

Towards a 30% reduction in premature cardiovascular deaths

Proposal for a Belgian Cardiovascular Health Agenda

By the Belgian Alliance for Cardiovascular Health

1. A growing societal problem requiring urgent action

Avoiding additional premature deaths in 2030

In Belgium, cardiovascular disease (CVD¹) is a significant health concern:

- Over **1 million people** suffer from cardiovascular disease².
- Each year, **more than 300.000 hospitalizations** are related to CVD, representing almost 10% of the total number of hospital admissions³.
- Annually, it claims **nearly 30.000 lives**, representing approximately 23% of all deaths⁴. It is the **leading cause of death**, together with cancer⁵.
- The collective loss of potential life years of life due to CVD in Belgium stands at a staggering **228.485 years annually**⁶.
- Compared to the EU-15 average, Belgium has a higher number of premature deaths among men. Additionally, Belgium ranks second in Europe for the number of premature deaths among women⁷.
- CVDs exert a profound economic burden, amounting to **4.5 billion euros annually**, equivalent to 10.3% of the nation's total healthcare expenditures⁸. 8% of the healthcare budget is allocated to this purpose⁹.

While the number of CVD cases and deaths has recently plateaued (following a period of gradual decline), a **future resurgence is to be expected**. This is because the prevalence of CVD risk factors are increasing in an ageing population, and people are often unaware of having them¹⁰.

Cardiovascular diseases are interconnected with other diseases affecting for instance metabolic systems. They share many of the same risk factors and they amplify each other. This results in the progressive worsening of several debilitating conditions.

¹ In this note, the term CVD includes cardiovascular, neurological, and vascular diseases, unless explicitly specified otherwise.

² https://www.health.belgium.be/sites/default/files/uploads/fields/fpshealth_theme_file/22112021_voorkomen_van_ziektebeelden_nl.pdf

³ https://www.health.belgium.be/sites/default/files/uploads/fields/fpshealth_theme_file/22112021_voorkomen_van_ziektebeelden_nl.pdf

⁴ <https://www.gezondbelgie.be/nl/gezondheidstoestand/sterfte-en-doodsoorzaken/algemene-sterfte-naar-doodsoorzaak>

⁵ In 2021, it was the second-largest cause of death among men, accounting for 19.6% of male deaths (12,164), and surpassed all other causes among women, contributing to 21.8% of female deaths (14,125). <https://statbel.fgov.be/nl/themas/bevolking/sterfte-en-levensverwachting/doodsoorzaken>

⁶ <https://www.healthbelgium.be/en/health-status/burden-of-disease/years-of-life-lost>

⁷ <https://www.gezondbelgie.be/nl/gezondheidstoestand/sterfte-en-doodsoorzaken/vroegtijdige-sterfte>

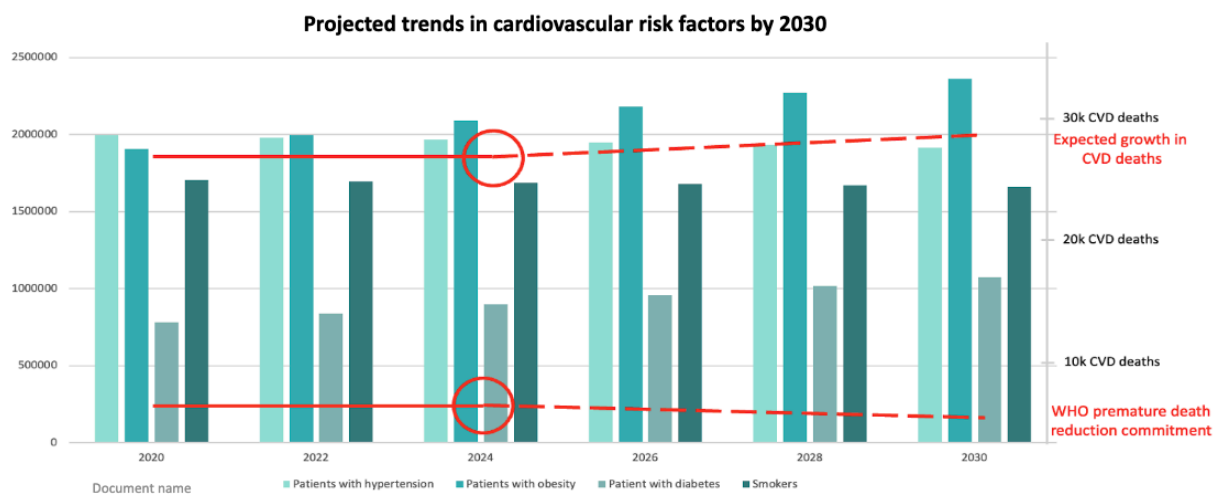
⁸ <https://www.statista.com/statistics/1402655/healthcare-expenditure-in-belgium/>

