

HEALTH FINANCING IN BELGIUM

AN ANALYSIS OF
THE HEALTH FINANCING SYSTEM FOR INTEGRATED CARE
THE COST OF CARE FOR TYPE 2 DIABETES & HYPERTENSION
THE BARRIERS FOR PATIENTS

“The costs of scaling up core interventions and services are low compared to the burden of NCDs, and the returns on scale-up are therefore enormous.”

(WHO, 2018)

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List of Acronyms

ADL	Activities for Daily Living
CPAS	Centre Public d'Action Sociale
EC	European Commission
EHO	European Health Observatory
EU	European Union
FEDRIS	Federal Agency against Risk
FGoB	Federal Government of Belgium
GMD	Global Medical Dossier
GP	General Practitioner
IDF	International Diabetes Federation
ILO	International Labour Organisation
IMF	International Monetary Fund
INAMI	INAMI Institut National d'Assurance Maladie Invalidité
KCE	Belgian Health Care Knowledge Centre
HL	Health Literacy
LTC	Long Term Care
NCDs	Noncommunicable Diseases
OECD	Organisation for Economic Co-operation and Development
OOP	Out of Pocket Expenditure
SCUBY	Scale Up Diabetes and Hypertension Care in Slovenia, Cambodia and Belgium
SHI	Social Health Insurance
VAT	Value Added Tax
WHO	World Health Organization

1.0 Introduction

The WHO recommends taking a bold approach to improving outcomes for chronic diseases by moving towards integrated multidisciplinary primary healthcare to support early detection and management of conditions and face the looming threat of multimorbidity. (WHO, 2018) The rationale for breaking down walls between levels of care is to achieve greater coordination across the full spectrum of services throughout the life course and become more responsive to people's needs. However, moving in such a direction also implies a sound health financing strategy and understanding the ripple effects of disruptive innovation within service delivery. The health financing strategies proposed include:

- Allocating reasonable levels of public funding to health-improving activities by making a strong business case for health, including for NCDs, and institutionalizing this capacity.
- Using more explicit criteria to prioritize the health budget linked to development and health objectives.
- Adopting an outcome-oriented approach to fund intersectoral actions and address misalignment of incentives across sectors.
- Aligning and optimizing incentives across the delivery interface to reinforce a people-centred service delivery model that promotes integrated, continuous and comprehensive services.

Developing and financing an effective Integrated Care Package (ICP) for chronic diseases such as Type 2 Diabetes (T2D) and Hypertension (HT) also constitute a challenge in a high income country like Belgium. The estimated amount spent on T2D in Belgium in 2017 was close to € 3 billion according to the International Diabetes Federation (IDF). The estimate shown in figure 1 is based on a gross average patient cost of € 5442.8 per year¹ and an estimated prevalence of 6.1% in the population among those aged 20-79 years. (IDF, 2017). It represents roughly 6.7% of the Current Health Expenditure (CHE) on Healthcare in Belgium which is already worth approximately 10.2% of the Gross Domestic Product (GDP) of the country.

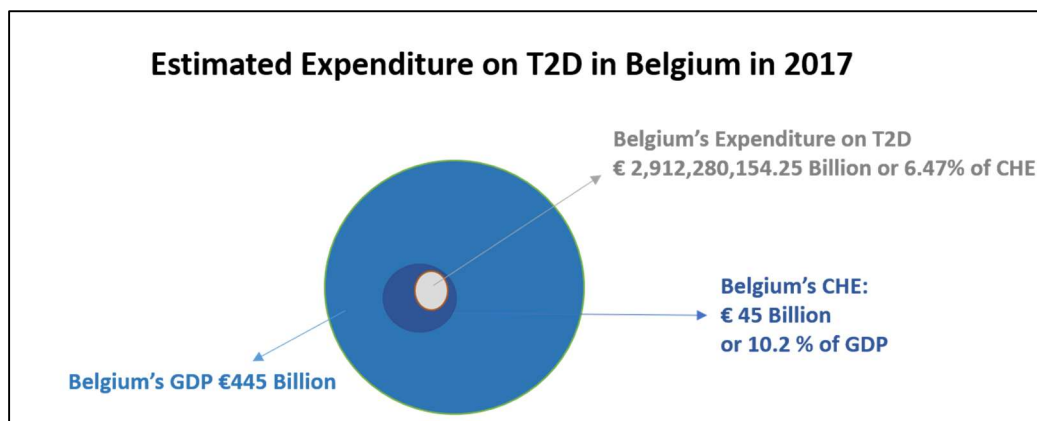


Figure 1. Estimated Expenditure on Diabetes in Belgium in 2017
Sources: (IDF & OECD 2017)

The current report aims to strengthen the research carried out by Work Package 3 within the SCUBY project in Belgium by:

- providing an overview of the characteristics of health financing in Belgium
- assessing the performance of the health system in relation UHC from a health financing perspective

¹Using the Attributable Fraction Method and complementary data on 1) estimates of diagnosed & undiagnosed diabetes prevalence 2) UN population estimates, 3) WHO global health expenditures per capita for 2016, 4) health expenditures for people with diabetes compared to people without diabetes stratified by age, sex, rural versus urban area, diagnosed and undiagnosed diabetes and income per region 5) average currency exchange rate for euro vs US dollar in 2017

- developing a context relevant financing framework (strengths, weaknesses, opportunities and threats) to guide open policy dialogues on implementing and scaling up integrated care
- making health financing concepts accessible to a wide audience of stakeholders
- looking at the fourth WHO strategy, the alignment of incentives among care providers for ICP

Based upon the situation analysis in Belgium (WP 2 report, publication on health policy analysis, on stakeholder analysis and on ACIC implementation), the hypothesis is that the major financial barrier to scale-up of ICP in Belgium is strategy 4, the aligning and optimizing incentives across the delivery interface. That is why the SCUBY team will focus on the financing system analysis (D3.1).

Costing the different ICP interventions is less relevant for the scale-up, since the scale-up will not include a business case for ICP. We will shortly elaborate on D3.2 and D3.2 in relevant chapters.

1.1 The Belgian Health System

The Belgian health system is based on social solidarity whereby health risks are shared and resources redistributed between the healthy, wealthy and the sick, as well as those who are socioeconomically vulnerable. The system has several advantages as it provides some level of freedom to physicians, freedom of choice for patients and remuneration based on fee for service. These payments are partly reimbursed following compulsory social health insurance (SHI), unless they are not included in the nationally established fee schedule.

1.1.1 Population Health Status, type 2 diabetes and hypertension

The Belgian population was estimated at 11,375,000 individuals while life expectancy reached 81.6 years in 2017, having increased by 3.7 years since 2000. (OECD, 2019) Variations in life expectancy were observed between men (79.2 years) and women (83.9 years). Additional differences were also noted among the 3 main regions of Belgium: Flanders has the highest life expectancy at birth (82.3), followed by Brussels (81.5) and Wallonia (79.9). (OECD, 2019) In 2016 the main causes of death in Belgium were diseases of the circulatory system, tumours, diseases of the respiratory system and suicides. (Statbel, 2020)

An estimated 6.8% or 620,972 individuals of the Belgian population aged 18 to 99 were diabetics in 2017. (IDF, 2018) In 2018, 29% of the population aged 15 years and over reported suffering from at least one chronic disease. (Sciensano, 2018) T2D is increasing over time as a result of the ageing population, and the prevalence of risk factors linked to lifestyle, as seen in figure 2. The risk of developing diabetes is higher in Wallonia and Brussels than in Flanders, and is higher for individuals with a lower income. (FGoB, 2020) The overall prevalence of hypertension or high blood pressure in 2018 was 17.6% (17.9 in women and 17.2 in men). (Sciensano, 2018) The prevalence of HT has been noted to increase with age. HT was also observed among those aged 15-24 (14%) and was the most prevalent among people aged 75 and above (44%). (Sciensano 2020) 2.564,724 patients were using anti-hypertensive medication in 2014 (INAMI, 2014).

