

Source: https://www.easd.org/virtualmeeting/home.html#!resources/screening-strategies-for-early-diagnosis-of-undiagnosed-diabetes-and-other-disorders-of-glucose-metabolism-the-dsp-diabetes-screening-palermo-study

Example: Halt2Diabetes, Flandres (Belgium)

Since 2019 HALT2Diabetes is set up in Flanders in collaboration with the Flemish Government. In HALT2Diabetes people with a high risk for type 2 diabetes and cardiovascular disease are identified and guided towards a healthy lifestyle. HALT2Diabetes applies an internationally validated two-step screening procedure, with the FINDRISC (Finnish Diabetes Risk Score) as a first step. People aged 45 to 75 years could complete the questionnaire online or get a paper-and-pencil version. People with a high FINDRISC score (≥12) are being referred to a general practitioner (GP) for cardiometabolic risk assessment according to a standardised protocol. The GP may then refer for lifestyle guidance depending on the patient's preference and risk profile. People with newly diagnosed diabetes are being guided based on the care standard for diabetes.

Source: Lampaert A, Buyse L, et al. HALT2Diabetes, An integrated type 2 diabetes and cardiovascular diseaseprevention strategy in Flanders, 2018.

https://www.diabetes.be/nl/preventie-en-sensibilisering/halt2diabetes-voor-professionelen/wat-halt2diabetes

Diabetes area 3: Prevent or delay complications by ensuring (access to) high-quality diabetes care

Diabetes, if not well managed, may cause a wide range of complications due to links to the cardiovascular system, such as micro- and macrovascular conditions, retinopathy, neuropathy and diabetic foot problems. These complications cause suffering of patients, increase the risk of premature death and is also a substantial burden for health systems' resources.

Timely and adequate management of diabetes could prevent or delay the occurrence of complications. Therefore, early diagnosis should be followed by **timely and high-quality diabetes management**. This includes monitoring of blood sugar level, regular screening for complications, such as diabetic retinopathy, diabetic foot, neuropathy, cardiac and renal conditions and tailored support of patients' self-management (see diabetes area 3a). Cardiovascular risk assessment and management could be offered as part of **cardiovascular preventive programmes**.

Combinations of behavioural lifestyle interventions and medication that target modifiable risk factors (blood glucose level, blood pressure, lipid, diet, physical activity and smoking) have proven effective to control diabetes and reduce the risk of cardiovascular disease or other complications.[150] Resources for **structured, validated practice for lifestyle modification** are important, since

[150] Yusufu M, Zhang X, Sun X, et al. How to perform better intervention to prevent and control diabetic retinopathy among patients with type 2 diabetes: A meta-analysis of randomized controlled trials. Diabetes Res Clin Pract. 2019 Oct;156:107834. doi: 10.1016/j.diabres.2019.107834. Epub 2019 Sep 21.

improving diet and increasing physical activity are the first step of treatment of diabetes type 2.[151-152]

Diabetes related health data, generated by **digitally enabled technologies** and used in **diabetes registries or diabetes information systems**, have the potential to improve care outcomes. They can help guiding the prevention and management of the disease, prevent complications, ensure quality of care, allow for identifying trends and research to be conducted, decrease health expenditures and inform policies.[153] Measuring and comparing diabetes outcomes – and identifying the causes of variation – could help to identify areas where better outcomes and efficiency gains can be achieved. **Standardised outcome definitions and common methods of data collection** allow comparison across countries and may drive subsequent improvements. Currently, some EU countries have well-developed national diabetes registries or are developing such registries, others have dedicated registries for selected age categories or diabetes type, and other EU countries do not have national diabetes registries. Several of these countries report to have policies on privacy and protection of personal data that are preventing the creation of a diabetes-specific registry.[154] In general, data registries need a formal governance structure, that includes the involvement of stakeholders, to ensure that patient data are properly handled and respect law, individual rights, data security and privacy.

WHO Europe and international partners have pointed to **inequalities in access to insulin products, diabetes medication and technologies for self-monitoring**, such as blood glucose meters and test strips, which is a significant threat to the health and wellbeing of many diabetes patients in Europe. Reducing inequalities in access and health outcomes may be supported by implementing an **EU-wide common digitalisation/data framework** and more **transparency in medicines procurement**, including **fair pricing models**, review of **incentives and improvements in logistics**. Countries may also require support in **health technology assessment**.

The **COVID-19 pandemic** has increased inequalities in access to effective diabetes treatment due to worsening of the financial situation of vulnerable diabetes populations, and disruptions in the production or delivery of insulin and diabetes medication. Access to high-quality diabetes care and management should in particular be improved for disadvantaged groups and for those living through humanitarian emergencies.

Furthermore, **diabetes management in the context of the COVID-19 pandemic** needs more attention, as people with diabetes are at an increased risk of developing severe COVID-19, hospitalisation and dying from COVID-19.[155] Moreover, a recent study shows growing evidence of

[151] Inzucchi SE, et al. Management of hyperglycaemia in type 2 diabetes: a patient centered approach. Position statement of the American Diabetes Association (ADA) and the European Association for the Study of Diabetes. (EASD). Diabetologia 2012;55:1577-96

[152] The International Diabetes Federation evaluated the cost-effectiveness of a range of comprehensive lifestyle programmes, aimed at improving nutrition and physical activity https://idf.org/e-library/epidemiology-research/diabetes-atlas/126-cost-effective-solutions-for-the-prevention-of-type-2-diabetes.html

[153] Improving outcomes for people with diabetes: The role of health data, access to innovation and rethinking care. https://efpia.eu/media/413307/improving-outcomes-for-people-with-diabetes.pdf

[154] Registries and information systems for diabetes care in the WHO European Region: preliminary findings for consultation. registries-information-systems-diabetes-consultation-eng.pdf (who.int)

[155] Schlesinger S, Neuenschwander M, Lang A, et al. Risk phenotypes of diabetes and association with COVID-19 severity and death: a living systematic review and meta-analysis. *Diabetologia*. 2021;64(7):1480-1491. doi:10.1007/s00125-021-05458-8

the risk of developing diabetes among patients with long COVID, and recommend to integrate diabetes screening and management in post-acute COVID-19 care.[156]

Diabetes area 3a: support diabetes patients' self-management

Self-management of diabetes by patients is key, and **self-management support** should therefore be a major element of diabetes care. The EU funded COMPAR-EU project (www.compar-eu) has ranked the most effective and cost-effective self-management interventions for four conditions[157], including diabetes. Results are expected to be published in 2022 and made available through a web-based platform. As a spin-off, a European research and innovation centre on patient empowerment and self-management will be created: Self-Management Europe (SME). This centre has the ambition to become a network of researchers, healthcare professionals, developers, industry and other stakeholders. The centre will provide practical tools to encourage and support healthcare professionals to implement self-management support in daily clinical practice, provide training courses on implementing approaches that support patients' self-management and empowerment, and share evidence, experiences and good practices.

Digital tools (e.g. webportals, telemedicine, digital services) could support patients' self-management and strengthen empowerment. Many diabetes patients may benefit from **technology to self-monitor their blood glucose level, support medication adherence and/or self-administer insulin**. Whether self-monitoring or self-treatment through innovative technology is an option should be discussed and agreed upon by the main healthcare professional and the patient (or family member, in case of children) in a process of shared decision-making. Self-monitoring of blood glucose level can be done by finger-prick or by continuous glucose monitoring, either real-time or intermittently viewed. Continuous glucose monitoring is promising, provided that privacy, security and safety issues are carefully addressed. Moreover, blood glucose monitoring requires patient education and training. Substantive investment in patient education and training is also essential for patients who need to use insulin, either by injecting themselves or using an automated insulin pump.

Importantly, **quality and safety** of diabetes technology should be ensured and **inequalities in access be addressed**. EU countries could work on enabling or accelerating access to digital tools and agree on requirements, quality and eligibility criteria, in order to provide more coherence in the digital environment and to ensure high standards of quality. This process could be harmonised at EU level.

Example: best practice 'Reverse Diabetes2 Now'

Reverse Diabetes2 Now is an intensive, multidisciplinary lifestyle treatment for people with diabetes type 2 developed by the Dutch foundation "Voeding Leeft". The treatment aims to: reverse diabetes progression, this means using less medication and/or having healthier blood glucose levels or achieve remission and to improve quality of life. Participants are supported and empowered by providing knowledge and skills focusing on four pillars (nutrition, exercise, relaxation and sleep) to structurally adapt their dietary habits and general lifestyle. The lifestyle treatment consists of six intensive months, followed by an aftercare programme of 18 months. It is a group-based programme (approximately 20 participants) guided by a multidisciplinary support team, including a nurse practitioner, dietician, personal coach and programme coordinator. A medical team including experienced nurses, GPs and internal medicine specialists is available for medical support. A participant can choose to follow the programme online or participate in physical meetings with supplementary online support.

[156] Xie Y, Al-Aly Z. Risks and burdens of incident diabetes in long COVID: a cohort study. The Lancet Diabetes & Endocrinology 2022; March 21. DOI: https://doi.org/10.1016/S2213-8587(22)00044-4

[157] Besides diabetes, these are COPD, heart failure and obesity.

Source: https://webgate.ec.europa.eu/dyna/bp-portal/getfile.cfm?fileid=366 (European Commission Best Practice Portal)

Example: best practice 'Disease Management Programme Therapie Aktiv'

Therapie Aktiv is a Disease Management Programme (DMP) for patients with diabetes mellitus type 2 in Austria. Type 2 diabetics get more intensive medical care as well as more knowledge about the disease. Regular check-ups (e. g. HbA1c, eyes and feet) and the corresponding annual documentation are part of the programme. At least once a year participating doctors help each patient to lay down measures for better dealing with the disease in daily life (setting of sensible and attainable lifestyle goals together with patients).

Source: https://webgate.ec.europa.eu/dyna/bp-portal/getfile.cfm?fileid=2

Diabetes area 4: implement care models that integrate proactive diabetes management in person-centred care

Health systems need to identify people with diabetes early, understand their needs, organise their care pathway and empower them. Although disease management programmes for diabetes implemented, which have been widely implemented in EU countries in the 1990/2000s, have proven to be effective to improve clinical outcomes (e.g. blood glucose level)[158], many lack a broader focus on what quality of care and important outcomes are from the perspective of people with diabetes. Moreover, because of their single-disease focus, these programmes may not always be effective among multimorbid populations. This is an important issue, as diabetes is very common among older people, of whom the great majority (estimates as high as >90%) have other long-term conditions besides diabetes.

Countries are encouraged to implement innovative care models that adopt a **proactive** (prevention oriented) **person-centred, integrated care approach** and implement principles of value-based healthcare. Building blocks to consider are strengthening primary care, use of national diabetes registries and implementing Patient-Reported Outcome and Experience Measures (PROMs, PREMs) to monitor quality from the patient perspective. **Digital management systems and support tools** for healthcare professionals and patients enable person-centred management, as they facilitate care coordination and integration across disciplines and settings; empower patients to have better control and ability to manage their condition, and offer personalised self-management support. This is also supporting an efficient allocation of resources within constrained healthcare systems. To support the implementation of person-centred integrated care, countries may also consider to **design financing systems** that facilitate interorganisational integration of care – including prevention and self-management support –, and overcome care fragmentation.

Example: Health Outcomes Observatory (H2O) project

The Health Outcomes Observatory project (H2O) is an European partnership (Spain, Austria, Germany and Netherlands) between the public and private sectors under the framework of the Innovative Medicines Initiative, which aims to create a standardised data governance and infrastructure system across Europe to incorporate patients' experiences and preferences in decisions affecting their individual healthcare and those of the entire patient community. H2O covers three diseases areas, diabetes, Inflammatory Bowel Disease and cancer. With H2O infrastructure and tools, patients will be able to measure their outcomes in a standardised way, whilst keeping full control of their data. Ultimately, this framework of Observatories aims to foster innovation in healthcare in Europe and beyond to deliver better outcomes for all.