⁹ <https://www.statista.com/statistics/1402655/healthcare-expenditure-in-belgium/>

¹⁰ <https://www.eoswetenschap.eu/gezondheid/een-hoge-bloeddruk-niet-altijd-tijdelijk-niet-normaal-en-al-zeker-niet-onschuldig>

The estimated increase or decrease by 2030 per risk factor is as follows;

- Hypertension (high blood pressure): 5 % decrease compared to 2020¹¹
- Obesity: 30 % increase compared to 2020¹²
- Diabetes: 32.8 % increase compared to 2020¹³
- Smoking: 3 percentage points (pp) decrease compared to 2020¹⁴
- Chronic kidney disease: 2pp increase compared to 2020¹⁵
- Air pollution: improvement of the air quality over the last years, a trend expected to continue in the following years¹⁶
- Sedentary lifestyles: increased number of individuals experiencing physical problems due to a sedentary lifestyle over the past few years, a trend expected to continue in the following years^{17 18}.
- Lack of therapeutic adherence: 50% of patients with CVD are non-adherent (WHO 2003). The impact of poor adherence will grow as the burden of chronic diseases grows worldwide¹⁹.



In Belgium, 26.289 deaths occurred due to cardiovascular diseases in 2020²⁰. The World Health Federation forecasts that globally, the number of deaths due to cardiovascular diseases will increase by 17.46% between 2018 and 2030²¹. In high-income countries, including Belgium, the Federation **projects a 4% increase in deaths due to cardiovascular diseases**²². In absolute terms, this implies a rise to 27.341 deaths if no policy action is taken. This trend is consistent with forecasts from other high-income and Western European countries, such as the Netherlands, which have conducted their own projections²³.

¹¹ <https://bmcpubhealth.biomedcentral.com/articles/10.1186/s12889-023-16662-z>

¹² <https://www.mloz.be/nl/documentatie/obesitas-chirurgische-ingrepen-bijna-verdubbeld-6-jaar>

¹³ <https://pophealthmetrics.biomedcentral.com/articles/10.1186/s12963-024-00328-y>

¹⁴ <https://www.healthybelgium.be/en/health-status/factsheets/tobacco-control-policies-are-needed-to-change-smoking-trends#def-smoking>

¹⁵ <https://www.rti.org/news/study-prevalence-chronic-kidney-disease-adults-over-30-rise-27-percent-2030>

¹⁶ <https://www.sustainability.gov/pdfs/belgium-nzgi-roadmap.pdf>

¹⁷ <https://www.gezondbelgie.be/nl/gezondheidstoestand/factsheets/past-present-future-trends-overweight-obesity>

¹⁸ <https://www.who.int/news/item/19-10-2022-who-highlights-high-cost-of-physical-inactivity-in-first-ever-global-report>

¹⁹ <https://iris.who.int/handle/10665/42682>

²⁰ <https://statbel.fgov.be/nl/themas/bevolking/sterfte-en-levensverwachting/doodsoorzaken>

²¹ <https://world-heart-federation.org/wp-content/uploads/World-Heart-Vision-2030.pdf>

²² <https://world-heart-federation.org/wp-content/uploads/World-Heart-Vision-2030.pdf>

²³ <https://www.amsterdamumc.org/nl/vandaag/cardiologie-moet-draaien-om-gezondheid-en-gedrag-niet-om-ziekte-en-zorg.htm>

This is the reverse evolution of what Belgium has committed to at the WHO²⁴, namely **reducing premature CVD mortality before the age of 75 by 30% between 2020 and 2030**. In 2021, 17.3% of the total deaths from cardiovascular diseases in Belgium occurred before the age of 75, which is classified as premature²⁵. A decrease from 4.576 to 3.203 (2030) premature deaths is needed to achieve the WHO goal. This reduction target is also endorsed by the European Heart Network (EHN)²⁶, the European partnership between European prevention organizations such as the Belgian Heart League.

The good news is that the objective is **achievable**, according to studies from the European Commission²⁷. After all, **80% of CVD cases are preventable or treatable**^{28 29}. Also, there is overwhelming evidence that targeted public and health policies at the national level have a significant impact on cardiovascular health³⁰.