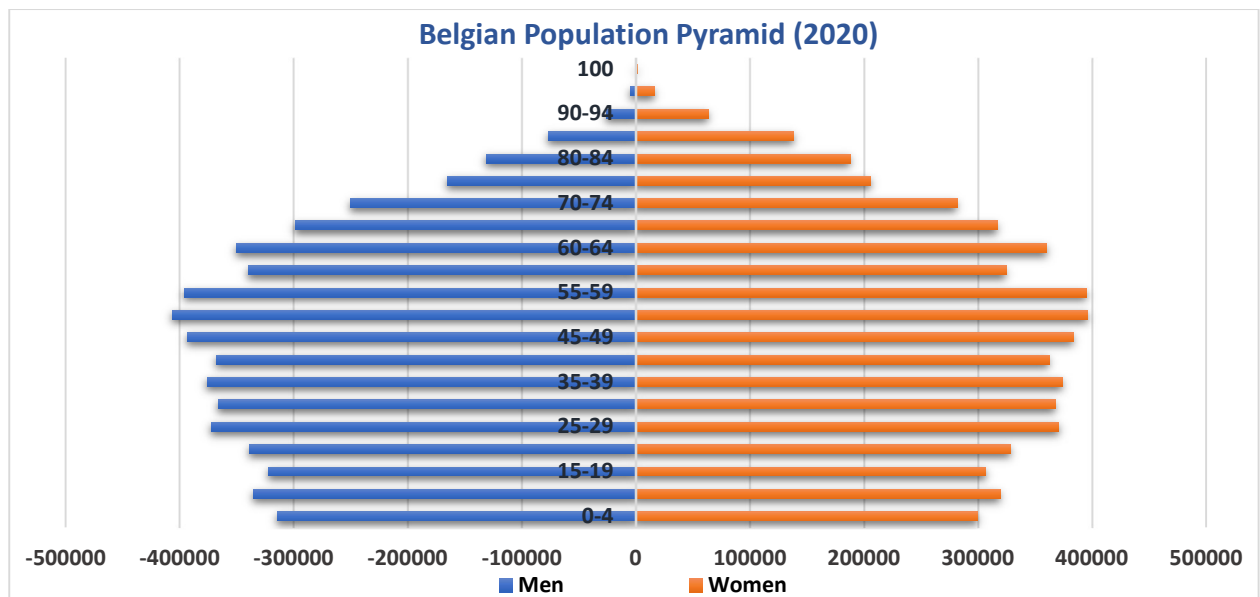


Figure 2. Population Pyramid in Belgium in 2019
Source: Statbel (2020)

18% of the population was above 65 in 2017. Quality of life for that age group was relatively better than the European average. The average years lived without disability past 65 was 11 compared to 10 in the EU. Only 40% of those in that age-group reported no chronic conditions compared to 46% in the EU. (OECD, 2019) 21% among that same age-group reported limitations in activities of daily living (ADL) compared to 82% in the EU. Multimorbidity was the same as in the EU. The presence of more than 1 chronic condition among the elderly was 20%, which was the same as the European average. The elderly population reported having the same prevalence of depression as the EU (29%). (OECD, 2019) However, suicide rates remain high at national level and several indicators report an increase in depressive feelings, anxiety disorders and/or severe sleep patterns, especially among women in the 15-24 age group. Consuming antidepressants is also more common in the general population. (FGoB, 2020)

1.1.2 Governance

The responsibility for the overall health system and health policy lies with federal entities. They are responsible for regulating the compulsory social health insurance fund, the ambulatory care budget, the hospital budget, programming standards, pharmaceuticals pricing and health professions. Federated entities such as regions and communities oversee health promotion and prevention, the organization of primary care and palliative care, maternity and child healthcare, social services and community care, financing hospital investment in capital goods, licensing standards and inter-ministerial conferences.

A noteworthy amendment to Belgian health governance is the 6th State Reform of 2011 which led to the decision to reallocate responsibilities between federal and regional levels. Implemented as from 2014, this reform was negotiated with a view to improve provision of Long Term Care (LTC), mental healthcare, the organization of primary care, disease prevention, health promotion, care at home and for the disabled, within the 3 regions. While the federal government remains responsible for funding hospitals and primary care provision outside normal working hours, regional and local government now play a more important role in the organisation of primary care, especially in relation to chronic care. Local variations are possible and might increase with the development of first line zones.

1.1.3 Service delivery

Belgium has a liberal system of service provision which encourages freedom of choice. A large range of physicians and therapeutic options are available for patients. Physicians are mainly independent (self-employed) and are remunerated based on fee-for-service payments made in primary care. Hospital care

is provided by either private, non-profit-making or public hospitals. (OBS-HSPM, 2016). Table 1 presents the number of professionals related to first line integrated care for T2D and hypertension

Selected medical professionals licensed to practice (as at end of 2018)		
	No.	Per 1000 inhabitants
GPs	13,102*	1.146
Health Professionals		
Nurses (excluding nurse midwives, midwives & assistants)	30,785*	2.7
Dieticians	859*	0.075
Podiatrist	414*	0.036

Table 1. Medical and health professionals in Belgium

Source: INAMI, 2019, *Source: INAMI, 2020

Primary Care. There are 3 types of primary care practices: a) monodisciplinary ; b) multidisciplinary and c) capitated practices. The differences in performance are described in a separate study under WP2. There are 2 models of financing for General Practitioners (GPs). The most used model is fee for service, the other model is the capitation model. GPs in the capitation model nearly always team up with nurses and other health workers. In 2018, there were 175 capitation practices in Belgium: 42 in Flanders, 63 in Wallonia and 70 in Brussels in 2018. (KPMG, 2018). 3.2% of the Belgian population or 360 343 patients were under the capitation system in some of these GP practices in 2014 and most of them were in Brussels. (INAMI-RIZIV, 2017).

There is a growing number of primary care practices that register patients and open a global medical dossier (GMD) (for which they also get funding). In 2017, 54.6% of the inhabitants in Brussels, 79.7% in Flanders and 63.3% in Wallonia had a GMD. (RIZIV/INAMI, 2020). Besides the GMD, several practical and strategic steps have been taken to improve primary care. Measures have been taken to ensure the continuity of GP services during out-of-office hours. In parallel, federated entities are working to strengthen service delivery and care following population ageing and an increase in chronic conditions through a national plan developed for “integrated care for better health” in 2015. Since then, several pilot projects such as the Integreo network have been implemented to “reform the trajectory for primary care in different regional contexts (OECD, 2019)” (Integreo, 2020)

Extensions of community based primary care are being explored. An example of local variation relevant for chronic care and care for the elderly is the Community Health Workers initiative in Gent

Secondary Care. Medical specialists work both in hospitals and/or in medical practices. This can blur the lines between what is considered as primary, secondary and tertiary care in other contexts. For instance access to specialized care for diabetics such as foot clinics and retinal check-ups are usually done through hospitals. Secondary care in Belgium refers mainly to inpatient care in hospitals and day care centres. What is considered to be a hospital is subject to the Belgian Health Act. Hospitals are usually private or public non-profit-making organizations made up of acute, psychiatric, geriatric and specialized hospitals which provide only geriatric, revalidation or palliative care. In 2019 there were 103 general hospitals: 52 in Flanders, 37 in Wallonia and 14 in Brussels. (Federal Government of Belgium, 2019) Among these hospitals 17 were classified as “general hospitals with a university character”, 79 as ‘classic’ general hospitals (including atypical hospitals) and 7 as general hospitals. The number of beds in general hospitals have decreased over the past 20 years while human resources have increased. (FGOD, 2019). More beds previously allocated to acute care (for short stays) are now allocated to patients in need of chronic care (for long stays or who suffer from chronic conditions). In 2017 the length of stay for diabetic and

hypertensive patients was 8.3 and 10.6 days respectively, while the corresponding EU-15² averages were 8 days for diabetes and 6.4 days for hypertension. (OECD, 2020)

Long Term Care services. LTC recipients are defined as people receiving such services from paid providers, including non-professionals, and/or cash payments under a social programme. (OECD 2020) Recipients may receive cash benefits such as consumer-choice programmes, care allowances or other social benefits. They include the elderly (65 and above) but also individuals with disabilities in need of care. In Belgium LTC is a mix of health services complemented by social service provision which is subject to both inter and intra-regional differences but not to any specific legislation. Such variations are ascribed to the division of competencies between the Federal Government and Communities. The federal government is in charge of the medical component whereas the regional government is responsible for non-medical complementary services. Local government is responsible for funding and building residential facilities together with investment subsidies received from the communities. Policies and regulations aim to provide quality LTC to recipients in their home environment for as long as possible unless home care is no longer adequate. Residential care then becomes a need which cannot be met with the support of community health workers or informal carers.