Source: https://health-outcomes-observatory.eu/about/

[158] Pimouguet C, Le Goff M, Thiébaut R, Dartigues JF, Helmer C. Effectiveness of disease-management programs for improving diabetes care: a meta-analysis. *CMAJ*. 2011;183(2):E115-E127. doi:10.1503/cmaj.091786

Example: Steno Diabetes Centers Denmark

The Novo Nordisk Foundation, in collaboration with Denmark's administrative regions, has taken the initiative to establish five outpatient specialist diabetes centres covering Denmark. The Steno Diabetes Centers are located in Aarhus, Copenhagen, North Denmark, Odense and Zealand. The centres are specialised multidisciplinary diabetes clinics that focus on the care goals of individual patients and offer high-quality care in user-friendly surroundings with good accessibility. The vision for the Steno Diabetes Centers is to establish a framework for reducing the number of people developing diabetes, while ensuring that people with diabetes live longer with an enhanced quality of life. In establishing the centres, the Foundation wants to improve the quality of diabetes treatment and the prevention of complications to benefit both individuals with diabetes and society. Core activities are: high-quality diabetes treatment and prevention of late complications; patient-oriented research; intersectoral collaboration and disease prevention; and training healthcare professionals and patient education

Source: Steno: https://steno.dk/en/

Diabetes area 5: support people with diabetes and their families in living with diabetes

People with diabetes of all ages and their families **need access to services to help them living a good life with diabetes**. This includes support to improve or maintain their physical, mental and social wellbeing, to participate in society (e.g. school, work, leisure and social activities), and income protection.

Special attention is needed to support **children and adolescents with type 1 diabetes**. Although evidence of more mental health issues or a worse quality of life is inconclusive, psychosocial barriers to perform adequate self-management have been reported frequently for adolescents with type 1 diabetes.[159-160] Countries may consider to develop policies that support the implementation of integrated intersectoral interventions that have proven effective to help children and adolescents with type 1 diabetes not only to self-manage their condition, but also to live a 'normal' life (attending school, participating in sports and social activities) as much as possible, comparable to their healthy peers.

Young adults with diabetes also need integrated intersectoral care, to be able to take informed decisions about reproductive health. They may also need support to facilitate access to professional or academic training and/or the labour market. It should be noted that nowadays also type 2 diabetes is increasingly being diagnosed at younger age, which means that the population of citizens with **diabetes at working age** is increasing. Together with diabetes type 1 among younger people, this causes a substantial loss of productivity and labour participation in countries where workforce and social security is already under pressure because of ageing populations. Therefore, besides improving access to the labour market, effective strategies are needed to prevent early drop-out among adults with diabetes.

Diabetes area 6: increase awareness of the impact of diabetes for functioning and participation and fight stigmatisation of people with diabetes

Considering that diabetes is impacting the lives of millions of people living in the EU, it is important to **raise awareness of the impact of the disease** on people's lives and participation options among the general population, healthcare professionals, schools and training institutes, workplaces and

[159] Martinez K, Frazer SF, Dempster M, Hamill A, Fleming H, McCorry NK. Psychological factors associated with diabetes self-management among adolescents with Type 1 diabetes: A systematic review. J Health Psychol. 2018 Nov;23(13):1749-1765. doi: 10.1177/1359105316669580. Epub 2016 Sep 22. PMID: 27663288.

[160] Datye, Karishma A et al. "A review of adolescent adherence in type 1 diabetes and the untapped potential of diabetes providers to improve outcomes." *Current diabetes reports* vol. 15,8 (2015): 51. doi:10.1007/s11892-015-0621-6

communities. Moreover, people living with diabetes often experience stigma, resulting from a lack of awareness, and myths and misconceptions about the disease in their community. Therefore, raising awareness and **eradicating discrimination** are important priority areas to reduce the burden of diabetes for individuals and society.

To design and implement effective policy measuress, interventions and good practices, **co-creation with people living with diabetes** is of key importance to generate value and impact.

Cardiovascular diseases

CVD area 1: Prevention of the onset and progress of cardiovascular diseases

A key priority in this area include the implementation of effective population wide interventions to prevent the onset and progress of cardiovascular diseases. Although countries and regions may have rather variable risk patterns for cardiovascular diseases and may therefore have different policy priorities, reducing smoking and obesity and acting on hypertension will contribute significantly in all countries and regions. Improving physical activity and diet (including taking in less calories and reducing our alcohol consumption) will also contribute to better health including better cardiovascular health and less cancer occurrence.

Cardiovascular disease often occurs suddenly and/or unexpectedly by myocardial infarctions or cerebral vascular accidents, and quick action is essential to save lives and prevent long-term sequelae (disabilities). Both the general public and people at high risk, patients and their families need to be educated, to **create awareness of symptoms and improve knowledge**[161] on how to act if such symptoms occur. Specific attention must be given to awareness tools designed to groups exposed to delay to care, including women and vulnerable populations. Community-based prevention strategies, should specifically target these groups, as they may not be reached to the full extent by other strategies.

Strategies that make use of **community-based intervention** may be more effective than those targeting individuals only. It should be taken into account that many people of lower socioeconomic backgrounds may face other health issues (e.g. mental health issues) and social challenges (income, housing) as well. Strategies to reduce the risk and burden of cardiovascular diseases may therefore require additional social policies to be fully effective.

Structured counselling and behavioural interventions for lifestyle modification should be part of care pathway for high risk patients. Experimentation and dissemination of innovative health organisations are therefore a field of interest. For prevention of cardiovascular diseases for high risk patients, structured resources are needed to address lifestyle factors, supporting individual healthy choices and behaviour change[162]. The target for 20*20*20 joint programming could be considered for hypertension and salt, aiming to, by 2025, increase by 20% the proportion of people who know they have hypertension and the proportion of eligible people receiving treatment, and reduce salt intake by 20%.

Secondary prevention approaches are critically important to reduce premature deaths from CVD. Secondary prevention strategies targeted toward known CVD risk factors are crucial to best support

[161] 2021 ESC Guidelines on cardiovascular disease prevention in clinical practice: Developed by the Task Force for cardiovascular disease prevention in clinical practice with representatives of the European Society of Cardiology and 12 medical societies With the special contribution of the European Association of Preventive Cardiology (EAPC). https://www.escardio.org/Guidelines/Clinical-Practice-Guidelines/2021-ESC-Guidelines-on-cardiovascular-disease-prevention-in-clinical-practice

[162] Lin J & al . Behavioral Counseling to Promote a Healthy Lifestyle in Persons With Cardiovascular Risk Factors: A Systematic Review for the U.S. Preventive Services Task ForceHealthy Lifestyle . Ann Intern Med. 2014;161(8):568-578. doi:10.7326/M14-0130

patients. This could include for instance follow-up consultations at GPs after events, including an assessment of all metabolic risk factors and a comprehensive guidance on how to treat risk factors.[163] [164]

Specifically for **stroke**, research evidence indicates that 90% of stroke may be preventable by changing modifiable risk factors with 75% of cases being preventable by improving behavioral factors such as smoking, poor diet or low levels of physical activity.[165] In addition there are several medical risk factors for stroke that contribute to its occurrence and progression. These include atrial fibrillation, diabetes mellitus, hypertension, and high levels of cholesterol. Especially unrecognized hypertension and atrial fibrillation are important with hypertension as the leading risk factor for stroke and responsible for nearly half of all ischemic strokes. Atrial fibrillation is related to 20–30% of cases. One approach to address these medical risk factors is by **improving monitoring and screening through communitywide, primary-care-led initiatives[166]**. Countries may improve their outcomes by working to implement the recommendations of the European Society of Cardiology (ESC) next to focusing on the improvement of healthy living.

Example: Keyhole labelling scheme

The "Keyhole logo" in place in Denmark, Norway and Sweden since 2009 and more recently in Iceland and Lithuania helps consumers to choose products that are lower in sugar, fats and salt, and higher in whole grains.

Source: OECD, The Heavy Burden of Obesity, 2019

CVD area 2: Early detection of cardiovascular diseases

In addition to health promotion and primary prevention of cardiovascular diseases, it is important that resources for early detection are in place. Healthcare systems need to be designed to optimise early detection, for instance by a **prevention-oriented primary care system**. Physicians and other primary care providers are in the position recognize CVD risk factors in an early stage and could anticipate on that.

While it is debatable whether population-level screening will result in lower morbidity and mortality of cardiovascular diseases[167], it is likely that **programmatic screening of specific groups** should be considered. In its 2020 update on CVD, the GBD flagged the need to address risk factors as an important initial opportunity to reduce disparities in parallel with broader effort targeting social determinants of health.[168] Strengthening cardiometabolic/other NCD risk stratification and

[163] Ray KK. DA VINCI study. EU-Wide Cross-Sectional Observational Study of Lipid-Modifying Therapy Use in Secondary and Primary Care: the DA VINCI study. Eur J Prev Cardiol. 2021 Sep 20;28(11):1279-1289

[164] Gavina C et al. Cardiovascular risk profile in Portugal: evidence from a large population-based cohort. Eur Heart J, Volume 42, Issue Supplement_1, October 2021, ehab724.2480

[165] Feigin VL, Roth GA, Naghavi M, et al; Global Burden of Diseases, Injuries and Risk Factors Study 2013 and Stroke Experts Writing Group. Global burden of stroke and risk factors in 188 countries, during 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013. Lancet Neurol. 2016;15(9):913–924.

[166] Karnad A, Pannelay A, Boshnak A, Cook R. Stroke prevention in Europe: how are 11 European countries progressing toward the European Society of Cardiolog (ESC) recommendations. Risk Management and Healthcare policy. 2018:11; 117-125.

[167] Eriksen C U, Rotar O, Toft U, Jorgensen T. What is the effectiveness of systematic population-level screening programmes for reducing the burden of cardiovascular diseases? (2021). WHO. Health Evidence synthesis report 71. Copenhagen, 2021.

[168] Roth GA, et al. Global Burden of Cardiovascular Diseases Writing Group. Global Burden of Cardiovascular Diseases and Risk Factors, 1990-2019: Update From the GBD 2019 Study. J Am Coll Cardiol. 2020 Dec 22;76(25):2982-3021

management approaches that also enable the inclusion of hard-to-reach groups. First of all, strategies aiming at populations with low socio-economic status to improve cardiovascular risk factors detection, as well as Type 2 diabetes. Comprehensive tools for cardiovascular risk estimation (metabolic and lifestyle determinants) may be developed to improve the accuracy of CV risk assessment (AMI and stroke) in European populations, among women and men. A yearly heart health check at the primary care level could be an way of programmatic screening.

Informed consent is relevant for any use of screening. Targeted strategies may be experimented for specific situations. For instance, screening to identify serious congenital heart defects can provide early indications for life saving surgery and other forms of care and support. Echocardioscopy together with physical examination is important for prognostic stratification and patient follow-up. Another example is the early diagnosis of critical congenital heart defects by pulse oximetry screening in new-borns.

Some population groups have higher genetic risks of cardiovascular disease(s) and/or diabetes, which may require screening or regular medical follow-up of genetically burdened families. Screening for familial hypercholesterolemia (in children) can be introduced to identify people at high risk early but should be accompanied with the availability of certain medicines (ideally at low cost).

Early detection of CVD could also be improved by investing on a regional or national level in **comprehensive multidisciplinary early detection training programmes** for reskilling healthcare professionals, especially within primary care and amongst specialist nurses. This could avoid misdiagnoses. A better understanding of risk factors and predisposition, and using evidence-based biomarkers and diagnostic tools, can identify patients at risk of developing CVDs before the onset of disease or delaying complications arising from them. Furthermore, improved adherence to the current scientific treatment guidelines would accelerate the delivery of innovative solutions to patients. Healthcare professionals need comprehensive guidance ensuring implementation of discharge and follow-up protocols. Discharge protocols should include the assessment of all four metabolic risk factors again after an event.

Digital tools may be beneficial for early detection of CVD and for monitoring heart failure patients, such as mobile health apps that monitor heart rhythm, weight and blood pressure.[169,170] Furthermore, **medical technology innovations**, such as in vitro diagnostic medical tests (IVDs), digital stethoscopes or echocardiography, can play an important role in facilitating early detection and ensuring timely access to treatment where needed. However, access to echocardiography testing is not sufficiently widespread across Europe, as it requires the appropriate equipment and qualified sonographers. This has resulted in some European countries experiencing a shortage of people with sonography skills in the healthcare workforce.