To support this ambition and advise policymakers, the multidisciplinary Belgian Alliance for Cardiovascular Health (BACH³¹) was formed in 2023. Through its engagements with policymakers in November 2023 and April 2024, officials from **most political parties**³² **committed to developing a comprehensive Belgian Cardiovascular Health Agenda** to reach the WHO target. This initiative follows the successful examples set by countries like the Czech Republic³³, Poland³⁴, and Spain³⁵ and mirrors ongoing efforts in Bulgaria, Romania, and Croatia.

This paper serves as a **resource for the next federal and regional governments**, aiming to inform the development and implementation of this Cardiovascular Health Agenda across all levels in Belgium. The next governments (legislature 2024-2029) are the last that can take a substantial step to stop the rising CVD wave and reach the 30% reduction target. That is why **BACH calls for this Cardiovascular Health Agenda proposal to be included in the government agreements, to be further elaborated in the policy notes of the Ministers of Health, and to work together on**, including through the Interministerial Conference on Public Health.

²⁴ <https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases>

²⁵ <https://www.gezondbelgie.be/nl/gezondheidstoestand/sterfte-en-doodsoorzaken/vroegtijdige-sterfte-naar-doodsoorzaak>

²⁶ https://ehheart.org/wp-content/uploads/2023/10/06892-EHN-Strategic-Plan-2023_External_updated_26.10.pdf

²⁷ https://health.ec.europa.eu/system/files/2022-06/eu-ncd-initiative_publication_en_0.pdf

²⁸ <https://world-heart-federation.org/what-we-do/prevention/>

²⁹ However, it is essential to acknowledge that not all cases of CVD can be prevented or cured. And some may be congenital, evolving into chronic diseases.

³⁰ https://efpia.eu/media/movnhr0y/how-can-we-improve-secondary-cvd-prevention-lse_efpia.pdf

³¹ List of members: see Annex 1.

³² List of policymakers present on these actions, supporting the asks from BACH: see Annex 2.

³³ <https://www.kardio-cz.cz/data/clanek/902/dokumenty/cardiovascular-prevention-in-czech-republic.pdf>




³⁴ <https://www.zdravotnickydenik.cz/2023/06/innovation-prevention-education-polish-cardiac-plan-sets-an-example>

³⁵ https://www.sanidad.gob.es/areas/calidadAsistencial/estrategias/saludCardiovascular/docs/ESCAV_Executive_Summary.pdf

2. Reducing premature CVD mortality by 30%

Proposal for a Belgian Cardiovascular Health Agenda

As specialists in the field, each with their expertise and experience, and building on the available data, science and good practices, **BACH recommends developing the Belgian Cardiovascular Health Agenda around three pillars:**

<p>Tackle the lack of relevant data and fragmentation of databases, which leads to an incomplete view of how to optimally detect and treat patients both on patient and population level</p> <p style="text-align: center;"></p> <p>Better data collection and management for more effective disease management (individual level) and to inform science/policymaking (collective level)</p>	<p>Tackle the insufficient coordinated care around the patient, which leads to at-risk patients not being detected and proactively approached and — for diagnosed patients — treatment gaps</p> <p style="text-align: center;"></p> <p>Implement an integrated health management system in which the various functions of care are optimally aligned with each other, improving outcomes and quality of care</p>
<p style="text-align: center;"></p> <p style="text-align: center;">Culminating in a CVD patient pathway in which adequate care is provided at each stage of care</p>	

The proposed measures per pillar are highlighted in the points below. These actions align with the **recommendations in the European Cardiovascular Health Plan³⁶** from the European Alliance for Cardiovascular Health (EACH) in 2022. EACH emphasizes the importance of qualitative data collection and proposes the establishment of a European Cardiovascular Health Data Knowledge Centre. Additionally, they aim to enhance patient pathways to meet the individual needs and requirements of CVD patients.

This plan has been **supported by Ms Stella Kyriakides, European Commissioner for Health and Food Safety**. “Every year, there are over 6 million new patients and more than 1.8 million deaths. Behind these numbers, there is a person. A person with loved ones who are also affected. The key to tackling this is an effective focus on prevention. We are all signed up to the target under the United Nations Sustainable Development Goals to reduce premature deaths from non-communicable diseases by one-third.”³⁷

Given that we do not have representative information regarding the potential impact of each measure proposed in this paper, we suggest establishing a **system of structured and regular monitoring** to evaluate the developed actions and adjust them if necessary.