Other complementary care include community services, short and long-term residential care and geriatric care in hospital. Long-term residential care includes service-flats, homes for the elderly and nursing homes. (KCE/EHO, 2011) In 2017 8.8% of the Belgian population was receiving LTC which is significantly lower than other European countries such as France (10.1%), Finland (10.9%), Luxembourg (12.4%), Netherlands (13%) and Germany (15.6%). (OECD, 2019) The demand for home-based and long-term care is expected to increase. (OECD, 2019)

Pharmaceutical Services. The cost of approved medication can be reimbursed to patients if it is prescribed by a GP, medical specialist, dentist or a midwife and if the pharmacist is the person delivering it as per established guidelines. In 2018 the pharmaceutical market in Belgium represented 14.3% of health spending (€6,543.2 Billion) which is significantly higher than most European countries besides Portugal (14.6%), Italy (17.5%), Spain (18.6%) and Greece (27.3%). (OECD, 2019)

In 2017 the share of generics (cheaper alternatives to top of the line drugs and significant sources of cost savings) of the total Belgian pharmaceutical market was 18.9% for worth and 34% of actual quantity consumed, which are both lower than in the EU-15. This is consistent with previous observations made concerning the market penetration of this type of medication in 2012, despite the potentially quasi-immediate impact of some policies and regulations which could rectify the situation. (Fraeynman et al, 2014) This type of medication is also misrepresented among drugs which are reimbursed as they only account for 12.9 % in terms of value and 29% in terms of volume. (OECD, 2019) This concurs with research that suggests that some GPs in Belgium prescribe according to patient circumstances and affordability, even taking into consideration generics. Yet, patients in need of chronic care remain mostly unaware of the costs for the health care system and of the cost of their own medication. (Fraeynman et al, 2014).

Digital Services. A new e-health plan for 2019-2021 has been adopted which builds on previous efforts while developing new digital tools for care providers and patients. (OECD 2019, E-health Federal Plan, 2019) In some cases it may also become mandatory. According to official estimates 60% of GPs were using GMDs accessible through MyCareNet and 4000 000 e-prescriptions were made in 2018. (OECD, 2019) 6 mobile health applications were validated in 2019 with a view to empower patients and strengthen communication with GPs. Such “apps” include “Airview” which is used to monitor sleeping and breathing disorders and encourage sharing with patients. Information about the health of Belgians and the health system is also more easily available via the “healthybelgium.be” website.

² As used by Federal Knowledge Centre of Health KCE (2020) The term **EU-15** refers to the 15 Member States of the European Union as of December 31, 2003, before the new Member States joined the EU and the UK left the union. These states include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

1.2 Integrated care for chronic patients and evidence on cost (Deliverable 3.2)

Both the direct and indirect (human) costs of chronic conditions have been acknowledged as a significant source of concern for Belgian patients, their families and society. Such diseases create vulnerabilities and opportunity costs by decreasing productivity at the individual or household level and may even lead to loss of employment. (KCE, 2012)

Integrated care models are ways to reduce the fragmentation of services and improve the quality of services for patients in need of chronic care. 3 approaches to integrated care were noted. These included “Disease Management”, “Team-based care” and “Managed Care”. Such approaches were shaped by contextual factors such as pre-existing treatment paradigms, the local health system and health financing arrangements which also have to be factored in during discussions on the design and implementation of integrated care for T2D and HT in the Belgian context. In Belgium, we analysed the implementation of chronic care using the Chronic Care Model (CCM). All General Practitioner (GP) practices are strongly encouraged to implement this CCM. However in practice, we see that several GP-practices have not or only very incompletely implemented the various elements of the model, while other practices have implemented almost all elements. These groups of GP-practices may also differ in organizational characteristics (e.g. the availability of a nurse and/or secretary), financing model (e.g. a capitation or fee-for-service system) and patient population. In WP2, the SCUBY team examined how these GP-practice characteristics were related to the degree of implementation of the CCM.

Relevant scientific research carried out across 18 studies on the economic impact of the ICP for T2D in the United States, France, Germany, China, Austria and Singapore showed that, besides having a positive impact on quality, the incremental cost savings were also positive. (Desmedt et al, 2016) Lower HbA1c levels and blood pressure were reported as health outcomes by studies which assessed more than costs.

The international evidence from comparable health systems show that the incremental cost savings for ICP for T2D ranged from € 1507.49 to + € 299.20 (average of -€ 518.22 ± € 604.75 per patient). (Desmedt et al, 2016) Such findings were consistent across different study designs which included before-after studies (N=6), randomized controlled trials (N=5) as well as prospective studies (N=7). The estimated period for these studies ranged from 1 to 4 years and used routine care as comparator.

This international evidence provides the base of estimations of cost of the ICP in its current form in Belgium (D3.2). As explained in the introduction, the SCUBY team has decided to not further elaborate D3.2 in the current phase, since it is less relevant for the scale-up. However, we present the development of a financial database and analysis method that would allow the calculation of the ICP cost in its current form across the three primary care practice types.

To estimate the cost of ICP care in its current form across the different practice types, we can use the individual administrative data about the cost of T2D and HT care (including medication use). Health insurance data on T2D and HT medication and healthcare use (process indicators) are sourced from the national database of IMA for the period 2017 to 2019 (IMA data is available in February year X of year X – 2). The IMA database covers the entire insured population of Belgium (almost 99% of the population) and has data on direct medical cost. It also contains socioeconomic and -demographic information (e.g. gender, age, marital status, disability days, etc.) and reimbursement claims data (e.g. health care and medication data, proxies for comorbidities and T2D-and HT complications) of the seven sickness funds that manage compulsory health insurance in Belgium [12, 19]. IMA data contain information on the direct medical cost of the actions required for T2D management (medical consultations, lab tests, and medication). As IMA data lacks diagnostic information, patients diagnosed with T2D and HT are algorithmically identified based on the proxies taking T2D of HT medication or having a pre-diabetes pass – which is standard practice in T2D research [20, 21]. Data on health care (inpatient-outpatient; specialist-non specialist) and medication use and related costs (health care progression) will thus be retrieved from the IMA data. The research team has submitted this data application request for another research project on scaling up integrated care. The total cost per patient per outcome for each of the three interventions (low-moderate-high implementation) will be calculated based on the data to be provided by IMA. Since

the access to the IMA data base has been delayed due to the long request procedure and to COVID-related delays, we are not sure when this costing can be done.

1.3 Analytical Frameworks

The data collected for this report was analysed according to 2 separate frameworks to delineate between external and internal factors which impact the health financing system in Belgium. A comparative element with other European countries is used where appropriate.

1.3.1 Multi-Layered Health Financing framework

Cross-cutting issues in health financing have been identified and tools developed accordingly by building upon previous health financing frameworks. (WHO 2016, Kutzin, 2008, McIntyre et al, 2016) A multi-layered analysis is proposed to **analyse contextual factors likely to impact on health financing** as summarised in figure 3. These include the macro-economic context in a country, public management and the social protection system. The parallel role played by macro-economic and social protection policies and social services are usually not given due weight during such analyses. The purpose of the multi-level framework is therefore to **guide the analysis undertaken at the macro, meso and micro levels** while preserving a link between the different layers as well as parallel concerns. The inner part of this framework is further elaborated in figure 4: health financing for universal health coverage (UHC).