A specific age-related type of CVD is **Structural Heart Diseases**, which cannot be prevented as such through lifestyle measures, making suggestions to improve the early detection of this specific condition, as well as its treatment and management a specific priority area.

Example: best practice 'Telehealth service for patients with advanced heart failure'

This practice introduced specific remote monitoring of patients with congestive heart failure, structural damage of myocardium and left chamber dysfunction through the deployment of telehealth services. This aim is to detect as many patients with the given diagnoses as possible, deploy telehealth services for monitoring and improved treatment of these patients. The service provides

[169] Kauw D, Koole MAC, Winter MM, Dohmen DAJ, Tulevski II, Blok S, Somsen GA, Schijven MP, Vriend JWJ, Robbers-Visser D, Mulder BJM, Bouma BJ, Schuuring MJ. Advantages of mobile health in the management of adult patients with congenital heart disease. Int J Med Inform. 2019 Dec;132:104011. doi: 10.1016/j.ijmedinf.2019.104011. Epub 2019 Oct 15. PMID: 31654966.

[170] Conversely any negative aspects resulting from their deployment should be mitigated.

telemonitoring with a clinical protocol that is in line with the protocol used in the EU Unite4Health project (www.united4health.eu). The practice adapted this generic protocol for the specific target group of patients and the regional context.

Source: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=127; SCIROCCO – Scirocco – Scaling Integrated Care in Context (scirocco-project.eu) (European Commission Best Practice Portal)

CVD area 3: Improving (access to) high-quality CVD care and self-management support

An overarching priority would be to promote innovation in CVD management by modernising the regulatory framework for the assessment of new treatments, establish collaborations in the research and innovation area and to use routinely recorded health data to obtain a better understanding of areas for improvement in patients' care pathways.

In addition, as patients with cardiovascular diseases often have comorbidities, the management of cardiovascular diseases cannot be seen as disjoint from these comorbidities. Care and disease management approaches should therefore be **integrated and personalized**.

Patients with cardiovascular diseases should have access to high-quality treatment and care, including **self-management education and support**. The alignment and coordination of care (primary care, hospital care, acute care services) is essential to save lives and prevent long-term disabilities in the case of an acute event. Implementing **integrated care pathways** and reducing any waiting times throughout the care pathway is essential for high-quality cardiovascular disease management. Offering integrated and comprehensive care is also important given the fact that many CVD patients have co-morbidities.

Furthermore, **timely and adequate rehabilitation** is important for optimal recovery. Educating and supporting patients and families to adopt a healthy lifestyle and learning them what care is needed, is an important element of this rehabilitation. Ensuring equal access to and uptake of quality rehabilitation is very important. Furthermore, **peer support** is a way of offering rehabilitation, as is offered in the Finnish Tulppa outpatient rehabilitation program.[171]

More **personalized lifestyle interventions,** enhancing **quality of life** of CVD patients, should be supported by wider action meant to provide healthier living and working environments that make the healthy choice the easy choice. Specific and focused action will be needed for special groups, such children, adults with a lower socioeconomic position, minority groups and people in special settings (e.g., refugee camps, prisons).

New digital technologies and stakeholder involvement can also be part of innovative, effective strategies to improve lifestyles. However, the risk of exclusion of those with poor digital skills, thereby increasing social health inequalities, must be mitigated.

In addition **better (re-)use of data** will help in the development of innovative treatments. Positive competition should be endorsed through increased transparency around the health status of CVD-patients in individual countries. The European Society of Cardiology (ESC) and the European Heart Network (EHN) have published a blueprint for European action and call for the use of digital innovation, the establishment of region-wide **registries**, the development of a research agenda, and emphasise a population health approach that incorporates primary and secondary prevention, and best practice sharing to identify and target people at risk for CVD and those with CVD to drive towards better outcomes.[172] The advantages of continuous registries aiming to support continuous quality improvement at the hospital and country level have been demonstrated by the Swedish, and more recently, UK models. Continuous data collection and provision can substantially improve

[171] https://www.centerwatch.com/clinical-trials/listings/192709/coronary-heart-disease-cardiovascular-rehabilitation--effectiveness/

[172] Fighting cardiovascular disease—a blueprint for European Action. European Society of Cardiology 2020

quality of care, resulting in improved outcomes. There is a need for CVD registries to be coordinated and expanded at European level, in order to inform evidence-based decision-making throughout the disease pathway – in linkage with the European Health Data Space.

Innovation, including **collaboration between public and private entities**[173], needs to be fostered to address the burden of CVD, overcome treatment bottlenecks, and positively influence population health. **Pharmaceutical innovation** has a role to play in addressing unmet medical needs and seeing improvements in outcomes for CVD patients back on track. This requires strong and stable incentives for innovation in Europe. In highly innovative fields such as cell and gene therapies (CGT), collaboration between start-ups, academia, hospital providers and established companies are key to find and translate new treatment opportunities. Precision Medicine and CGT are future possibilities to treat CVD even more effectively.

As cardiovascular diseases are amongst the most common causes of death in European countries, it is important to have high quality **end-of-life care** in place.

Example: WHO Best buys

Provide drug therapy (including glycaemic control for diabetes mellitus and control of hypertension using a total-risk approach) and counselling for individuals who have had a heart attack or stroke and for persons with high risk (≥ 30%) of a fatal or non-fatal cardiovascular event in the next 10 years.

Source: World Health Organization. Saving lives, spending less: the case for investing in noncommunicable diseases'. December 2021. https://apps.who.int/iris/rest/bitstreams/1399949/retrieve

Chronic respiratory diseases

CRD area 1: Prevention of the onset and progress of chronic respiratory diseases

Policy options and actions to prevent the onset of chronic respiratory diseases, in particular COPD, may link to:

- the prevention of tobacco use;
- the prevention of exposure to second hand tobacco smoke;
- the prevention of exposure to occupational chemicals and dust;
- a reduction of indoor and outdoor pollutants;
- vaccination programs.

Possible actions to prevent tobacco use and the exposure to second-hand tobacco smoke, are described in more detail under the health determinants strand. The best way to prevent COPD and other CRDs is to prevent people from starting to smoke. In addition, smoking cessation is a key area for intervention to prevent further progress of CRD.

CRD area 2: Early detection of chronic respiratory diseases

An effective strategy to detect CRD in an early stage that could be considered, is opportunistic case finding in primary care by the use of spirometry, based on the presence of risk factors (age and smoking) and symptoms. The early detection of CRDs, could optimise the opportunities to prevent worsening of the disease. With respect to COPD, it remains under diagnosed and a reason for this is underuse of spirometry. Spirometry is accepted as the diagnostic test to assess airflow obstruction and classify severity of disease. The presence of symptoms is not a reliable indicator of

[173] Towards a more resilient Europe post-coronavirus: options to enhance the EU's resilience to structural risks. EPRS April 2021

disease and diagnosis is often delayed until more severe airflow obstruction is present. **Early diagnosis based on spirometry** allows risk factors for COPD, such as smoking, to be addressed timely and treatment optimised. Research indicates that spirometry can also function as a motivational tool for persons to increase smoking cessation.

CRD area 3: Ensuring (access to) high-quality CVD care and self-management support

Chronic respiratory diseases are not curable. However, various forms of treatment and management could prevent exacerbations, help control symptoms and increase the quality of life of people living with a chronic respiratory disease. It would be important to pay attention to long-Covid as a new lung disease in this context.

Important issues to take into account to better manage chronic respiratory diseases include:

- Raising awareness and educating healthcare professionals, patients and communities, but also improving availability, affordability and proper use of diagnostics and (non-)pharmacological therapies.[174]
- Smoking cessation, vaccination, pharmacological therapy, pharmacological and non-pharmacological rehabilitation, education and self-management are key areas to address in interventions.[175]
- Tailored person-centered care, taking into account the cognitive and behavioural skills of persons as well as the presence of any other conditions (multimorbidity) should also be a priority.

Chronic respiratory diseases such as chronic obstructive pulmonary disease (COPD) often coexist with other long-term conditions that may impact the prognosis.[176] Some co-existing conditions arise independently of COPD, whereas others are causally related, either with shared risk factors or by one disease increasing the risk or compounding the severity of the other.

Management of chronic respiratory diseases should therefore include identification and adequate treatment of co-existing conditions, to reduce the burden of COPD in terms of morbidity, hospitalisations and healthcare costs.[177] This requires a person-centred integrated care approach. For potentially successful actions, see also the section on *Transversal aspects*.

Mental health and neurological disorders

Possible priority areas for mental health

Mental health area 1: Supporting favourable conditions for mental health, and increasing resilience

Policies that tackle poverty, support job security, or encourage life-long learning are not aimed at improving mental health as such, yet they do create favourable conditions for mental health and well-being. Acknowledging the contribution these policies make to overall mental health, can open

[174] Rossaki FM, Hurst JR, van Gemert F, et al. Strategies for the prevention, diagnosis and treatment of COPD in low- and middle- income countries: the importance of primary care. Expert Rev Respir Med. 2021 Dec;15(12):1563-1577. doi: 10.1080/17476348.2021.1985762. Epub 2021 Oct 12. PMID: 34595990.

[175] https://goldcopd.org/wp-content/uploads/2020/11/GOLD-REPORT-2021-v1.1-25Nov20_WMV.pdf

[176] Soriano JB, Visick GT, Muellerova H, et al. Patterns of comorbidities in newly diagnosed COPD and asthma in primary care. Chest. 2005 Oct;128(4):2099-107. doi: 10.1378/chest.128.4.2099. PMID: 16236861

[177] Cavaillès A, Brinchault-Rabin G, Dixmier A, et al. Comorbidities of COPD. Eur Respir Rev. 2013 Dec;22(130):454-75. doi: 10.1183/09059180.00008612. PMID: 24293462

up opportunities for more targeted 'upstream' preventive action and initiatives. Programmes to protect children's rights or living conditions, for instance, do help prepare the ground for mental wellbeing. Intersectoral action is an important element in the framework for action put forward by UNICEF to tackle the mental health of children and young people in light of the COVID-19 pandemic[178]. This underlines the need to strengthen the capacity of health, education, social protection and other workforces and to support families, schools, and communities.

Mental health-in-all policies was already a key topic of the first EU Joint Action on Mental Health and Well-being, resulting in four policy briefs on including mental health in education, labour, local authority and whole-of-government policies, and recommendations for action as well as an overview of good practices to take these forward at different government levels[179].

In 2015, the OECD Health Council adopted a Recommendation on Integrated Mental Health, Skills and Work Policy, which recommends countries to follow a **mental health-in-all-policies approach** by implementing policies across four thematic areas: 1) **health systems** should improve timely and appropriate access to mental health care services, and ensure primary care professionals are trained in mental health, 2) **education and youth systems** should coordinate and provide timely access to mental health support for children and adolescents delivered through schools, invest in the prevention of early school drop-out of adolescents with mental health issues, and provide continuous support to young people experiencing mental health issues in the transition from school to higher education or work, and from childhood to adulthood; 3) **workplaces** should develop policies to promote good mental health at work by increasing the awareness and competencies of line managers, and support employees with mental health issues in their return to work; and 4) **welfare systems** and social protection systems need to be better equipped and responsive to the needs of people with mental health issues, by training caseworkers to better understand mental health issues and integrate mental health care and support into the delivery of employment services[180].

Many EU countries endorsed this Recommendation. In 2021, many countries had developed national mental health plans with a focus on mental health policies integrated with education, employment, health and social policies, but that further progress is needed in the implementation of these plans and the enforcement of legislation at the working level.[181]There are still structural barriers that hamper breaking down the silos. Progress made is uneven across the four thematic areas, with least progress being made in integrated practices in welfare and social protection policies.[182]

Under the Healthier Together initiative, EU countries may consider to (further) develop and implement mental health-in-all-policies, learning from examples implemented in other countries, and/or initiate further steps to expand existing mechanisms and approaches, for instance by strengthening intersectoral cooperation, joint budgeting, or mental health equity monitoring.