³⁶ https://www.cardiovascular-alliance.eu/wp-content/uploads/2022/05/EACH-Plan-Final_130522.pdf

³⁷ https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_24_1487

Better data collection and management

1. Optimal registration and integrated use of patient data (individual level)

Patients' data are scattered across various data sources/systems, sometimes leaving healthcare providers short of essential information (such as hereditary factors and gender disparities³⁸) to identify (risk) patients as soon as possible and to provide adequate care to CVD patients. Also, registration and data exchange processes are sometimes too complex at the level of the health care providers³⁹. These cumbersome ways of working place too much pressure on healthcare providers who are already suffering from a heavy administrative burden and too little time for patients. To streamline patient care and enhance treatment outcomes, general practitioners, cardiologists, pharmacists and other stakeholders should have continuous and easy access to the same electronic patient files containing all relevant data:

- **Make data more comprehensive:**
 - Besides access to purely medical data, **access to and linkage with behavioural data** (such as smoking, diet, and physical activity) is needed to have an overall picture of the patient.
 - Extra attention should be given to **data that can be exchanged via digital tools such as telemonitoring, wearables, patient-input apps, or communication tools**. These technologies are increasingly providing opportunities to monitor and steer cardiovascular health and behaviour without physical contact with a healthcare provider and, if necessary, in real-time.
 - Also, information on the patient's **socio-economic situation**, as well as on the **living environment**, can help create a more complete picture of the patient and thus provide better care.
- **Easier and transparent registration and use:**
 - We must **encourage all healthcare providers to register data by making the process easier and transparent**. As the focus should be on providing care, the burden should be minimised, and additional IT support would be welcome. Based on simple actions in the medical record by GPs, certain advice should also be able to be conveyed to treating paramedics such as nurses, occupational therapists, and dieticians.
 - The importance of data quality and metadata, definitions, sampling, and missingness, et al. should already be present during the education and training of healthcare workers.
 - The key lies in the effective use of the data collected (the actionability). Both for health promotion, early and proactive intervention (see an integrated population health management in recommendation 4) and effective care delivery, maximum use must be made of this data.
- **BIHR as the basis for making progress:**

³⁸<https://vlaamsapothekersnetwerk.be/sites/default/files/2022-11/Report%20final%20NDLS%20Round%20table%20ASCVD%20October%202020%202022.pdf>

³⁹ For example, duplicate registration (e.g., separate registration at GP in the electronic health record (EMD/DMI) and in the file for the home nurse), partly registration on paper or non-uniform data exchange (e.g., differences in reporting of lab results)

- BACH advocates not for an additional form of patient record but rather for **enhancing the interoperability of existing systems** to facilitate seamless data flow. The Belgian Integrated Health Record (BIHR), currently under development⁴⁰, can serve as a foundation for this endeavour. The BIHR aims to establish a standardized framework for recording and accessing integrated data within patient records, enabling existing and future information sources to connect seamlessly. BACH advocates intensifying the development of BIHR, especially for CVD, according to the above recommendations.

Efficient integration of patient data is an essential prerequisite for enhanced collaboration among healthcare providers in the context of CVD (see recommendation 6).

2. Establish a national CVD registry (collective level)

Also at the population level, CVD data are fragmented, so there is no insight into the quality and outcomes of patient care. Better data integration for secondary use will stimulate scientific research, integrated population health management and value-based and cost-effective policymaking. Therefore, Belgium should launch a national CVD registry, modeled after the Belgian Cancer Registry and SWEDEHEART⁴¹, in line with efforts to build a Health Data Space⁴², and in optimal coordination with the recently established Health Data Agency and the regional authorities.

- The registry will **need to contain continuously updated information on:**
 - Personal data (pseudonymized) linked to risk factors, such as age, intermediate-density lipoprotein, history of hypertension, diabetes, stroke, gender, socio-economic status, physical indicators (weight, height, ...), indications about hereditary factors, behaviour (diet, exercise, use of alcohol and tobacco, soft/hard drugs, stress, ...), metabolic factors (blood pressure, cholesterol, diabetes, ...), ...
 - The various data generated throughout the care pathway, such as results of screenings and tests, diagnoses, treatments, and revalidation. Also, indicators of quality and outcomes should be integrated.
- To do so, it will have to **combine information from various sources**, including existing registries (such as the Belgian Registry of Percutaneous Coronary Interventions⁴³, the International Stroke Thrombolysis Register⁴⁴, data from the Belgian Interdisciplinary Working Group on Acute Cardiology STEMI registry⁴⁵), the IMA database, official databases such as Sciensano, hospitals and healthcare providers databases. Also, the data generated by the Heart Health Check (see below) should be integrated.
- **To combine data, standardizing them** is essential. We can learn from the FHIN project of 9 Belgian hospitals⁴⁶, which focuses on standardizing data to enable reuse (also transmural). In this way, processes can be optimized, there is earlier detection and a better response to the patient's situation. Eventually, with the help of AI, even **predictions** can be made. For

⁴⁰ See e-Health Roadmap 2022-2024, <https://www.ehealth.fgov.be/nl/page/roadmap-4.0>

⁴¹ National quality registry in Sweden that supports the pursuit of evidence-based treatments for several CVDs, focusing on acute coronary care, interventions, and secondary prevention for patients with heart disease.