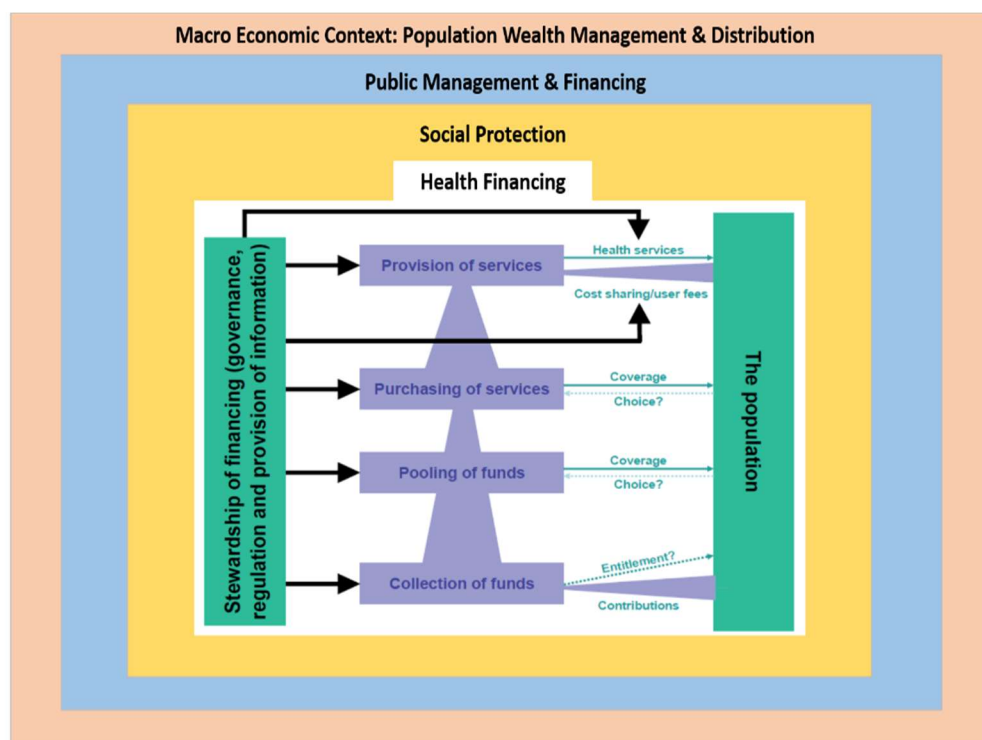


Figure 3 Multi-Layered Health Financing framework (adapted from Kutzin, 2001)

1.3.2 Health Financing for Universal Health Coverage framework

According to the framework used UHC is subject to how well health financing operates as well as to the level of commitment to “intermediate objectives”. According to this perspective UHC is as much a process as it is a series of outcomes as shown in figure 4. The 1st block on the left describes the different health financing functions: “revenue”, “pooling” and “purchasing”. **Revenue collection** refers to how money is raised from individuals, households, communities, businesses and other sources. **Pooling** is about the accumulation and management of funds raised to protect individuals against health risks and unexpected health expenses, collectively which is usually carried out by governments in most contexts. **Purchasing** focuses on mechanisms to purchase/obtain services from both public and private providers.

Intermediate objectives such as Equity, Efficiency and Accountability are seen as pre-requisites for UHC Goals, as per the block in the middle. Equity usually refers to access to services according to need across different groups of individuals. Efficiency is concerned with maximising on inputs to produce the maximum number of outputs such as consults, surgeries, etc. Transparency and accountability focus on feedback and monitoring mechanisms which allow resource tracking within the health system.

UHC goals which are described in the 3rd block require the rational utilisation of services, quality in care and protection against catastrophic health expenditure. Quality of care” can be approached from both the service provider’s and patient’s perspective. Both aspects will equally impact on the balance between supply and demand of services. “Financial protection” is a UHC goal which is achieved when direct payments for health services do not lead to catastrophic health expenditure and iatrogenic poverty i.e. a significant decrease in standards of living because of the cost of health services.

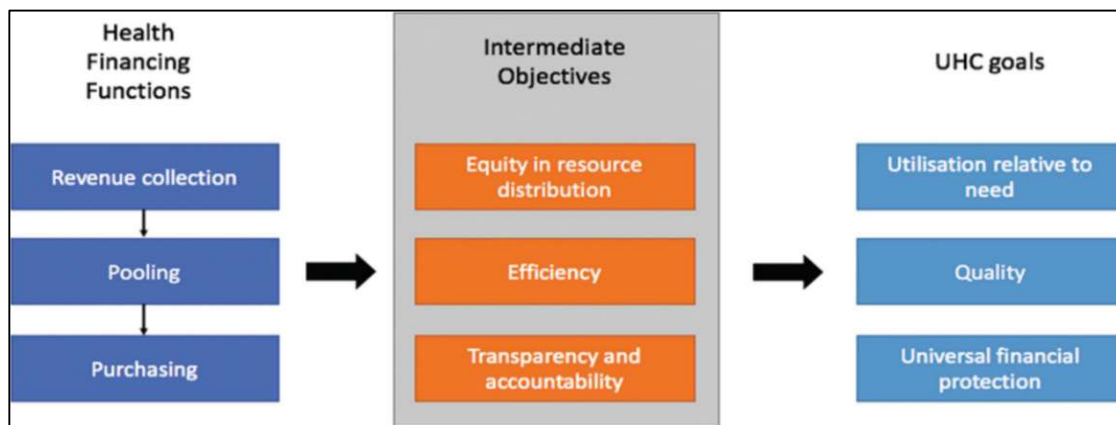


Figure 4 Health Financing for UHC
Source: Biddle et al, 2020

1.4 Methods

The report is based on a literature view and secondary quantitative data. Secondary quantitative data on health financing was obtained from the following databases: Eurostat, OECD, Statbel, INAMI-RIZIV, WHO, ILO, and KCE. The data was compiled, analysed and complemented with an extensive literature review of documents from the OECD, the Federal government, WHO, INAMI-RIZIV, KCE, as well as academic documents, reports, studies and position papers on the Belgian context, where deemed relevant and according to date of publication.

2.0 The context of the health financing in Belgium

The following sub-section provides an overview of the macro-economic context of Belgium as well as recent trends in public financial management and social protection which are bound to impact on healthcare spending. It covers the outer three layers of the first framework.

2.1 Macro-Economic Context

Belgium is a European country with a GDP per capita of € 35 000. (OECD, 2019) Despite a decline in GDP growth from 1.7% in 2017 to 1.4% in 2018, joint consultations carried out in 2019 between the International Monetary Fund (IMF) and the government deemed the economy’s performance as satisfactory since the global financial crisis. (IMF, 2019) Real GDP per capita has surpassed its pre-crisis level. Unemployment³ is at its lowest and is still projected to be slightly higher than the OECD average (6% vs 5.5%) (OECD, 2020). However, only a modest GDP growth is projected due to lower business investment

³Defined by OECD (2018) as share of inactive, unemployed or involuntary part-timers (15-64) in population (%), excluding youth (15-29) in education and not in employment (%) as seen on <https://www.oecd.org/belgium/jobs-strategy-BELGIUM-EN.pdf>

and decrease in exports. Private consumption is meant to be an important driver of growth, supported by past reductions in labour taxation and robust wage growth. This may imply gradual price inflation due to wage pressures resulting from a tight labour market on the short to medium-term. This could also potentially decrease efficiency of the healthcare system following higher input costs for wages, pharmaceuticals, consumables, etc.