[178] https://www.unicef.org/media/108121/file/SOWC-2021-Europe-regional-brief.pdf

[179] https://ec.europa.eu/health/sites/default/files/mental_health/docs/2017_mh_allpolicies_en.pdf

[180] OECD, 2022. Recommendation of the Council on Integrated Mental Health, Skills, and Work Policy. OECD/LEGAL/0420. OECD Legal Instruments

[181] OECD, 2021. Report on the implementation of the OECD Recommendation on Integrated Mental Health, Skills and Work Policy. pdf (oecd.org)

[182] OECD, 2021. Report on the implementation of the OECD Recommendation on Integrated Mental Health, Skills and Work Policy. pdf (oecd.org)

Mental health area 2: Promoting mental well-being and preventing mental health disorders

An important area of work centres on the promotion of mental well-being and the prevention of mental health disorderscconditions. These efforts can alos cover the prevention of suicide. Promotion of mental well-being and prevention interventions can reduce risk factors for mental health disorders, enhance protective factors for good mental and physical health, and lead to lasting positive effects on a range of educational, social and economic outcomes.

The median age of onset for any mental condition is 14 years (for anxiety and personality disorders this is 11 years[183], for major depression it is 31 years[184]). As such, it pays off to promote mental health wellbeing, directed at developing social and emotional skills, in early childhood, but continuing at all ages is crucial. In addition, early interventions at the first onset of mental health conditions can significantly improve outcomes[185]. School-based programmes are generally effective in reaching large numbers of young people with mental health promotion and prevention interventions but also for the early detection of mental health conditions (e.g. through a school counsellor).

There is evidence that more generic lifestyle related measures such as increased physical activity[186] a healthy and balanced diet[187] and healthy sleeping patterns[188] also have a positive impact on mental health, in adults and children.

Economic evidence on mental health prevention and investment is strongest in maternal and infant health, and programmes focussing on children and adolescents, interventions in the workplace, and the prevention of suicide and self-harm[189]. With regards to suicide prevention, this includes multi-level national suicide prevention programmes, such as reducing suicide contagion, setting up of a national professional helpline and prevention of self-harm repetition. The multi-level national suicide prevention programme being implemented via the Joint Action ImpleMENTAL[190] thatstarted in October 2021, is an important reference.

Areas where the economic evidence for action has been identified most clearly[191] are:

- Maternal and infant mental health, for instance through early child development services or supportive parenting programmes;
- Children and adolescents, for instance through social and emotional learning as an integrated part of education;
- Mental health in the workplace;
- Interventions to prevent suicide and self-harm;
- Loneliness and depression in older people.

[183] Focus-on-Health-Making-Mental-Health-Count.pdf (oecd.org)
[184] Age at onset of mental disorders worldwide: large-scale meta-analysis of 192 epidemiological studies | Molecular Psychiatry (nature.com)
[185] Preventive psychiatry: a blueprint for improving the mental health of young people (nih.gov)
[186] Ayllon et al., 2019. Role of Physical Activity and Sedentary Behavior in the Mental Health of Preschoolers, Children and Adolescents: A Systematic Review and Meta-Analysis. *Sports Med*. Sep;49(9): 1383-1410 doi: 10.1007/s40279-019-01099-5.
[187] Głąbska, Guzek, Groele & Gutkowska, 2020. Fruit and Vegetable Intake and Mental Health in Adults: A Systematic Review. Nutrition 1;12(1):115 doi: 10.3390/nu12010115.
[187] Hugues Sampasa-Kanyinga et al., 2020. Combinations of physical activity, sedentary time, and sleep duration and their associations with depressive symptoms and other mental health problems in children and adolescents: a systematic review. Int J Behav Nutr Phys Act 5;17(1):72. doi: 10.1186/s12966-020-00976-x.

[189] https://www.annualreviews.org/doi/full/10.1146/annurev-publhealth-040617-013629
[190] Health Programme DataBase - European Commission (europa.eu)

[191] The Economic Case for the Prevention of Mental Illness (annualreviews.org)

Other action areas where the evidence for mental health promotion interventions is strong[192]:

- Community empowerment programmes;
- Mental health promotion within health services (including primary care);
- through a focus on service users' mental health and wellbeing as part of routine primary health care and mental health services;
- Enhancing public awareness, promoting positive mental health and reducing stigma associated with mental ill health;
- Adopting a 'Mental Health in all Policies' approach.

A wide range of practice examples can be found on the Commission's Best Practice Portal. This includes best practices that were already selected for implementation[193], and that are in the process of being rolled out (or for which the implementation is foreseen):

- A step-wise intervention programme to tackle depression, via the 'European Alliance Against Depression-Best' project[194], work started in April 2021;
- Best practices to tackle mental health challenges as a consequence of the COVID-19 pandemic: a call for projects in support of implementation under the 2021 EU4Health Annual Work Programme closed in January 2022 and is under evaluation;
- Practices aiming to improve the mental health of vulnerable groups including young people, supported via the 2022 annual EU4Health Work Programme (call for proposals launched on February 22).

The Commission's Health Promotion and Disease Prevention Knowledge Gateway provides an overview of more detailed policy recommendations and practices to tackle depression in adults[195], as well as children and adolescents[196]. Promising practices to tackle the mental health impact of the COVID-19 pandemic were also presented at the high-level conference on that theme, hosted by Commissioner Kyriakides in May 2021[197].

Innovative population-oriented prevention interventions are expected to emerge from the outcomes of research projects[198] funded under the Horizon 2020 Programme. These aim to promote mental health and well-being of young people (under 25), increase resilience and mitigate the impact of biological, psychosocial and environmental risk factors. Two of these projects already delivered implementable research results, piloting a holistic inclusive intervention for a whole school environment, respectively strengthening the mental health and well-being of young informal carers.

Mental health area 3: Improving timely and equitable access to high quality services

Mental healthcare is not widely available throughout the EU, with large differences within and between countries. The limited availability of health care services and professionals result in long waiting times for diagnosis and treatment, which negatively impact mental and physical health outcomes and related healthcare expenditures as well as participation in society, including labour participation. Access to mental health care may also be restricted for large groups of citizens in a

[192] IUHPE_Mental-Health_PositionStatement.pdf

[193] By the Steering Group on Health Promotion, Disease Prevention and Management of Non-Communicable Diseases

[194] Health Programme DataBase - European Commission (europa.eu)

[195] https://knowledge4policy.ec.europa.eu/health-promotion-knowledge-gateway/depression-adults_en

[196] https://knowledge4policy.ec.europa.eu/health-promotion-knowledge-gateway/depression-children-adolescents_en

[197] https://ec.europa.eu/health/sites/health/files/non_communicable_diseases/docs/ev_20210510_promising-approaches_en.pdf

[198] https://cordis.europa.eu/search/en?q=contenttype%3D%27project%27%20AND%20programme%2Fcode%3D%27SC1-PM-07-2017%27&srt=%2Fproject%2FcontentUpdateDate:decreasing

less favourable socioeconomic position, because of high co-payments, which contributes to increased health inequalities, and a larger burden of NCDs among vulnerable populations.

Availability and access to high-quality mental health care is therefore an important priority area in this strand. Actions in this area include those that support access to the full spectrum of mental health promotion, prevention, treatment and rehabilitation services, in community and in-patient settings. This can be supported under the Commission's social policy portfolio but also via support to health system reform, as well as via country-specific support actions. It would also include efforts to strengthen the health workforce, for instance via capacity building and training. The WHO Quality Rights Toolkit, which focuses on improving the quality and human rights of mental health and social care facilities, is a valuable reference in this context.[199]

Best practice implementation that is already ongoing, includes:

- A Belgian best practice example (or elements thereof) focusing on strengthening client-centered community-based services, will be implemented in participating countries considering the local contexts via the Joint Action ImpleMENTAL[200], work started in October 2021;
- Special emphasis on mental health care for children and adolescents: measures to improve access, to increase the availability of specialised professionals;
- Special emphasis on mental health of and mental health care for older people: prevention and identification of depression at primary level, suicide prevention;
- Targeting mental health services for inmates.

Mental health area 4: Protecting rights, enhancing social inclusion, and tackling stigma

Understanding and an awareness of mental health among the general population is crucial, as without public awareness all other actions to promote mental health and support individuals with mental health conditions will be less effective.[201] Creation of awareness should go hand-in-hand with destigmatising mental health issues, as stigma and discrimination increase social isolation and exclusion of people with mental health issues and their families, and create barriers for seeking help (from healthcare professionals in general and mental health and social services, but also from teachers, employers, etc.) and hinder access to the labour market.

Many countries in the EU have introduced national awareness campaigns, but continuous awareness raising campaigns remain important, and specific campaigns targeting vulnerable populations, such as youth or the elderly, may be needed. Awareness of mental health issues should also be improved among teachers, line managers in workplaces, primary care professionals and other professionals to strengthen mental health resilience and detect mental health issues at an early stage. Courses that increase mental health literacy among the general population, such as Mental Health First Aid (MHFA) trainings, could be further promoted and made accessible to citizens and professionals, e.g. through workplace training.

Example: Mental Health First Aid training course

Initially developed in Australia in 2000, the Mental Health First Aid (MHFA) course addresses mental health problems by increasing mental health literacy among the general population as well as in more targeted settings like the workplace. The training equips participants with the skills to provide initial help to people experiencing a mental health crisis and to support people that experience ongoing mental health problems by focusing on five steps:

[199] https://www.who.int/publications/i/item/9789241548410

[200] Health Programme DataBase - European Commission (europa.eu)

[201] OECD, 2021. Report on the implementation of the OECD Recommendation on Integrated Mental Health, Skills and Work Policy. pdf (oecd.org)

1: Assess risk of suicide and harm,
2. Listen non-judgmentally,
3. Give reassurance and information,
4. Encourage persons to get appropriate professional help, and
5. Encourage self-help strategies.

Using a Delphi approach, separate guidelines have been developed for different types of mental health problems and for different settings. The evidence base for the effectiveness of MHFA is growing, and numerous European countries have adopted the approach and joined the global movement.

Source: https://mhfainternational.org/international-mental-health-first-aid-programs/

Another important area of work addresses the social inclusion of people living with a mental health problem or disorder, and the protection of their rights. The focus here is on empowerment, non-discrimination, human rights as well as increasing and supporting social participation of people with mental health problems or disorders, including support to access the labour market and return-to-work programmes. Different European countries have been experimenting with Individual Placement and Support (IPS) programmes to enhance access to paid employment for people with mental health disorders. A large randomized controlled trial conducted across six European sites concluded that overall, IPS produced stronger outcomes than alternative vocational services and that its overall costs for health and social care systems were lower [202]. IPS may thus be a promising approach which appears to work well across different European countries.

Possible priority areas for neurological diseases

Given the complexity and diversity of the neurological disorders and the variability of their risk factors and often scarce options for prevention, the focus will be on the more prevalent neurological diseases with possibilities for effective interventions: Alzheimer's disease and dementia and Parkinson's disease. For many of the other neurological diseases more fundamental research is needed to identify preventable risks as well as the need to invest in new and more effective treatment options.

To help advance further work, countries may wish to consider to (further) work on the following priority areas:

a. Changing attitudes and tackling stigma;
b. Prevention and early detection;
c. High-quality care in managing neurological diseases, and supporting quality of life.

Neurological diseases area 1: Changing attitudes and tackling stigmaassociated with dementia

Countries may consider to further develop, put in place and support 'Dementia-friendly communities', also building on the outcomes of the 2nd Joint Action on Dementia.[203] The dementia-friendly community approach aims at changing the attitudes towards and the perceptions of people living with dementia, as well as reducing the stigma surrounding dementia. Furthermore, countries may wish to identify joint challenges and share and implement good practices to invigorate national

[202] Knapp, M., Patel, A., Curran, C., Latimer, E., Catty, J., Becker, T., Drake, R. E., Fioritti, A., Kilian, R., Lauber, C., Roessler, W., Tomov, T., van Busschbach, J., Comas-Herrera, A., White, S., Wiersma, D., & Burns, T. (2013). Supported employment: cost-effectiveness across six European sites. *World psychiatry*, *12*(1), 60-68. https://doi.org/10.1002/wps.20017

[203] https://webarchive.nrscotland.gov.uk/20210302011848/https:/www.actondementia.eu/

dementia action. Countries may also work on increasing national awareness and support campaigns, such as the Irish 'Understand Together Campaign'.[204]

Neurological diseases area 2: Prevention and early detection of neurological diseases

Primary prevention of Alzheimer's disease and dementia should focus on mitigating modifiable risk factors by education and countering risk factors for cardiovascular disease, including diabetes, hypertension, obesity, smoking, and physical inactivity.