⁴² <https://www.sciensano.be/en/projects/european-health-data-space-pilot-secondary-use-health-data>

⁴³ https://overlegorganen.gezondheid.belgie.be/sites/default/files/documents/the_qermid_belgian_pci_registry.pdf

⁴⁴ <https://sitsinternational.org/>

⁴⁵ <http://biwac.be/site/stemi-project/>

⁴⁶ <https://deltaplus.azdelta.be/az-delta30/zorginnovatie>

example, already today, patients with atrial fibrillation can be detected via an AI analysis of the electrocardiogram.

- Following that, it will be necessary to **analyze which data sources are missing** and how they can be filled in optimally, with attention to the already considerable administrative burden on healthcare providers and institutions.
- Based on a research program, the registry will **issue advice and data to authorities (for policymaking), academics and scientific organizations (for research) and healthcare providers (for an integrated population health management)** on improving the quality and outcomes of care for all CVD patients.

3. Conduct a comprehensive CVD study every 3 to 5 years

To monitor progress and initiate and adjust policy, a regular scientific deep-dive into the state of affairs and possible policies is needed. Therefore, research institutions such as Sciensano or the Federal Knowledge Center for Healthcare (KCE) should conduct a comprehensive scientific study on CVDs in Belgium every three (to follow up on the parameters and implementation of medical guidelines) to five (evaluating the outcomes of policies) years.

- This study will **evaluate the disease burden** regarding the quality of life, reduced life expectancy, functional loss, and financial costs associated with these diseases, encompassing both hospital and non-hospital settings. Progress over time can be measured through a KPI dashboard, for which the CVD registry can provide input.
- As such, it will also **illuminate the unmet needs in this area** under the NEED framework developed by KCE and Sciensano⁴⁷.
- Additionally, the study will assess the **costs and benefits** of specific technological innovations and policy measures to manage CVDs.

By conducting these comprehensive studies every three to five years, policymakers, and healthcare providers will gain a deeper understanding of the impact of CVDs. Applying secondary use of data or building on existing data and enriching them⁴⁸, will enable them to implement and adjust policies effectively.

Implement an integrated health management system

4. Detect and refer patients on time and proactively

CVDs often develop insidiously, with symptoms going unnoticed for a long time. This characteristic aptly earns them the nickname "**silent killers**". Furthermore, vulnerable populations are more likely to miss the warning signs and delay seeking medical attention. A **timely and (if possible) proactive approach** will reduce risk factors (if possible⁴⁹) and make people turn to the GP in case of symptoms.

⁴⁷And financially supported by BELSPO, in partnership with the Federal Agency for Medicines and Health Products (FAGG/AFMPS), RIZIV/INAMI and the Superior Health Council. <https://kce.fgov.be/en/project-need-unmet-needs>

⁴⁸ For example, adding info and data to the BeBod study, <https://www.sciensano.be/en/projects/belgian-national-burden-disease-study> by using clinical data, linking to risk factors, ...

⁴⁹ Not all risk factors are preventable or treatable.