At the time of writing Belgium is backed by an adequate economy which secures a strong purchasing power compared to countries where the prices for such goods and services are higher than even in the US (where there is limited regulatory government intervention), Sweden, Norway and Switzerland. However, expenditure on health care in Belgium is increasing at a higher rate than GDP growth. According to OECD figures the average share of total health spending in the European region in 2017 and 2018 was 8.8% of country GDP. As seen in figure 5, the annual increase in CHE has slowly overtaken GDP growth in countries such as Belgium, Portugal, Finland, France, Denmark, Norway and Germany. Sweden and Luxembourg appear to be able to contain their healthcare costs more efficiently. Achieving overall cost containment without sacrificing quality of care is thus a national priority for healthcare in many EU countries.

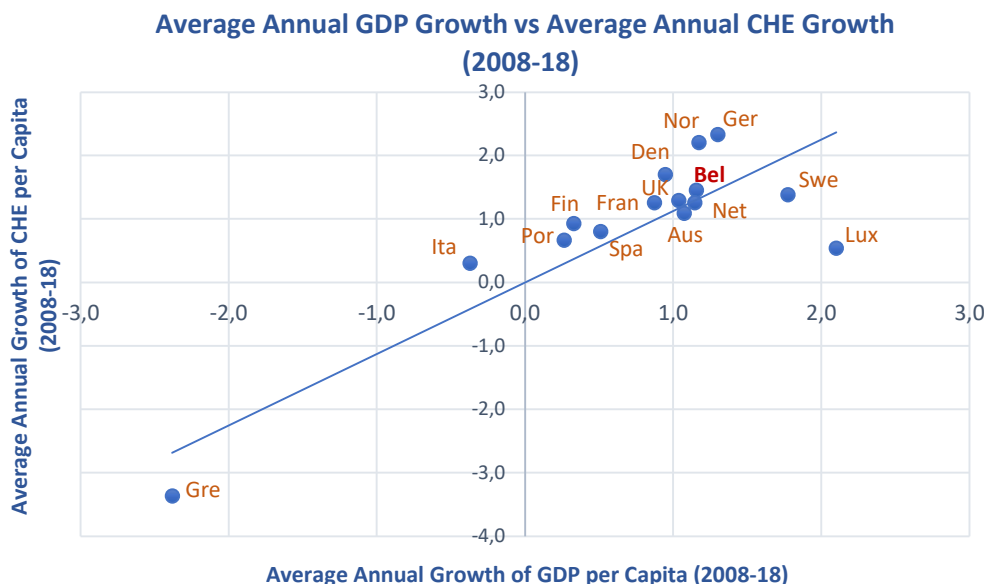


Figure 5. Average Annual Growth of GDP per capita vs Average Annual Growth of CHE per capita
Source: OECD, 2019

2.2 Public Management

The public debt-to-GDP ratio has declined but remains equal to GDP. Expenditure on pensions, unemployment, income support to the working age-population, health and social services in Belgium are considerably higher than the OECD average. (OECD, 2020) Both the fiscal deficit and public debt, although still a bit high, have declined. Public debt and the fiscal pressure exerted by population ageing are seen as recurrent challenges. Education and health are areas highlighted as a source of concern. The student-age population is projected to grow while the number of children under 3 is meant to peak in 2018. (OECD 2020, EC, 2018) *Prevention, early screening and primary care are areas identified as potential efficiency gains in health spending.* (OECD 2020, Cornille et al, 2017).

Public investment is one of the key economic levers which the Belgian government will be using in the next few years to encourage economic growth. The Belgian authorities are set to invest in the digital transition, cybersecurity, education, health care, the energy transition, as well as mobility (IMF, 2019). The 2019 IMF report also states that services are to be liberalized and professions regulated to increase efficiency and efficacy. Their vision could represent an opportunity for innovative human capital measures in the healthcare sector.

Taxation is an area in need of review as it is still directly targeted at labour income and unsurprisingly impacts on growth and employment. (OECD, 2020) Value-added taxes are not used optimally as there are several exemptions and reduced rates. Effective taxes **could encourage public re-investment** following systematic spending reviews. (OECD, 2020) Such exercises, complemented with policy monitoring and evaluation could allow re-allocation of services to other sectors or sub-sectors.

2.3 Social Protection

The share of people above 65 years compared to the rest of the population is projected to increase from 30% in 2017 to 45% in 2070. (Statbel, 2020) Such demographic changes within the general population are likely to impact both social protection, more specifically on pensions, and healthcare spending, following the increase in chronic conditions which include T2D, HT and the risk of disability. The European Commission (EC) report on ageing predicts that such expenses will increase the fiscal deficit during that same interval and represent one of the highest in Europe. Public expenditure on Social Protection (excluding health) relative to GDP was estimated as being the highest among High Income Countries and worldwide, for people of working age. (ILO, 2018) Belgium is one among few countries, together with Denmark, Germany, Asia and Japan to provide Universal Coverage for LTC. LTC includes care for individuals with limited ability to look after themselves due to physical or mental conditions. Such services include for example: assistance with daily living activities, medication management and basic health services. Such services require skilled human resources which are difficult to find following the complexity of this profession.

3.0 Health Financing functions

The following sections provide a brief overview of the health financing structure of Belgian Healthcare, following the second framework. This section analyses the three main functions: revenue collection, pooling and purchasing health care services.

The origins of the current take on this approach in Belgium can be traced back to the 19th century when sickness funds were set up to protect those affiliated against risks related to disease, unemployment and inability to work. (KCE/EHO, 2011) Health insurers are not-for-profit, membership-based organizations with various ideological backgrounds – socialist, liberal, Christian, independent, nationalist – and are funded by the state. In the early 1900's sickness funds were classified according to their political views or ideology. Nowadays 7 such funds exist: National Alliance of Christian Mutualities, of Neutral Mutualities, of Socialist Mutualities, of Liberal Mutualities, of the Free, Sickness and Disability Insurance Auxiliary Fund and the SNCB Holding's Healthcare Fund. Commercial insurance companies have very limited access to the health market.

The Belgium health system is Bismarckian and thus similar to those in Austria, France, Germany, Luxembourg, the Netherlands and Switzerland. (WHO, 2019) A summary of the mechanics in figure 6. Prepayment and pooling create the insurance function by allowing affiliated members to pay for average expected costs in advance, mitigate uncertainty and ensure compensation where applicable. Out of Pocket (OOP) and private service providers also play an important role in such a system from revenue collection to purchasing of services.

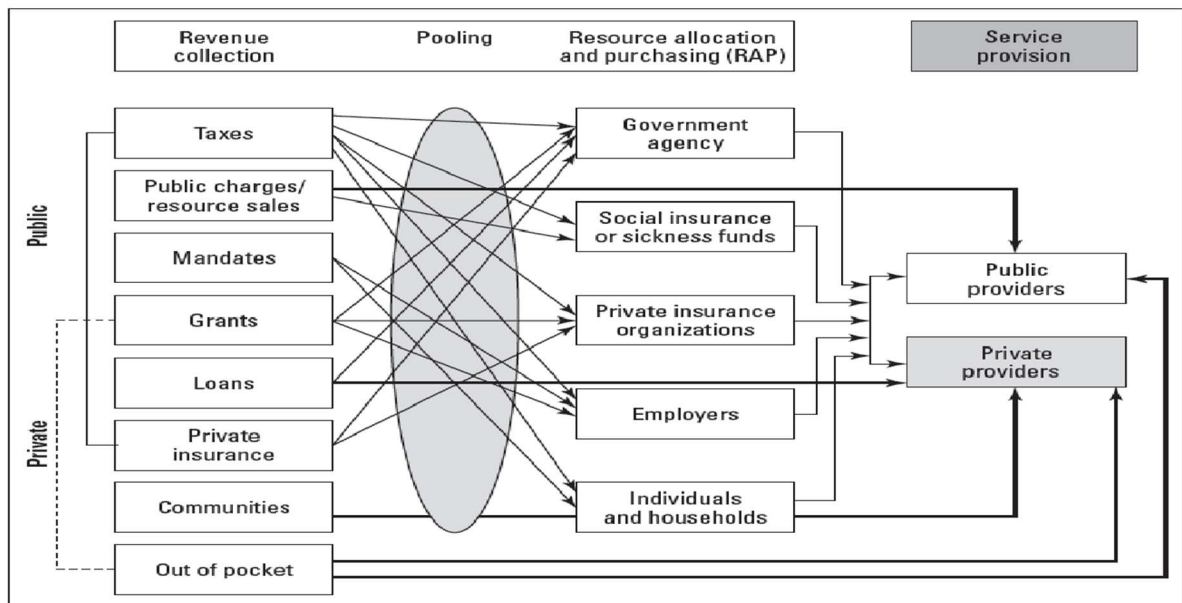


Figure 6. Internal Mechanisms of a Bismarckian Health Financing System
Source: Schieber et al, 2006