Policy recommendations on Alzheimer's disease and dementia prevention, early detection and management of international organisations and EU funded projects have been recently summarised by the European Commission Joint Research Centre[205]. Regarding the prevention and early detection of Alzheimer's disease and dementia, the following suggestions may be considered for actions by countries and stakeholders:

- Invest in primary prevention of Alzheimer's disease and dementia; prevent Alzheimer's disease and dementia through improved detection and treatment of cardiovascular diseases and diabetes, including risk factors such as hypertension, and prioritise smoking cessation, weight control and sufficient physical activity among older adults;
- Address environmental risk factors and create social environments that support a healthy lifestyle and healthy ageing;
- Support municipalities and local communities to establish effective preventive services for older citizens, including models for preventive home visits and early detection of dementia.

As treatment of Parkinson's disease after the onset of symptoms is difficult and often little effective, early, or rather timely, detection of the disease is essential [206]. At the moment, however, cost-effective measures to screen larger groups of persons at risk are scarce and often depend on very costly technology. In screening for Parkinson's disease there is also a need to avoid negative effects of diagnosis, such as ineffective medicalisation[207]. The current approaches to early detection such as searching for premotor symptoms in elderly subjects with or without measuring biomarkers in body fluids in untreated patients may not always work optimally [208]. There is thus a need to develop, test and exchange best practices and improved methodologies to implement earlier and more precise diagnoses of the various types of Parkinson's disease.

Neurological diseases area 3: High-quality care in managing neurological diseases and supporting quality of life

Policy recommendations on dementia management, summarised by the European Commission Joint Research Centre[209], that countries and stakeholders may consider for their actions include:

- Improve the quality and availability of Alzheimer's disease and dementia care;
- Support the quality of life of people with Alzheimer's disease and dementia and their family/carers by innovative interventions (including technology) and the establishment of support services.

[204] See for description of case study: Alzheimer's Innovation Readiness Index 2021. Alzheimer's Disease International, 2021. https://www.alzint.org/u/GCOA_AIRI_AlzIndeXReport_FINAL.pdf

[205] Policy recommendations for dementia prevention | Knowledge for policy (europa.eu)

[206] Pagán F. Improving outcomes through early diagnosis of Parkinson's disease. Am J Manag Care 2012;18(7 Suppl):S176-182.

[207] Rees RN, Acharya AP, Schrag A, Noyce AJ. An early diagnosis is not the same as timely diagnosis of Parkinson's disease. F1000Research 2018, Jul 18;7:F1000 Faculty Rev – 1106. Doi: 10.12688/f1000research.14528.1. eCollection 2018. [PMID: 30079229]

[208] Ugrumov M. Development of early diagnosis of Parkinson's disease: Illusion or reality? CNS Neurosci Ther 2020:26:997-1009.

[209] Policy recommendations for dementia prevention | Knowledge for policy (europa.eu)

Example: WHO Mental Health Gap Action Plan (mhGAP) and mDementia programme

The Mental Health Gap Action Plan (mhGAP) is an information package for prioritised mental, neurological and substance use disorders, including dementia. It's composed of interventions for prevention and management for each condition.

Source:https://apps.who.int/iris/bitstream/handle/10665/259161/WHO-MSD-MER-17.6-eng.pdf?sequence=1

The mDementia programme provides health information to those at risk of developing dementia and to support carers of people living with dementia, leveraging mobile technologies.

Source : https://www.who.int/publications/i/item/9789240019966

Annex 3 – Potential policies and actions by strand and priority area

No.	Policy option or best/promising practice	Source
Integrated approach		
Integrated approach area 1: Reducing health inequalities by addressing social determinants, health literacy and digital literacy		
Large scale: policy options at national or regional level		
0.1.1	Joint Action Health Equity Europe (JAHEE). *(Aims to deliver a policy framework with a menu of actions and recommendations for national, regional and local uptake and implementation; develop better policies improve monitoring, governance, implementation and evaluation; implement good practices and facilitate exchange and learning; identify factors of success, barriers and challenges and how to overcome them.)*	EU Best practice: EC Health Programme Database
0.1.2	Title: Support for young families in difficulties; Origin: Vulnerable; Country: DE; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=83	EU Best Practice Portal
Targeted: practices at local or organisational level		
0.1.3	Title: Mothers peer educator in a low socio-economic status school setting; Origin: NCD Prevention; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=386	EU Best Practice Portal
0.1.4	Title: PRomotion of Food and Physical Activity - Inequalities of Health; Origin: JANPA; Country: FR; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=234	EU Best Practice Portal
Integrated approach area 2: Digital tools to personalise health promotion and disease prevention, support shared decision-making and self-management, and improve the quality of care		
Large scale: policy options at national or regional level		
0.2.1	Title: ETAPES *(a public health initiative from the French authorities to pilot the use of remote monitoring (telemedicine) solutions*.) Source: ETAPES: La télésurveillance France https://solidarites-sante.gouv.fr/soins-et-maladies/prises-en-charge-specialisees/telesante-pour-l-acces-de-tous-a-des-soins-a-distance/article/la-telesurveillance-etapes	
0.2.2	eHAction – Joint Action to support the eHealth Network, which aims to explore how eHealth could facilitate the management of chronic diseases and multi-morbidity, by increasing sustainability and efficiency of health systems, and by facilitating personalized care and empowering the citizen.	EU Best practice: EC Health Programme Database
Targeted: practices at local or organisational level		
0.2.3	Title: platform mobile health Belgium, or mHealthBelgium. *(A platform for mobile apps that are CE-marked as a medical device. The platform utilises a validation pyramid to categorise apps based on various criteria.)* Link: Validation pyramid - mHealthBELGIUM	
Integrated approach area 3: Integration of health promotion and disease prevention in the health system		
Large scale: policy options at national or regional level		
Targeted: practices at local or organisational level		
0.3.1	Title: Embrace; Origin: ACT; Country: NL; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=318	EU Best Practice Portal
Integrated approach area 4: Effective screening approaches		
Large scale: policy options at national or regional level		
Targeted: practices at local or organisational level		
Integrated approach area 5: Health system redesign to deliver person-centred and integrated care		
Large scale: policy options at national or regional level		
0.5.1	JADECARE – Joint Action on implementation of digitally enabled integrated person-centred care. This JA focuses on transfer of four best practices: Basque Health strategy in ageing and chronicity: integrated care; Catalan open innovation hub on ICT-supported integrated care services for chronic patients; the OptiMedis Model-Population-based integrated care (Germany); the Digital roadmap towards an integrated health care sector	EU Best practice: EC Health Programme Database

	(Denmark)	
0.5.2	Title: CINDI Bulgaria (Countrywide Integrated Non-communicable Disease Intervention); Origin: CHRODIS; Country: BG; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=65	EU Best Practice Portal
0.5.3	Title: Healthy Kinzigtal Germany; Origin: CHRODIS; Country: DE; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=49	EU Best Practice Portal
0.5.4	JA-CHRODIS Multimorbidity Care Model	CHRODIS
0.5.5	Title: Project VIGOUR here. Link: https://vigour-integratedcare.eu/	
0.5.6	Title: Project SCIROCCO-Exchange here (https://www.sciroccoexchange.com/)	
0.5.7	Title: Population Intervention Plan for Multimorbidity; Origin: ACT; Country: ES; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=322	EU Best Practice Portal
Targeted: practices at local or organisational level		
	Title: Chronic Patient Program; Origin: ACT; Country: ES; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=313	EU Best Practice Portal
Integrated approach area 6: Evidence-based guidelines for healthcare professionals		
Large scale: policy options at national or regional level		
0.6.1	The Digital Healthcare Act in Germany (DIGA) introduced in 2019 the "app on prescription" as part of healthcare provided to patients. *(All medical apps in scope of DIGA – mobile apps that are CE-marked as a medical device – must have the EU regulatory approval as a prerequisite, ensuring the safety, performance and demonstration of a clinical benefit, as well as deploying a robust market surveillance system.).* Link: BfArM - Digital Health Applications (DiGA)	
Targeted: practices at local or organisational level		
Integrated approach area 7: Age-, gender- and culture-sensitive health promotion, disease prevention, screening and disease management strategies		
Large scale: policy options at national or regional level		
Targeted: practices at local or organisational level		
0.7.1	Title: Our Life as Elderly; Origin: Vulnerable; Country: FI, SE; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=98	EU Best Practice Portal
0.7.2	Title: Teens understanding and taking control health; Origin: NGO Health Award 2018; Country: SE; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=366	EU Best Practice Portal
Integrated approach area 8: Supporting people with NCDs and their caregivers to remain active and participate in the labour market		
Large scale: policy options at national or regional level		
Targeted: practices at local or organisational level		
Integrated approach area 9: Improving the availability of NCD data for decision-makers		
Large scale: policy options at national or regional level		
Targeted: practices at local or organisational level		
Strand 1: Health determinants		
Health determinants area 1: Control use of tobacco and related products among the general population		
Large scale: policy options at national or regional level		
1.1.1	Title: Tobacco Free Ireland - Ireland's tobacco control policy and programme operating under the Healthy Ireland Framework for Health and Wellbeing 2013-2025; Origin: CHRODIS; Country: IE; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=50	EU Best Practice Portal EU Joint Action CHRODIS best practice
1.1.2	Title: SmokeFreeGreece; Origin: NGO Health Award 2018; Country: EL; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=368	EU Best Practice Portal
1.1.3	Title: VIVID- Institute for the Prevention of Addiction; Origin: NGO Health Award 2018; Country: AT; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=369	EU Best Practice Portal

	Awareness raising campaign.	
1.1.4	Title: Total Ban on Smoking in Indoor and Some Outdoor Public Places; Origin: CHRODIS; Country: BG; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=56	EU Best Practice Portal
1.1.5	Joint Action on tobacco control 2, to support the implementation of the EU Tobacco Products Directive and EU Tobacco Advertising Directive	EU Best practice: EC Health Programme Database
1.1.6	Increase excise taxes and prices on tobacco products	WHO Best Buy*
1.1.7	Implement plain/standardized packaging and/or large graphic health warnings on all tobacco packages *(NB. Requires capacity for implementing and enforcing regulation and legislation)*	WHO Best Buy*
1.1.8	Enact and enforce comprehensive bans on tobacco advertising, promotion and sponsorship *(NB. Requires capacity for implementing and enforcing regulation and legislation)*	WHO Best Buy*
1.1.9	Eliminate exposure to second-hand tobacco smoke in all indoor workplaces, public places, public transport *(NB. Requires capacity for implementing and enforcing regulation and legislation)*	WHO Best Buy*
1.1.10	Implement effective mass media campaigns that educate the public about the harms of smoking/tobacco use and second hand smoke *(NB. Requires capacity for implementing and enforcing regulation and legislation)*	WHO Best Buy*
1.1.11	Provide cost-covered, effective and population-wide support (including brief advice, national toll-free quit line services) for tobacco cessation to all those who want to quit *(NB. Requires sufficient trained providers and a better functioning health system)*	WHO Effective intervention**
1.1.12	Implement measures to minimize illicit trade in tobacco products	WHO Recommended intervention***
1.1.13	Ban cross-border advertising, including using modern means of communication	WHO Recommended intervention***
1.1.14	Provide mobile phone based tobacco cessation services for all those who want to quit	WHO Recommended intervention***
1.1.15	ENSP Art. 14 Brochure: ENSP actions to support the implementation of WHO FCTC Article 14. from the ENSP Network. Link: http://ensp.network/ensp-art-14-brochure/	Suggested by X.
Targeted: practices at local or organisational level		
1.1.16	Title: Workplace Health Promotion - Lombardy WHP Network; Origin: CHRODIS; Country: IT; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=63 *(Implementation of good practice activities in workplaces to obtain/maintain the "Workplace Health Promotion Site"-logo. The areas of good practice are: nutrition, tobacco, physical activity, road safety, alcohol and substances, and well-being.)*	EU Best Practice Portal
1.1.17	Title: Nine Months Zero; Origin: RARHA; Country: NL; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=279	EU Best Practice Portal
Health determinants area 2: Prevent children, adolescents, and young adults from taking up tobacco and related products		
Large scale: policy options at national or regional level		
1.2.1	Title: Education Against Tobacco; Origin: NGO Health Award 2018; Country: DE; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=362	EU Best Practice Portal
1.2.2	X-HALE Youth Smoking Prevention Programme	EU Health Award winner
1.2.3	Youth Organisation No Excuse Slovenia	EU Health Award winner
Targeted: practices at local or organisational level		
Health determinants area 3: Reduce harmful alcohol consumption of the general population		
Large scale: policy options at national or regional level		
1.3.1	Title: The Swedish National Alcohol Helpline; Origin: RARHA; Country: SE; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=281	EU Best Practice Portal