- **Sensitizing individuals to take control of their heart health at any age.** This requires informing people about healthy living and recognizing CVD risk factors. By equipping people with this knowledge through awareness campaigns and improving health literacy, they will be better positioned to recognize potential heart disease symptoms and seek timely medical advice. This is not only important for adults. From an early age, risk factors such as obesity and smoking play a role in developing CVD later in life. Promoting a healthy lifestyle from school age on, and involving parents, is vital. Regional authorities play an important role here, and they can also call on the support and expertise of the Belgian Heart League.
- **Promote performing a basic self-check to calculate cardiovascular risk.** This digital test already exists today in Flanders for the risk of diabetes (*Gezondheidskompas*, an initiative of the Diabetes League and supported by the Flemish government⁵⁰) and could be extended to CVD and other regions in collaboration with the Belgian Heart League. This test should generate a risk score that can be easily understood by citizens, and if it indicates a deviating value, her or his GP should be alerted accordingly. Furthermore, integration with existing platforms such as *Gezondheidsgids*⁵¹ (support tool for general practitioners around preventive health advice, linked with the patient's Electronic Health Record⁵²) should be pursued. In addition to taking these examples from Flanders, examples in French-speaking Belgium such as *Mon Dossier Santé Partagé*⁵³ can also be inspiring.
- **Work with professional organizations of health professionals to raise awareness.** We are thinking primarily of umbrella organizations of pharmacists, home nurses, dieticians, physiotherapists, and occupational physicians. The professionals they represent are already in contact with the (at-risk) patient independently of CVD symptoms and have insight into the risk factors the patient is exposed to. Through consultation with the professional organizations of these professions, we can explore how they can help to recognize CVD risk better and earlier and refer them for diagnosis.
- **Start a pilot project for an integrated population health management in each region to proactively take targeted actions toward CVD risk groups.** Integrated population health management entails the collection and analysis of data at the population level to proactively undertake targeted actions towards specific groups (risk stratification). The predictive power of the underlying models can be continuously improved through learning loops of predicted outcomes versus real-world data. This integrated approach leads to more precise and timely treatment, reduced health inequalities and a more efficient allocation of resources (in terms of budget and health workforce). Existing platforms, such as the INTEGO database⁵⁴, a general practitioner registration network that maps disease trends in general practice, are a step in the right direction.
- **The recommendations above imply increasing the budget for prevention.** Targeted investment in prevention can reduce the costs for major diseases (frequent flyer diseases) by 20%⁵⁵. Belgium spends 1.6% of its health budget on prevention, scoring below the European average of 2.9% and well below the WHO target of 5%. To reach that target, Belgium will have to develop a path to make the necessary investments per capita.

⁵⁰Halt2Diabetes: <https://www.gezondheidskompas.be/diabetes>

⁵¹ <https://gezondheidsgids.be/>

⁵² <https://www.healthybelgium.be/en/key-data-in-healthcare/general-hospitals/quality-and-innovation/electronic-health-record>

⁵³ <https://www.reseausantewallon.be/patients/je-minforme/mon-dossier-sante-partage/>

⁵⁴ <https://www.intego.be/over-intego>

⁵⁵ <https://www.voka.be/nieuws/oproep-voka-verdrievoudig-het-budget-voor-preventieve-gezondheidszorg-0>

- Increased attention to **improving our living environment** (such as reducing air pollution, providing clean public transport, ensuring healthy food near schools, and maintaining sufficient green spaces in densely urban areas) will undoubtedly have a positive impact on **reducing cardiovascular diseases**. We urge the government to take this into consideration.

5. Introduce a Heart Health Check for people over 50

Age is one of the most important determinants of CVD prevalence. In 2021, 82.7% of deaths due to CVD took place at the age of 75 or later⁵⁶. Therefore, we recommend implementing a **free 5-yearly Heart Health Check with a GP starting at age 50**, which may also include testing for other common ageing-related diseases. For people who combine certain risk factors, strict and regular screening would be required even from school-going age⁵⁷ (they now exhibit risk factors that develop into severe CVD later in life). When implementing this early detection measure, we should consider the high workload among general practitioners, provide enough support, and reduce the administrative burden.

- The **GP's assessment would need to include the following elements**: blood pressure, cholesterol, blood sugar level, family history of CVD, and alcohol, sugary drinks and soft/hard drugs intake. This test results in a low, intermediate, or high-risk score that is easy for the patient to understand. An example of this way of working is the AusCVDRisk tool⁵⁸, launched by the Australian government in 2023. This tool can also be used to raise awareness among other professional groups, such as pharmacists or home nurses. We stress the need to use integrated tools to have the most relevant lifestyle elements and to assess the full health care.
- The GP shares the findings with the patient and, if necessary, **proposes a treatment or refers the patient** (to a cardiologist, vascular specialist, diabetologist, smoking cessation specialist, dietician, ...).
- Taking into account the high workload and administrative burden among GPs, **nurses within the GP practice⁵⁹ have a major role to play** in (1) **motivating and screening patients** as a pre-assessment for the GP, (2) **providing specialized care**, and (3) **bridging to the second line care**. While currently authorized for conditions like COPD, asthma, and diabetes, expanding their scope to include cardiovascular care would enable them to offer comprehensive support to a wider patient base⁶⁰.
- We propose **investigating to what extent this Heart Health Check can be integrated into the New Deal for GPs⁶¹**. This new support model, started on April 1, 2024, enables them to provide more preventive and proactive care. It supports, among other things, the delegation of tasks to a nurse affiliated with the GP's practice, who can proactively participate in prevention programs and follow-up chronic care. **Integration is also possible with the already existing system of GMD+** (preventive module of the centralised medical record), in

⁵⁶ <https://www.gezondbelgie.be/nl/gezondheidstoestand/sterfte-en-doodsoorzaken/vroegtijdige-sterfte-naar-doodsoorzaak>

⁵⁷ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3598497/>

⁵⁸ <https://www.cvdcheck.org.au/>

⁵⁹ <https://www.domusmedica.be/FAQpraktijkverpleegkundige>

⁶⁰ <https://www.domusmedica.be/FAQpraktijkverpleegkundige#meerwaarde>

⁶¹ <https://www.riziv.fgov.be/nl/professionals/individuele-zorgverleners/artsen/new-deal-voor-de-financiering-van-de-huisartsenpraktijk>

which GPs go over a checklist on preventive health measures once a year with patients between the ages of 45 and 75.