3.1 Revenue Collection

Belgium spent more than €45 Billion on healthcare in 2017 which represented 10.8% of its GDP. (OECD, 2018) The compulsory insurance scheme characteristic of the Belgian healthcare system is funded through social security contributions and subsidies from the federal government. The extent of the coverage provided to the Belgian population is estimated to be close to 99%. (OECD, 2019) The compulsory health insurance is managed by INAMI-RIZIV. It is the public organization which provides the sickness funds with the means to cater to the needs of their members. Greater financial accountability has been enforced among such funds since 1995 to decrease discrepancies between actual spending and expenditure budgeted, thus increasing efficiency.

Healthcare services are purchased through what is referred to as Health Financing Schemes which include sickness funds, fee for service, private insurance, government subsidies and have been simplified in Figure 7. In 2017, the revenue of such schemes was mainly obtained from social insurance contributions (39%), transfers from the government (38%), other domestic sources such state subsidies (18%) and voluntary prepayment (5%).

Social insurance contributions were used to purchase 21% of Preventive Care, 66% of Medical Goods, 87% of Ancillary Services, 23% of LTC and 67% of Curative and Rehabilitative Care. Domestic revenues and transfers were combined to purchase 79% of preventive care, 1.28% of medical goods, 2.63% of ancillary services, 67.58% of LTC and 6.53% of curative and rehabilitative care. Household OOP paid for medical goods mostly, curative and rehabilitative care and LTC. **Voluntary prepayment** only played a minimal role in preventive care and in the purchase of medical goods but were used in curative and rehabilitative care, LTC and ancillary services.

Social insurance which relies on social security contributions is used mainly to pay for ancillary services, curative and rehabilitative care and medical goods. Funding of LTC shows a very significant amount of investment compared to other healthcare functions which is likely to increase significantly in the near future as a result of population ageing.

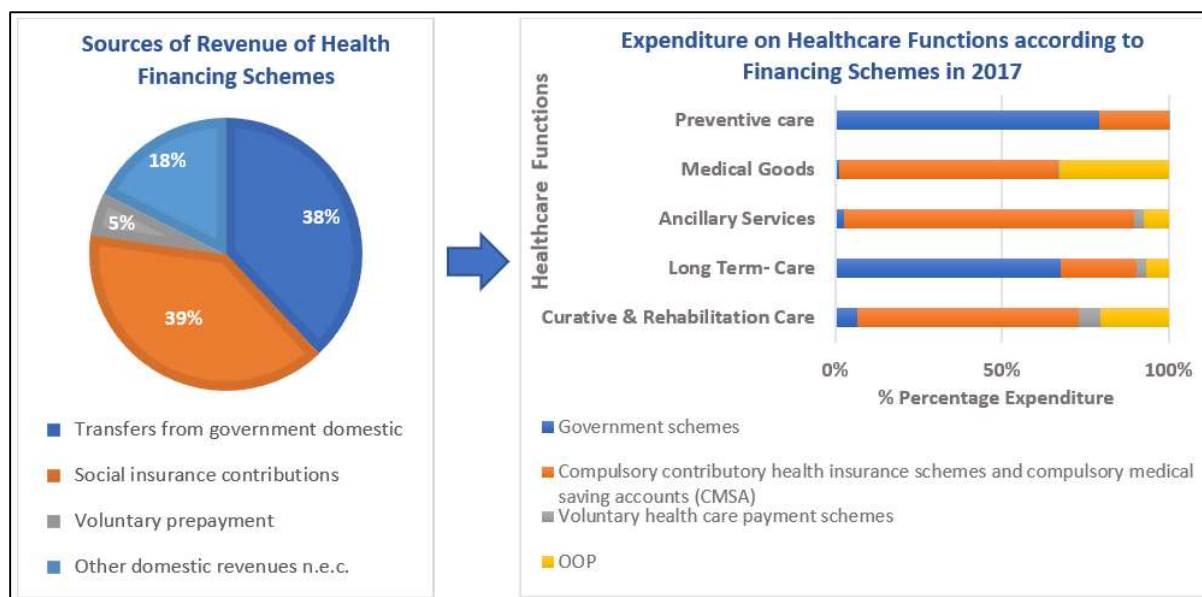


Figure 7. Sources of Revenue and its relation with Health care functions

The Belgian government has 2 revenue streams which are relevant to the health system. The first one is directly relevant to the health system and is referred to as “own receipt” of the health system . It receives funding from social security. The second one falls under “global management of the financing system” for all social security sectors. This includes health and disability insurance, old age and survivors pensions, unemployment, insurance for accidents at work, work-related health and occupational diseases as well as family allowances. (EHO/KCE, 2010)

The way revenue is collected can be traced to the health system’s Bismarckian roots. Acknowledging that the loss of an individual's good health is a social risk that cannot a priori be predicted and that only a few individuals will incur major costs, the health insurance system redistributes the risk so that those which are uninsurable at the individual level can be insured collectively. (De Ridder, 2019)

Contributions to the health insurance are hence collected mainly through employee and employer contributions and from the state budget from general and earmarked taxes such as VAT income and taxes on tobacco and alcohol. The federal government subsidizes the difference between social security contributions and the budget derived from general taxation.

Other receipts include special contributions from social security, solidarity contributions and contributions of employers for early retirement. (EHO/KCE, 2010) Such alternative financing mechanisms limit subsidies and reduce the contributions of employers. Figure 8 shows the different trends in the aggregate sources of revenue for different health financing schemes during the 2008-2017 period. The weight of compulsory insurance appears to be decreasing when compared to the growing importance of government schemes. This could potentially represent an opportunity to overcome one of the limitations of social health insurance which in principle limits coverage to only those who can contribute.

The most efficient use of alternative sources of financing such as taxes on alcohol and other “sin taxes” are yet to be determined. Such sources of revenue could potentially represent an opportunity to increase funding for chronic care conditions such T2D and HT which are often linked to population ageing.