1.3.2	Increase excise taxes on alcoholic beverages *(NB. Requires an effective system for tax administration and should be combined with efforts to prevent tax avoidance and tax evasion)*	WHO Best Buy* WHO SAFER initiative
1.3.3	Enact and enforce bans or comprehensive restrictions on exposure to alcohol advertising, sponsorship and promotion (across multiple types of media), paying special attention to all digital and social media, and networks. *(NB. Requires capacity for implementing and enforcing regulations and legislation)*	WHO Best Buy* WHO SAFER initiative
1.3.4	Strengthen restrictions on the availability of alcohol *(number, density and location of places –specially protection children environments- , hours, ect.).*	WHO SAFER initiative
1.3.5	Enact and enforce restrictions on the physical availability of retailed alcohol (via reduced hours of sale) *(NB. Formal controls on sale need to be complemented by actions addressing illicit or informally produced alcohol).*	WHO Best Buy* WHO SAFER initiative
1.3.6	Advocate for the creation of a legally binding regulatory framework similar to the WHO Framework Convention on Tobacco Control.	WHO SAFER initiative
1.3.7	Create a coordination body at the EU level similar to the dissolved Committee on National Alcohol Policy and Action (CNAPA).	
1.3.8	Enact and enforce drink-driving laws and blood alcohol concentration limits via sobriety checkpoints *(NB. Requires allocation of sufficient human resources and equipment).*	WHO Effective intervention**
1.3.9	Carry out regular reviews of prices in relation to level of inflation and income.	WHO Recommended intervention***
1.3.10	Establish minimum prices for alcohol where applicable.	WHO Recommended intervention***
1.3.11	Provide consumer information about, and label, alcoholic beverages to indicate, the harm related to alcohol and mandatory labelling of ingredients and nutrient content.	WHO Recommended intervention*** and Beating Cancer Plan recommendation
1.3.12	Alcohol pricing is a key method used to reduce consumption, including: taxes based on size, alcohol content and value; minimum unit pricing; other minimum alcohol pricing tools, such as bans on below-cost selling.	OECD (2021), Preventing Harmful Alcohol Use, OECD Health Policy Studies
1.3.13	Alcohol availability can be restricted to affect intake through: restrictions on hours and days of alcohol sales; restrictions on the density of alcohol outlets; minimum legal purchasing age.	OECD (2021), Preventing Harmful Alcohol Use, OECD Health Policy Studies
1.3.14	Policies to curb alcohol marketing help to reduce encouragement to drink, such as: advertising on traditional (e.g. television, radio and print media) and new digital media platforms (e.g. social media); sport sponsorship.	OECD (2021), Preventing Harmful Alcohol Use, OECD Health Policy Studies
1.3.15	Consumer information can improve awareness of the health risks associated with alcohol, including: nutritional and health warning labels; mass media campaigns; school-based education programmes.	OECD (2021), Preventing Harmful Alcohol Use, OECD Health Policy Studies
1.3.16	Low Risk Alcohol Consumption Thresholds for Spain and sensitization materials for policymakers, health workers and citizens.	Spanish Ministry of Health
1.3.17	Lines of action in the field of prevention of alcohol consumption of the Spanish Working group of regional representatives on alcohol prevention.	Spanish Ministry of Health
1.3.18	Sensitization materials and web-based information for prevention of alcohol consumption in pregnancy and FASD prevention.	Spanish Ministry of Health
Targeted: practices at local or organisational level		

1.3.19	Title: The Local Alcohol, Tobacco and Gambling Policy Model; Origin: RARHA; Country: FI; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=290.	EU Best Practice Portal
1.3.20	Title: "Drink Less" programme; Origin: RARHA; Country: ES; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=282.	EU Best Practice Portal
1.3.21	Provide brief psychosocial intervention for persons with hazardous and harmful alcohol use *(NB. Requires trained providers at all levels of health care).*	WHO Effective intervention**
1.3.22	Provide prevention, treatment and care for alcohol use disorders and comorbid conditions in health and social services.	WHO Recommended intervention***
1.3.23	Screening, brief interventions and treatment that targets harmful drinking: excessive drinkers are identified through various screening tools. Following screening: excessive drinkers receive brief interventions, which typically last between 5 and 30 minutes over 1-5 sessions; dependent drinkers may be referred to specialised psychosocial and pharmacotherapy treatment.	OECD (2021), Preventing Harmful Alcohol Use, OECD Health Policy Studies
Health determinants area 4: Prevent the consumption of alcohol among children and adolescents, and young adults		
Large scale: policy options at national or regional level		
1.4.1	Enact and enforce an appropriate minimum age for purchase or consumption of alcoholic beverages and reduce density of retail outlets.	WHO Recommended intervention***
1.4.2	Restrict or ban promotions of alcoholic beverages in connection with sponsorships and activities targeting young people.	WHO Recommended intervention***
Targeted: practices at local or organisational level		
1.4.3	Title: Web-based individual coping and alcohol-intervention program; Origin: RARHA; Country: SE; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=280.	EU Best Practice Portal
Health determinants area 5: Reduce unhealthy diets, physical inactivity, overweight and obesity among the general population		
Large scale: policy options at national or regional level		
1.5.1	WholEUGrain – Transfer of Danish best practice model for a Whole Grain Partnership. *(The overall objectives are to promote good health through healthy diets, prevent diseases, reduce inequalities and establish supportive environments for healthy lifestyles by developing country-based whole grain public/private partnerships.)*Country: DK; Link: https://webgate.ec.europa.eu/chafea_pdb/health/projects/874482/summary	EU Best practice: EC Health Programme Database
1.5.2	Best-ReMaP Joint action – Implement a European Standardised Monitoring system for the reformulation of processed foods.	EU Best practice: EC Health Programme Database
1.5.3	Reduce salt intake through the reformulation of food products to contain less salt and the setting of target levels for the amount of salt in foods and meals *(NB. Requires multisectoral actions with relevant ministries and support by civil society).*	WHO Best Buy*
1.5.4	Reduce salt intake through a behaviour change communication and mass media campaign.	WHO Best Buy*
1.5.5	Reduce salt intake through the implementation of front-of-pack labelling *(NB. Regulatory capacity along with multisectoral action is needed).*	WHO Best Buy*
1.5.6	Reduce salt intake through the establishment of a supportive environment in public institutions such as hospitals, schools, workplaces and nursing homes, to enable lower sodium options to be provided.	WHO Best Buy*
1.5.7	Eliminate industrial trans-fats through the development of legislation to ban their use in the food chain *(NB. Regulatory capacity along with multisectoral action is needed).*	WHO Effective intervention**
1.5.8	Reduce sugar consumption through effective taxation on sugar-sweetened beverages.	WHO Effective intervention**
1.5.9	Promote and support exclusive breastfeeding for the first 6 months of life, including promotion of breastfeeding.	WHO Recommended intervention***
1.5.10	Implement subsidies to increase the intake of fruits and vegetables.	WHO Recommended intervention***

1.5.11	Replace trans-fats and saturated fats with unsaturated fats through reformulation, labelling, fiscal policies or agricultural policies.	WHO Recommended intervention***
1.5.12	Limiting portion and package size to reduce energy intake and the risk of overweight/obesity.	WHO Recommended intervention***
1.5.13	Implement nutrition labelling to reduce total energy intake (kcal), sugars, sodium and fats.	WHO Recommended intervention***
1.5.14	Implement mass media campaign on healthy diets, including social marketing to reduce the intake of total fat, saturated fats, sugars and salt, and promote the intake of fruits and vegetables.	WHO Recommended intervention***
1.5.15	Food labelling schemes *(For instance, the "Keyhole logo" in place in Denmark, Norway and Sweden since 2009 and more recently in Iceland and Lithuania helps consumers to choose products that are lower in sugar, fats and salt, and higher in whole grains. Similarly, the NutriScore label, implemented in France as of April 2017, is a 5-colour scale that summarises the healthiness of a product.)*	OECD, The Heavy Burden of Obesity, 2019 OECD, Obesity update, 2017
1.5.16	Menu labelling schemes *(For instance, legislation in some countries requires displaying calorie counts on the restaurant menus (e.g., in chain restaurants in the United States as of May 2017, in several Australian states since 2016, and in Ontario, Canada, as of 2017).*	OECD, The Heavy Burden of Obesity, 2019
1.5.17	Mass media campaigns, including social media and new technologies *(For example by providing recipes and tips for healthier eating through a dedicated website, mobile apps and online tools.)*	OECD, The Heavy Burden of Obesity, 2019
1.5.18	Increase access to active public transport.	OECD, The Heavy Burden of Obesity, 2019
1.5.19	Food reformulation *(For example, in 2018, Public Health England published a reformulation programme challenging the industry to reduce calories by 20% by 2024, in foods high in sugar, salt, calories and saturated fat, such as ready meals, pizzas, snacks sauces and dressings. Also in 2018, the OECD put forward to the G20 a proposal for a global deal between national governments and industry to scale up these efforts at the global level.)*	OECD, The Heavy Burden of Obesity, 2019
1.5.20	Policy packages to promote healthier lifestyles: > A communications package that combines food labelling, advertising restrictions and mass media campaigns. > A mixed package, consisting of policies that are less wide-spread including menu labelling, prescribing physical activity and workplace wellness programmes. These more innovative interventions provide an opportunity to step up the policy response. > A package to promote physical activity, through prescribing physical activity, public transport interventions, physical education in schools and actions to counteract workplace sedentary behaviour.	OECD, The Heavy Burden of Obesity, 2019
1.5.21	Provide convenient and safe access to quality public open space and adequate infrastructure to support walking and cycling.	WHO Recommended intervention***
1.5.22	EUPAP – Transfer of Swedish best practice for physical activity on prescription. Link: https://www.eupap.org/	EU Best practice: EC Health Programme Database
1.5.23	Title: Best-ReMaP: Healthy Food for a Healthy Future. Link: https://bestremap.eu/	
Targeted: practices at local or organisational level		
1.5.23	Implement nutrition education and counselling in different settings (for example, in preschools, schools, workplaces and hospitals) to increase the intake of fruits and vegetables.	WHO Recommended intervention***
1.5.24	Title: Combined lifestyle intervention (GLI) programs; Country: NL; Link: https://www.rivm.nl/gecombineerde-leefstijlinterventie/programmas.	Expert suggestion