6. Develop a patient-centric healthcare model rewarding outcomes, quality and collaboration

A cornerstone of an effective and efficient integrated health management system is the seamless collaboration of all healthcare providers, with the patient's interests at the centre. That is why we advocate using optimal care quality, favourable patient outcomes, **and smooth collaboration between healthcare providers** as guiding principles when implementing changes in healthcare.

- Given the nature and prevalence of CVD conditions, the GP is pivotal to the entire care process. We encourage strengthening **the GP's role as a generalist who plays a crucial role in acute and chronic CVD care**, as well as prevention and public health.
- This also implies that GPs must be given sufficient time to detect risk factors and provide adequate patient care. To this end, they can receive **support both within their practice and outside**, e.g., nurses, assistants, home nurses, or pharmacists for simple CVD care tasks such as measuring blood pressure and monitoring/encouraging treatment compliance.
- If the GP wishes to refer to a cardiologist or other specialists (vascular neurologist, surgeon, angiologist, diabetologist, ...), an **e-consultation between the GP and the cardiologist/specialist** should be possible to determine the CVD diagnostic/therapeutic strategy or the need for further, in-person examination. From the introduction of this system in the region of Galicia, Spain, from 2013 until 2019, this approach decreased waiting times and hospital admissions.
- Since there is an important lifestyle/self-management component to CVD treatments and prevention, it is also important to involve the informal network around the patient in the care process. Provided the patient agrees, relevant data and medical/health advice should be able to be shared with this informal network to increase the chances of successful outcomes.
- For chronic CVD conditions, **integrated care projects should be encouraged**, whether in the context of the Protocol Agreement on the Interfederal Integrated Care Plan of the Interministerial Public Health Conference of November 2023⁶². Such projects improve cooperation between various local healthcare actors around the patient. From these projects, success factors can be identified that can be used on a broader scale.
- We encourage the FPS Public Health and regional health authorities **to further measure, evaluate, stimulate, and transparently disclose the quality of hospital CVD care**.
- **Innovative treatments offer life-saving advancements and additional quality of life** for patients, and thus require valorization by authorities.
- For certain serious CVD conditions, we advise installing a **separate reimbursement for multidisciplinary consultations**, following the example of the Multidisciplinary Oncological Consultation⁶³.
- Patients hospitalized due to certain heart conditions are eligible for cardiac rehabilitation. The number of cardiac rehabilitation facilities is reported to have expanded in recent years; however, significant regional variation in service provision still exists. Likewise, the growing incidence of stroke will further increase the burden on current rehabilitation facilities. We

⁶² <https://www.health.belgium.be/nl/gezondheid/organisatie-van-de-gezondheidszorg/zorgnetwerken/chronische-aandoeningen/geintegreerde>

⁶³ <https://www.riziv.fgov.be/nl/thema-s/verzorging-kosten-en-terugbetaling/wat-het-ziekenfonds-terugbetaalt/palliatieve-zorg/multidisciplinair-oncologisch-consult->

therefore recommend **recognizing additional rehabilitation centres and increasing efforts to partly meet the demand via telemonitoring.**

- To enhance the quality of life, we propose integrating **palliative care** into the existing healthcare structures. In this way, patients can have a tailored care plan that manages symptoms like pain, breathlessness, and fatigue while also addressing emotional and psychosocial aspects. These palliative care services can be available whether they are hospitalized, in rehabilitation, or receiving care at home.

7. CVD Support: a personal digital support programme for CVD patients

We propose to develop a CVD support programme, building upon the success of initiatives like the Stroke Coach⁶⁴ developed by the Belgian Stroke Council and implemented across four Belgian hospitals⁶⁵. The support program aims to reduce the risk of recurrent cardiovascular events and improve control over cardiovascular risk factors by enhancing patient education and compliance. Since not all types of CVD are feasible to include in the program at this stage, the main focus will need to be on coronary artery disease, atrial fibrillation, stroke and heart failure⁶⁶.