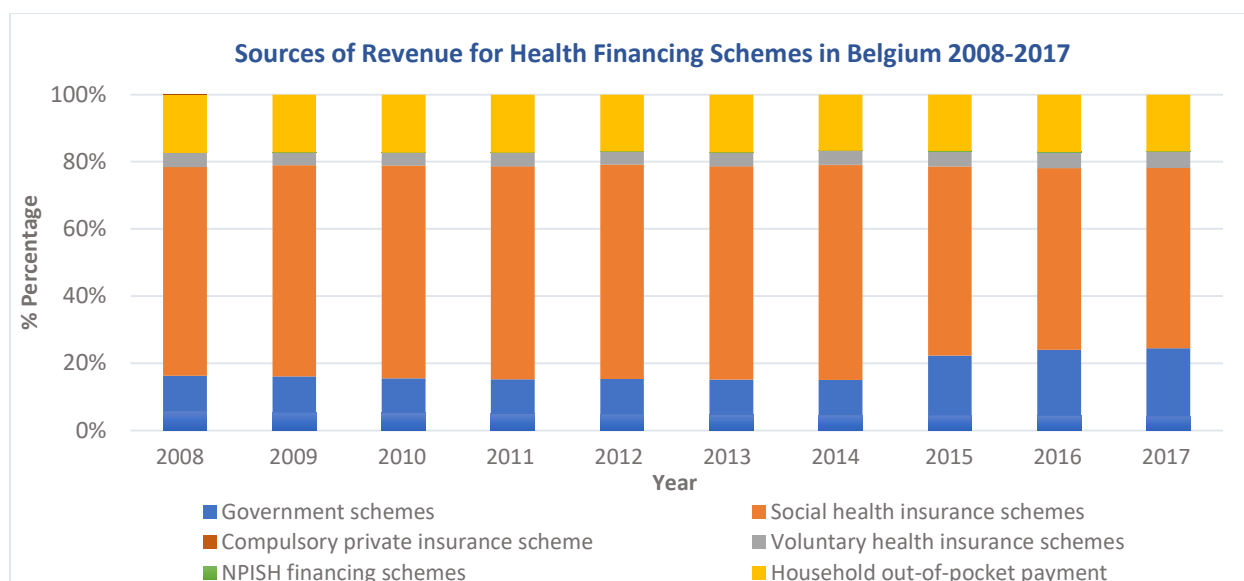


Figure 8. Sources of Revenue for Health Financing Schemes in Belgium 2008-2017

Source OECD, 2019

3.2 Pooling

Pooling in the Belgian context refers to **budgeting practices at national or federal level** before money is allocated/transferred to the regional level as seen in figure 9. This particular function within the health financing system is directly impacted upon by perceived health risks, wider public management practices, concerns and policies. Health budgeting forms part of wider budgeting practices whereby economic growth rate, unemployment trends, short-term and long-term interest rates on government debt, exchange rates, fiscal gap projections, effects of significant policy reforms, migration flows, demographic changes (excluding migration) ageing, population growth, inter-generational accounting, civil servants' pensions obligations, unfunded pensions liabilities, etc, are taken into consideration. (OECD, 2014) Performance measurement of progress made with the health finances takes place via internal reviews (KCE) and international evaluation through a peer review event. (OECD, 2014)

The expansive national health budget has received more attention in recent years. Although previous observations showed a discrepancy with the growth of the Belgian economy, the situation appears to have stabilised. (Itinera, 2013) The percentage annual increase in GDP growth and health expenditure in Belgium are positively correlated, except after the economic crisis in 2010/11 and again in 2015/16. For the current budget year, health expenditure has increased to 0.5% above inflation. (Schepers et al., 2018) In 2004 the estimated cost of cardiovascular diseases at € 3.5 billion, with the largest part (59%) being incurred by "INAMI". (KCE, 2012) Cost containment measures however imply trade-offs among healthcare professionals, sickness funds, the pharmaceutical sector, public pharmacies and the hospital sector. Patients also are impacted directly or indirectly by such measures. (Van Cutsem, 2017)

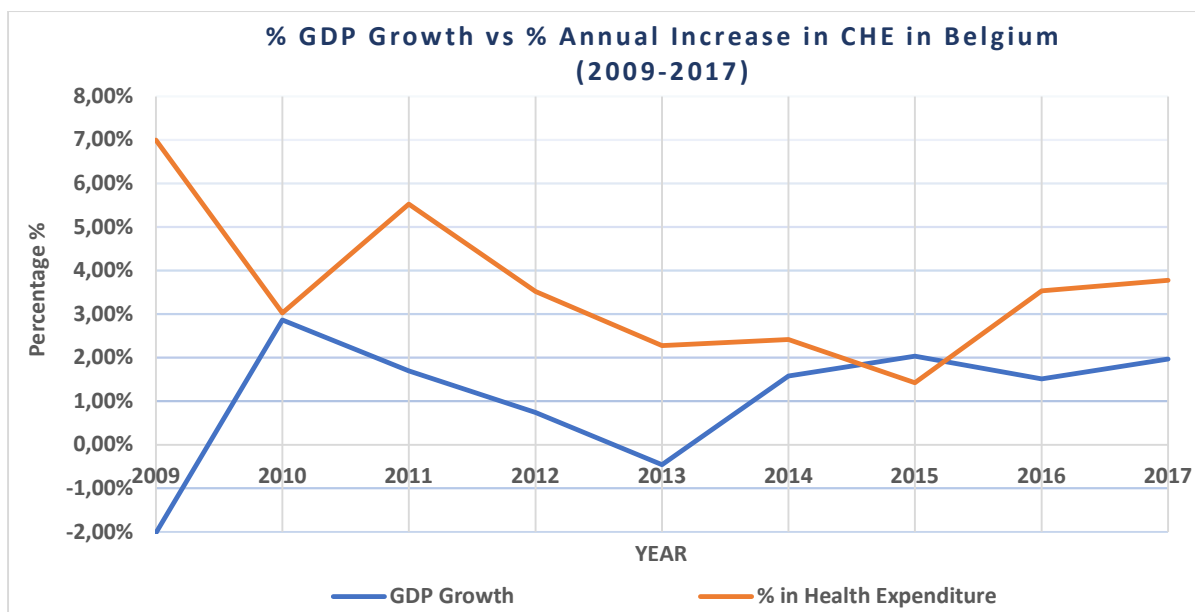


Figure 9. % GDP Growth vs % Annual Increase in Current Health Expenditure in Belgium 2009-2017
Source OECD, 2019

The budgetary process usually comprises a six-step procedure: 1) determining needs through an inventory based on expenses made, by INAMI; 2) technical estimates by Insurance Committee & General Management Committee; 3) identifying potential economy measures leading to estimates sent to the insurance Committee, the General Management Committee, the Budget Control Committee and the Minister of Budget; 4) drafting a global budget objective and partial objectives by the insurance committee which sends a proposal to the General Committee and Budget Control together with estimates and cost containment measures; 5) determining the budget by the General Management Committee which includes the annual global budgetary projections of the health insurance, the annual partial budgetary projections and cost savings proposed (the council of Ministers may intervene); 6) negotiating conventions and agreements: the Insurance Committee is notified once the budget is approved. This initiates the negotiations in the various conventions and agreement commissions.

This approach allows for policy priorities and strategies to be determined and adjusted according to performance targets at different levels of organization and following competing concerns. Expenses are monitored through audits and the ministry of budget.

State reform and pooling at regional level. The 6th State Reform reallocated new responsibilities and related funding to the regional levels. Because of epidemiological and system differences between and within regions, this is leading to another form of risk pooling or “secondary risk pooling”. Regional government plays a more important role in allocations service organisation according to need. This can potentially lead to a more effective response but may imply some loss of efficiency, for instance through fragmentation. While it is clear that more funds were available for healthcare at the regional level as from 2015, especially in Walloon and Flanders, the degree of ownership and autonomy of the local government in spending such funds has not been entirely clarified. The effect of this reform on the quality of care, including primary care, if any, will thus need to be evaluated further and in a systematic manner.

So far the most significant effect of this reform has been the re-allocation of funds from the federal government to regional entities. The Dutch community and Walloon region received over 2 billion euros and 900 million euros respectively in 2018, as seen in Table 2. The German speaking community and the joint community commission received 16.9 million euros and 334 million euros in 2018, respectively during that same year, which is in line with the significant increase noted as from 2015. The French community also noted a sharp increase in the funds received from the federal government from 2015

onwards. The potential implications of the re-allocation of such funds could potentially include more capital for the stewardship of primary care services at regional and community level and new structures to be set up to absorb and manage such funds resulting in loss of efficiency along the way.