1.5.25	Prescription of physical activity by primary care doctors.	OECD, The Heavy Burden of Obesity, 2019
1.5.26	Mobile apps to promote healthier lifestyles.	OECD, The Heavy Burden of Obesity, 2019
1.5.27	Workplace wellness programmes.	OECD, The Heavy Burden of Obesity, 2019
1.5.28	Workplace sedentary behaviour programmes.	OECD, The Heavy Burden of Obesity, 2019
1.5.29	Implement multi-component workplace physical activity programmes.	WHO Recommended intervention***
1.5.30	Promotion of physical activity through organized sport groups and clubs, programmes and events.	WHO Recommended intervention***
1.5.31	Implement community wide public education and awareness campaign for physical activity which includes a mass media campaign combined with other community based education, motivational and environmental programmes aimed at supporting behavioural change of physical activity levels.	WHO Best Buy*
1.5.32	Provide physical activity counselling and referral as part of routine primary health care services through the use of a brief intervention *(NB. Requires sufficient, trained capacity in primary care).*	WHO Effective intervention**
1.5.33	Ensure that macro-level urban design incorporates the core elements of residential density, connected street networks that include sidewalks, easy access to a diversity of destinations and access to public transport *(NB. Requires involvement and capacity of other sectors apart from health).*	WHO Recommended intervention***
1.5.34	Title: An innovative multidisciplinary model to improve the adoption of a healthy lifestyle by people with obesity or type 2 diabetes; Origin: CHRODIS; Country: IT; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=45.	EU Best Practice Portal
1.5.35	Title: EATRIGHT; Origin: JANPA; Country: IE; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=246.	EU Best Practice Portal
1.5.36	Prescription of physical activity by primary care doctors, as is done in the France where Haute Autorité de Santé has issued guidelines (2019): Guide de promotion, consultation et prescription médicale d'activité physique et sportive pour la santé. Link: ORGANISATION DES PARCOURS (has-sante.fr)	
Health determinants area 6: Reduce unhealthy diets, physical inactivity, overweight and obesity among children and adolescents		
Large scale: policy options at national or regional level		
1.6.1	JANPA - Joint Action on Nutrition and Physical Activity: general objective is to contribute to halting the rise in overweight and obesity in children and adolescents by 2020 *(through a.o. the identification, selection and sharing of best data and practices*).	EU Best practice: EC Health Programme Database
1.6.2	Regulation of advertising of unhealthy food to children *(For instance, In Norway a united group of food manufacturers and suppliers agreed on a new self-regulation scheme to voluntarily ban marketing of unhealthy foods and beverages to children younger than 13. Communication channels included are, for instance, movies in theatres starting before 6.30pm, competitions and interactive games for children. In Denmark, a self-regulation code has been in place since 2008 through "The Forum of Responsible Food Marketing Communication". The code targets marketing to children on TV, printed media and the internet of products with a high content of sugar, fats and salt. From 2015, the industry in Slovenia has voluntarily agreed to restrict soft drink advertising in school settings as well as in magazines and cinemas for children under the age of 12. In Poland, a law was implemented in 2015 to regulate promotion and advertising of foods sold at pre-schools, primary and secondary schools. In Spain, since 2015, educational and health*	OECD, The Heavy Burden of Obesity, 2019

	authorities can allow any advertising and promotional campaigns in schools, but only when they believe that the activity would be of benefit to the interests of the minors.)	
1.6.3	Legislation prohibiting the sale of energy drinks to children below age of 18 *(this legislation is in place in Latvia since June 2016. It also prohibits advertising of these drinks before, during and after TV programmes targeting children less than 18 years of age, their advertising in educational establishments, as well as their association with sports facilities. Similar advertising restrictions have existed in neighbouring Lithuania since 2014.)*	OECD, The Heavy Burden of Obesity, 2019
1.6.4	Title: Regulation on daily physical education in schools; Origin: JANPA; Country: HU; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=245	EU Best Practice Portal
Targeted: practices at local or organisational level		
1.6.5	Title: National model 'Child to Healthier Weight'; Country: NL; Link: https://kindnaargezondergewicht.nl/	Expert suggestion
1.6.6	Title: Dutch Obesity Interventions in Teenagers (DOiT); Origin: CHRODIS; Country: NL; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=57	EU Best Practice Portal
1.6.7	Title: Identification and prevention of Dietary- and lifestyle-induced health EFfects In Children and infantS; Origin: JANPA; Country: BE, DE, ES, HU, IT; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=237	EU Best Practice Portal
1.6.8	Title: Intervention improving the food supply (excluding school meals) with educational support in middle and high schools; Origin: JANPA; Country: FR; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=232	EU Best Practice Portal
1.6.9	Title: Hungarian Aqua Promoting Programme in the Young (HAPPY) and HAPPY Week; Origin: JANPA; Country: HU; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=244	EU Best Practice Portal
1.6.10	Promotion of physical activity in schools	OECD, The Heavy Burden of Obesity, 2019
1.6.11	Title: Active School Flag; Origin: CHRODIS; Country: IE; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=64	EU Best Practice Portal
1.6.12	Title: Physical activity promotion in primary schoolchildren. Intervention study centered on playground marking; Origin: JANPA; Country: IT; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=253	EU Best Practice Portal
1.6.13	Implement whole-of-school programme that includes quality physical education, availability of adequate facilities and programs to support physical activity for all children	WHO Recommended intervention***
1.6.14	Title: Smart Family. *(A lifestyle counseling programme developed by healthcare professionals in 2006, to prevent and tackle childhood obesity. It is an ongoing programme used in almost every municipality in Finland.)*; Country: FI; Link: https://ec.europa.eu/health/other-pages/basic-page/online-marketplace-event-best-practices-risk-factors-non-communicable-diseases_pl	EU Best Practice Portal
Health determinants area 7: Creating healthier environments		
Strand 2: Diabetes		
Diabetes area 1: Prevent the onset and progress of diabetes among high risk populations		
Large scale: policy options at national or regional level		
2.1.1	Title: Diabetes prevention and screening in vulnerable populations of the metropolitan Lisbon area; Origin: CHRODIS+; Country: PT; Link: http://chrodis.eu/good-practice/diabetes-prevention-screening-vulnerable-populations-metropolitan-lisbon-area-portugal/	CHRODIS+
2.1.2	Influenza vaccination for patients with diabetes.	WHO Recommended intervention**
Targeted: practices at local or organisational level		
2.1.3	Title: The DE-PLAN study in Greece; Origin: CHRODIS+; Country: GR; Link: http://chrodis.eu/good-practice/de-plan-study-greece-greece/ *(Achieving better understanding of diabetes risk and building up motivation for an intention to change lifestyle).*	CHRODIS+

2.1.4	Lifestyle interventions for preventing type 2 diabetes.	WHO Recommended intervention*
Diabetes area 2: Reduce undiagnosed diabetes by raising awareness, targeted screening or early detection approaches		
Large scale: policy options at national or regional level		
2.2.1	Title: The Diabetes Screening Palermo Study; Origin: CHRODIS; Country: IT; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=71	EU Best Practice Portal
2.2.2	Promote selective screening by structured diabetes prevention program. Based on the development and effective implementation of computerized alert systems to detect the population susceptible to screening.	Diabetes Strategy of the National Health System (Spain)
2.2.3	Annual screening for DM2, by means of basal glycemia in the population at risk.	Diabetes Strategy of the National Health System (Spain)
2.2.4	Promote the monitoring and follow-up of fasting plasma glucose screening frequently (p.e. every 3 years) in the population over 45 years of age as part of a structures cardiovascular prevention program.	Diabetes Strategy of the National Health System (Spain)
2.2.5	Diabetic retinopathy screening for all diabetes patients and laser photocoagulation for prevention of blindness *(NB. Requires systems for patient recall).*	WHO Effective intervention*
2.2.6	Screening of people with diabetes for proteinuria and treatment with angiotensin-converting-enzyme inhibitor for the prevention and delay of renal disease	WHO Recommended intervention**
2.2.7	Title: HALT2Diabetes is set up in Flanders in collaboration with the Flemish Government. *(In HALT2Diabetes people with a high risk for type 2 diabetes and cardiovascular disease are identified and guided towards a healthy lifestyle.)* Country: BE; Link: https://www.diabetes.be/nl/preventie-en-sensibilisering/halt2diabetes-voor-professionelen/wat-halt2diabetes	Lampaert A, Buyse L, et al. HALT2Diabetes, An integrated type 2 diabetes and cardiovascular diseaseprevention strategy in Flanders, 2018.
Targeted: practices at local or organisational level		
2.2.8	Title: Diabetes Counselling on Wheels: Early Detection and Counselling on Diabetes for Citizens of Turkish Origin and the Rural Population Germany; Origin: CHRODIS; Country: DE; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=52	EU Best Practice Portal
2.2.9	Title: Disease Management Programme Therapie Aktiv; Origin: CHRODIS; Country: AT; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=58	EU Best Practice Portal
2.2.10	Title: Reverse Diabetes2 Now; Origin: NCD Prevention; Country: NL; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=391	EU Best Practice Portal
2.2.11	Title: Telehealth Service for patients with Type 2 Diabetes Mellitus in Central Greece; Origin: CHRODIS; Country: EL; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=59	EU Best Practice Portal
2.2.12	Effective glycaemic control for people with diabetes, along with standard home glucose monitoring for people treated with insulin to reduce diabetes complications.	WHO Effective intervention*
2.2.13	Preventive foot care for people with diabetes (including educational programmes, access to appropriate footwear, multidisciplinary clinics) *(NB. Requires systems for patient recall).*	WHO Effective intervention*
2.2.14	Preconception care among women of reproductive age who have diabetes including patient education and intensive glucose management.	WHO Recommended intervention**
Diabetes area 3: Prevent or delay complications by ensuring (access to) high-quality diabetes care		
Large scale: policy options at national or regional level		
Targeted: practices at local or organisational level		

Diabetes area 3a: support diabetes patients' self-management		
Large scale: policy options at national or regional level		
Targeted: practices at local or organisational level		
Diabetes area 4: implement care models that integrate proactive diabetes management in person-centred care		
Large scale: policy options at national or regional level		
2.4.1	Title: the Health Outcomes Observatory project (H2O) is an European partnership (Spain, Austria, Germany and Netherlands) between the public and private sectors under the framework of the Innovative Medicines Initiative. *(It aims to create a standardised data governance and infrastructure system across Europe to incorporate patients' experiences and preferences in decisions affecting their individual healthcare and those of the entire patient community, covering diabetes, Inflammatory Bowel Disease and cancer.)* Link: https://health-outcomes-observatory.eu/about/	European Observatory
2.4.2	Title: Steno Diabetes Centers. *(The Novo Nordisk Foundation, in collaboration with Denmark's administrative regions, has taken the initiative to establish five outpatient specialised multidisciplinary diabetes clinics throughout Denmark that focus on the care goals of individual patients, complemented by user-friendly surroundings and good accessibility.)* Link: https://steno.dk/en/	
Targeted: practices at local or organisational level		
Diabetes area 5: support people with diabetes and their families in living with diabetes		
Large scale: policy options at national or regional level		
Targeted: practices at local or organisational level		
Diabetes area 6: increase awareness of the impact of diabetes for functioning and participation and fight stigmatisation of people with diabetes		
Large scale: policy options at national or regional level		
Targeted: practices at local or organisational level		
Strand 3: Cardiovascular diseases (CVD)		
CVD area 1: Prevent the onset and progress of cardiovascular diseases		
Large scale: policy options at national or regional level		
3.1.1	Title: Health Promotion for People Belonging to the Cardiovascular Disease Risk Group; Origin: CHRODIS; Country: LT; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=72 / http://chrodis.eu/good-practice/health-promotion-people-belonging-cardiovascular-disease-risk-group-hereinafter-program-lithuania/	CHRODIS+ EU Best Practice Portal
3.1.2	Title: A sustainable, active, primary prevention strategy for CardioVascular Diseases in Italy for adults 50+ (Projects Cuore and Cardio 50); Origin: CHRODIS; Country: IT; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=46	EU Best Practice Portal
3.1.3	YOUNG50 – Transfer of Italian best practice CARDIO 50 *(estimate cardiovascular risk among 50 years old population, identify high-risk individuals and activate integrated support model to intervene on risk factors).*	EU Best practice: EC Health Programme Database
Targeted: practices at local or organisational level		
3.1.4	Primary prevention of rheumatic fever and rheumatic heart diseases by increasing appropriate treatment of streptococcal pharyngitis at the primary care level *(NB. Depending on prevalence in specific countries or sub-populations).*	WHO Effective intervention*
3.1.5	Croí myaction, a community based cardiovascular disease prevention programme; Origin: CHRODIS+; Country: IE; Link: http://chrodis.eu/good-practice/croi-myaction-community-based-cardiovascular-disease-prevention-programme-ireland/	CHRODIS+
3.1.6	Title: Telehealth service for patients with advanced heart failure; Origin: SCIROCCO; Country: CZ; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=127	EU Best Practice Portal
3.1.7	Drug therapy (including glycaemic control for diabetes mellitus and control of hypertension using a total risk* approach) and counselling to individuals who have had a	WHO Best Buy*