- Following a similar model to the Stroke Coach, the CVD support programme will be nurse-led, **integrating personalized coaching through a digital platform** to guide individuals towards healthier lifestyles. Patients will receive an educational session during their GP visit or hospital stay, empowering them with knowledge about managing their cardiovascular health. This initial session will be followed by continuous support and advice delivered through the digital platform, supplemented by virtual appointments with their dedicated nurse.
- The CVD support programme anticipates similar outcomes as the Stroke Coach pilot. The pilot demonstrated promise in **improving stroke recurrence rates, enhancing medication adherence, and boosting participants' overall quality of life**. However, further trials are necessary to establish statistical significance and validate the effectiveness of the CVD support programme on a broader scale.
- **Integrating or at least providing an exchange of the CVD support programme with existing platforms** like *Nexuzhealth*⁶⁷ and *Mijn Thuisverpleging*⁶⁸, where treating GPs as well as patients and confidants can access the patient's electronic nursing record, will not only improve its effectiveness but also reduce its cost.

⁶⁴ <https://www.healthpolicypartnership.com/app/uploads/Secondary-prevention-of-heart-attack-and-stroke-in-Europe-Belgium.pdf>

⁶⁵ <https://www.azgroeninge.be/nl/patient/diensten/beroertecoach>

⁶⁶For example, heart failure is a major cause of hospitalizations, death, and incapacity in Belgium, with an estimated 250,000 Belgians suffering from this disease.

⁶⁷ <https://www.nexuzhealth.com/en/>

⁶⁸<https://www.i-mens.be/mijn-i-mens> and <https://www.witgelekruijs.be/mijnwqk/mijnwqk-mijnthuisverpleging-voor-zorgverleners>

CVD patient pathway

In the diagram below, we summarize the proposals in a patient care pathway, from prevention to rehabilitation.

Promotion/Prevention	Screening/Diagnosis	Treatment/Disease management	Rehabilitation
<p>(Regional level) Detect and refer patients on time and proactively (action 4)</p> <ul style="list-style-type: none"> - Sensitizing individuals to take control of their heart health. - Promote performing a basic self-check to calculate cardiovascular risk. - Work with professional organizations of health professions to raise awareness. - Start a pilot project for an integrated population health management in each region to proactively take targeted actions toward CVD risk groups. 	<p>(Regional level) Introduce a Heart Health Check for people over 50 (action 5)</p> <ul style="list-style-type: none"> - GP's assessment resulting in a risk score of low, intermediate, or high that is easy for the patient to understand. - The GP shares the findings with the patient and, if necessary, proposes a treatment or refers the patient (to a cardiologist, vascular surgeon, angiologist, diabetologist, smoking cessation specialist, dietician,...). <p>(Regional level) Develop a patient-centric healthcare model (action 6)</p> <ul style="list-style-type: none"> - Install an e-consultation between GP and CVD specialist to determine the diagnostic/therapeutic strategy or the need for further examination. 	<p>(Federal level) Develop a patient-centric healthcare model (action 6, cont.)</p> <ul style="list-style-type: none"> - Strengthening the role of the GP as a generalist. - Providing support for GPs both within and outside for simple CVD care tasks. - Encourage integrated care projects - Measure, evaluate, stimulate and make the quality of CVD care in hospitals transparent. - Valorize innovative treatments. - Install a separate reimbursement for multidisciplinary consultations. <p>(Regional level) CVD support: a personal digital support programme for CVD patients (action 7)</p> <ul style="list-style-type: none"> - Organize personalized guidance through a digital platform. 	<p>(Federal level) Develop a patient-centric healthcare model (action 6, cont.)</p> <ul style="list-style-type: none"> - Recognize additional rehabilitation centres and increase efforts to partly meet the demand via telemonitoring.

(Federal level) Optimal registration and integrated use of patient data (individual level) (action 1)

- HCPs have access to the same electronic patient file
- Including behavioural data, socio-economic data and data on the living environment
- Leverage digital health tools such as telemonitoring, wearables and communication tools

(Federal level) Establish a national CVD registry (collective level) (action 2)

- Continuously updated information on personal data, hereditary factors, behaviour and metabolic factors, treatment and outcome parameters
 - Combining information from existing data sources and analysing data gaps
- Issuing advice and data to authorities (for policymaking, academics and scientific organizations (for research) and healthcare providers (for an integrated population health management)

(Federal level) Conduct a comprehensive CVD study every 3 years (action 3)

- Evaluate the disease burden
- Illuminate the unmet needs
- Assess the costs and benefits of technological innovations and policy measures