	heart attack or stroke and to persons with high risk of a fatal and non-fatal cardiovascular event in the next 10 years *(NB. Feasible in all resource settings, including by non-physician health workers).*	
CVD area 2: Early detection of CVD		
Large scale: policy options at national or regional level		
Targeted: practices at local or organisational level		
3.2.1	Treatment of acute ischemic stroke with intravenous thrombolytic therapy *(NB. Needs capacity to diagnose ischaemic stroke).*	WHO Effective intervention**
3.2.2	Treatment of new cases of acute myocardial infarction with either: primary percutaneous coronary interventions (PCI), aspirin and clopidogrel, acetylsalicylic acid, acetylsalicylic acid and clopidogrel, thrombolysis, aspirin and thrombolysis, or primary percutaneous coronary interventions (PCI) *(NB. Selection of option depends on health system capacity).*	WHO Effective intervention**
3.2.3	Treatment of new cases of acute myocardial infarction initially in a hospital setting with follow up carried out through primary health care facilities.	WHO Effective intervention**
3.2.4	Secondary prevention of rheumatic fever and rheumatic heart disease by developing a register of patients who receive regular prophylactic penicillin *(NB. Depending on prevalence in specific countries or sub-populations).*	WHO Effective intervention**
3.2.5	Treatment of congestive cardiac failure with angiotensinconverting-enzyme inhibitor, beta-blocker and diuretic.	WHO Recommended intervention***
3.2.6	Cardiac rehabilitation post myocardial infarction.	WHO Recommended intervention***
3.2.7	Anticoagulation for medium-and high-risk non-valvular atrial fibrillation and for mitral stenosis with atrial fibrillation.	WHO Recommended intervention***
3.2.8	Low-dose acetylsalicylic acid for ischemic stroke.	WHO Recommended intervention***
3.2.9	Care of acute stroke and rehabilitation in stroke units.	WHO Recommended intervention***
CVD area 3: Ensuring (access to) high-quality CVD care and self-management support		
Large scale: policy options at national or regional level		
Targeted: practices at local or organisational level		
Strand 4: Chronic respiratory diseases		
CRD area 1: Prevention the onset and progress of chronic respiratory diseases		
Large scale: policy options at national or regional level		
4.1.1	Legislative smoking bans.	2021 GOLD Report
4.1.2	Influenza vaccination for patients with chronic obstructive pulmonary disease.	WHO Recommended intervention**
4.1.3	Access to improved stoves and cleaner fuels to reduce indoor air pollution.	WHO Recommended intervention**
Targeted: practices at local or organisational level		
4.1.4	Cost-effective interventions to prevent occupational lung diseases, for example, from exposure to silica, asbestos.	WHO Recommended intervention**
4.1.5	Smoking counselling delivered by healthcare professionals.	2021 GOLD Report
4.1.6	Symptom relief for patients with asthma with inhaled salbutamol.	WHO Effective intervention*

4.1.7	Symptom relief for patients with chronic obstructive pulmonary disease with inhaled salbutamol.	WHO Effective intervention*
4.1.8	Treatment of asthma using low dose inhaled beclomethasone and short acting beta agonist.	WHO Effective intervention*
CRD area 2: Early detection of chronic respiratory diseases		
Large scale: policy options at national or regional level		
Targeted: practices at local or organisational level		
CRD area 3: Ensuring (access to) high-quality CVD care and self-management support		
Large scale: policy options at national or regional level		
4.2.1	Title: Telemonitoring COPD patients with frequent admissions; Origin: SCIROCCO; Country: ES; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=121	EU Best Practice Portal
4.2.2	Title: Telehomecare, Telemonitoring, Teleconsultation and telecare project aimed at patients with Heart Failure, Chronic obstructive pulmonary diseases and Diabetes; Origin: SCIROCCO; Country: IT; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=140	EU Best Practice Portal
4.2.3	Title: Asthma/COPD Telehealth Service; Origin: ACT; Country: NL; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=319	EU Best Practice Portal
Targeted: practices at local or organisational level		
Strand 5: Mental health and neurological disorders		
Mental health area 1: Supporting policies that create favourable conditions for mental health, and increase resilience		
Large scale: policy options at national or regional level		
5.1.1	Title: Mental Health First Aid in Finland; Origin: MHCompass; Country: FI; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=172	EU Best Practice Portal
Targeted: practices at local or organisational level		
Mental health area 2: Promoting mental well-being and preventing severe mental health conditions and suicide		
Large scale: policy options at national or regional level		
5.2.1	Title: Lifeworks; Origin: MHCompass; Country: UK;Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=158	EU Best Practice Portal
5.2.2	Title: The Professionally Guided Peer Support Groups for Bereaved by Suicide; Origin: MHCompass; Country: FI; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=162	EU Best Practice Portal
5.2.3	Title: Psychologically Informed Environments; Origin: MHCompass; Country: UK; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=168	EU Best Practice Portal
	Joint Action ImpleMENTAL (started in October 2021)	
Targeted: practices at local or organisational level		
5.2.4	Title: This is Me prevention programme; Origin: MHCompass; Country: SI; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=270	EU Best Practice Portal
5.2.5	MentBest – Transfer of EAAD best practice: 4-level intervention concept to improve care for patients with depression and to prevent suicidal behaviour	EU Best practice: EC Health Programme Database
5.2.6	Title: Adapting and Implementing EAAD´s Best Practice Model to Improve Depression Care and Prevent Suicidal Behavior in Europe; Origin: EAAD-Best; Link: https://eaad-best.eu/about-eaad-best/	EAAD-Best
5.2.7	In ten European countries the Youth Aware of Mental Health (YAM) programme has been associated with a 55% reduction in incident suicide attempts and 50% fewer cases of severe suicidal ideation after 12 months.	OECD (2021), A New Benchmark for Mental Health Systems: Tackling the Social and Economic Costs of Mental Ill-Health
5.2.8	Title: European Alliance Against Depression-Best project *(step-wise intervention programme to tackle depression).* Link: Health Programme DataBase - European Commission (europa.eu)	Health Programme DataBase

Mental health area 3: Improving timely and equitable access to high quality services		
Mental health area 4: De-stigmatization, protecting rights and enhancing social inclusion		
Large scale: policy options at national or regional level		
5.3.1	Title: Joint Experiences and Local Mental Health Systems, third edition 2014-2017; Origin: MHCompass; Country: IT; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=161	EU Best Practice Portal
5.3.2	Title: Technical Assistance to Relevant French Speaking countries in Implementing their Mental Health Local Councils in Coordination with WHO; Origin: MHCompass; Country: FR; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=173	EU Best Practice Portal
5.3.3	Title: Action Platform for the Rights in Mental Health; Origin: MHCompass; Country: EL; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=277	EU Best Practice Portal
5.3.4	Title: Peer2Peer Vocational Training Course; Origin: MHCompass; Country: ES; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=163	EU Best Practice Portal
5.3.5	Title: South London and Maudsley NHS Foundation Trust; Origin: Vulnerable; Country: Uk; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=85	EU Best Practice Portal
5.3.6	JA2015 – Joint Action on Implementation of best practices in the area of mental health – Transfer of Austrian best practice on suicide prevention "SUPRA", targeting children/adolescents and adults, incl. older people	EU Best practice: EC Health Programme Database
5.3.7	Talking therapies can be an evidence-based intervention for a range of mental health conditions, from high prevalence disorders such as depression and anxiety, to conditions such as eating disorders, obsessive compulsive disorder, bipolar disorder and schizophrenia. Efforts to scale-up access to talking therapies include stand-along schemes such as the IAPT programme in England, as well as trials to reimburse talking therapies in France (Coldefy and Gandré, 2018[32]; NHS Digital, 2019[33]; NHS Digital, 2019[34]; L'Assurance Maladie, 2018[35]).	
5.3.8	For severe mental illnesses, for example psychosis, rapid intervention after the onset of symptoms can significantly change an individuals' outcome in the short and long term. This approach can have a positive impact when intervention comes early in the disease pathway, as well as when it comes early in the life course; many severe mental illnesses begin in the late teens or early twenties, making timely support for young people particularly critical.	
Targeted: practices at local or organisational level		
Neurological diseases		
5.4.1	Title: Smartaging Mindbrain; Origin: SCIROCCO; Country: IT; Link: https://webgate.ec.europa.eu/dyna/bp-portal/practice.cfm?id=138	EU Best Practice Portal
5.4.2	Joint Action Alzheimer Europe 2017	EU Best practice: EC Health Programme Database
5.4.3	Joint Action on Dementia	EU Best practice: EC Health Programme Database
Neurological disorders area 1: Changing attitudes and de-stigmatisation of dementia		
Large scale: policy options at national or regional level		
	Title: Dementia Friendly Communities. *(Communities which are 'dementia friendly' can help to support people with dementia to live more independent and fulfilling lives in their own communities.)* Link: https://webarchive.nrscotland.gov.uk/20210302011848/https:/www.actondementia.eu/	2nd Joint Action on Dementia
Neurological disorders area 2: Prevention and early detection of Alzheimer's disease and dementia		
Neurological disorders area 3: High-quality care in managing neurological diseases and supporting quality of life		
Large scale: policy options at national or regional level		
	The Mental Health Gap Action Plan (mhGAP) is an information package for prioritised mental, neurological and substance use disorders, including dementia. It's composed of interventions for prevention and management for each condition. Link:	WHO

	https://apps.who.int/iris/bitstream/handle/10665/259161/WHO-MSD-MER-17.6-eng.pdf?sequence=1	
Targeted: practices at local or organisational level		
	The mDementia programme provides health information to those at risk of developing dementia and to support carers of people living with dementia, leveraging mobile technologies. Link: https://www.who.int/publications/i/item/9789240019966	WHO

* WHO Best Buy = effective intervention with cost effectiveness analysis (CEA) ≤ I$100 per DALY averted in LMICs
** WHO Effective intervention = effective interventions with CEA >I$100 per DALY averted in LMICs
*** WHO Recommended intervention = recommended based on WHO guidance, no CEA available

Annex 4 – Feedback form on possible priority areas and on options for collaborative action

[for the Member States only]

Annex 5 – Experience of Member States using EU financial and legal instruments in the area of NCDs

The EU NCD Initiative includes a mapping of EU financial, legal and policy tools that can support action on the ground to help Member States to reduce the burden of NCDs.

1. On behalf of which authority and which country are you responding to this consultation form?

Experience of the Member State using EU financial and legal instruments in the area of NCDs

2. Please indicate which EU financial instruments you have used and are interested to use to promote policy action and/or investment in the area of NCDs (from prevention to treatment).

Instrument	Previously used	Planning to/interested to use in the future
EU4Health		
Connecting Europe Facility		
Recovery and Resilience Facility		
RRF - Technical Support Instrument		
European Regional Development Fund		
European Social Fund PLUS		
InvestEU		
Horizon Europe		
…		
…		

3. Please indicate which EU legal frameworks you have used and are interested to use to promote policy action and/or investment in the area of NCDs (from prevention to treatment).

Instrument	Previously used	Planning to/interested to use in the future
…	☐	☐
…	☐	☐
…	☐	☐
…	☐	☐
…	☐	☐
…	☐	☐
…	☐	☐
…	☐	☐

...	☐	☐

You may wish to add other comments related to the use of EU financial, legal and policy tools to promote policy action and/or investment in the area of NCDs (from prevention to treatment).

Comments

Please return this form to SANTE-NCD@eu.europa.eu.

Thank you for your contribution

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