Components	2010	2011	2012	2013	2014	2015	2016	2017	2018
Federal Government	24.4	30.2	25.8	19.9	16.6	12.9	11.4	0.0	0.0
Dutch Community	79.9	83.5	86.8	11.2	1.9	1804.6	1938.3	2041.7	2135.6
French Community	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walloon Region	20.9	21.9	21.9	24.9	29.7	911.8	919.4	939.3	966.9
Brussels Capital Region	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
German-speaking Community	0.0	0.0	0.0	0.0	0.0	15.6	16.2	16.5	16.9
French Community Commission	15.3	15.8	16.3	16.6	16.8	48.0	51.5	48.2	48.1
Flemish Community Commission	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Joint Community Commission	0.0	0.0	0.0	0.0	0.0	290.9	298.3	312.5	334.4
Undivided	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lower Government	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
Social Security Institutions	23875.9	25154.5	25981.8	26731.8	27438.8	24847.6	25367.8	26145.9	26993.0
Out of pocket (Private insurance included)	11,391.3	11,819.5	12,356.4	12,709.2	12,900.6	13,681.4	14,064.7	14,706.2	14,811.4
Total	35407.5	37125.3	38488.8	39513.6	40404.4	41612.9	42667.6	44210.3	45306.3

Table 2. Health Financing Flow across regions and communities in Belgium

Source: National Bank of Belgium 2020

3.3 Purchasing health care services

Provider payment is part of the greater health financing function referred to as strategic purchasing. Entities acting as strategic purchasers in Europe include ministries, local government and providers of social health insurance which mainly decide on coverage, benefit package, contracting, provider payment and quality. Following the complexity of the Belgium context where different entities in different regions may carry out this function, or some of its components, the focus of the current section is on provider payment mainly. Provider payment refers to **how funds are transferred from purchasers to health providers to deliver agreed services**. It also includes direct payment by patients. Secondary care (hospitals) and primary care (GPs, etc) are the major cost centres. Expenditure on primary care reached € 10 Billion in 2017. A significant increase in expenditure can be noted in residential LTC facilities, increasing from € 4.2 to € 6.1 Billion.

A frequent mode of payment is OOP: patients pay fees to health-care professionals upon the point of care. Costs are to some extent reimbursed by the sickness funds, depending on need, medical and socio-economic status of the individual and the type of service.

3.3.1 Provider payment

There are 4 main forms of payment mechanisms (OECD, 2016) in health care: 1) Fee for service/Out of Pocket Payments; 2) capitation systems offering fixed amounts to health providers; 3) global budgets to pay for specific health related items; and 4) Disease Related Group (DRG) Payments often used in hospitals focusing on cases treated to encourage technical efficiency to maximise on existing resources (a close equivalent in Belgium would be the Disease Care Trajectory of patients with diabetes and kidney failure).

Payment to service providers at primary and secondary care level in Belgium are mainly characterised by fee-for-service payment. In general there are two channels through which this is organised. The first is direct payment, where the patient pays for the full cost of the service and then obtains a refund from the sickness fund for part of the expense. The second one, increasingly prevalent, is a third-party payer system, where the sickness fund pays the provider directly and the patient is only responsible for paying any co-payments, supplements or non-reimbursed services. The direct payment system applies to both

inpatient and outpatient care. The third-party payer system also applies to inpatient care, ambulatory care and pharmaceuticals. Provider payment is also subject to level of care, health care professional involved, type of services provided and patient status, which may create exceptions.

Direct Payment. Direct payment totalled € 2,38.61 Billion in 2017. Direct expenditure to providers of ambulatory health care such as GPs and medical practices increased gradually from € 1,534.6 in 2008 to € 2,604.45 Billion in 2017, with an average expenditure of € 2,131.16 per year. Direct expenses for secondary care increased from € 1,565.97 Billion to € 2,215.17 Billion in the same period. Patients appear to be spending less on residential and LTC with an average of € 556.25 Million which would suggest greater state involvement considering the ageing population. Such trends are summarised in figure 10.

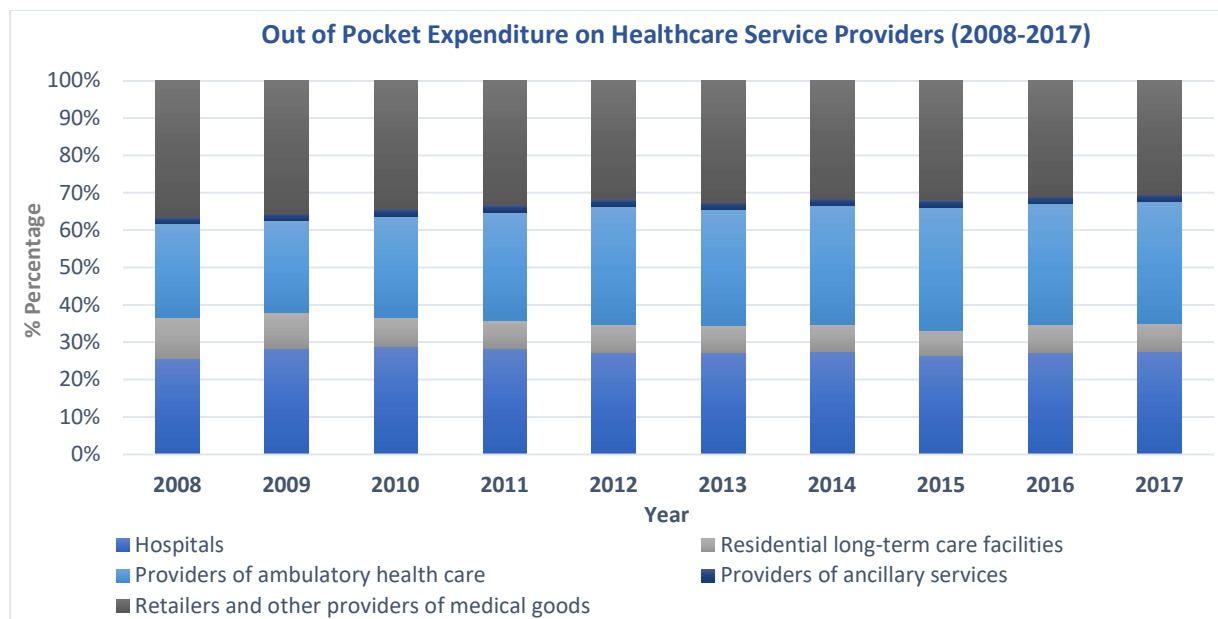


Figure 10. Out of Pocket Expenditure towards Healthcare Providers (2008-2017)
Source: OECD (2020)

Third Party Payer System. Most patients in Belgium pay for their care via cost-sharing according to which the patient pays part of a service and the outstanding amount is covered by INAMI through a sickness fund. This practice is referred to as “third party payer” where the insurer (third party) pays healthcare providers - (second party) directly for their services instead of making the patient pay for everything.

INAMI is the institution which provides sickness funds with their individual budgets and “refunds” their expenses. This is one of the most significant sources of direct government expenditure on healthcare having now reached € 29,463 Billion in 2017, as seen in Table 3. Such refunds include partial or full co-payment of approved health services at primary, secondary care and pharmaceutical services. Such expenditure is part of wider social insurance schemes. Other sources of expenditure on healthcare among those schemes, referred to as indirect expenses include expenditure linked to institutions such as FEDRIS (Federal Agency against Risk), which includes health risks, CPAS “Centre Public d'Action Sociale” which also offers health services to the vulnerable.

	General Government Item	2013	2014	2015	2016	2017
A + B	Final consumption expenditure	95,519.9	97,663.4	98,404.4	100,024.1	102,973.5
A = C + D	Social transfers in kind	60,948.4	62,314.4	63,209.7	65,056.7	67,251.5
C	Social transfers in kind - non-market production	30,145.9	30,693.7	31,032.1	31,826.3	33,025.8
D	Social transfers in kind - purchased market production	30,802.5	31,620.7	32,177.6	33,230.4	34,225.7
	Refunds of the 'INAMI'	26,660.1	27,338	27,904.3	28,536.8	29,463
	Interventions of the FEDRIS	71.7	100.8	10.6	10.2	9.9
	Interventions in the daily price of hospitals	0	0	0	0	0
	Interventions in kind from 'CPAS'	355.1	323.6	277.2	281.3	248.7
	Interventions for the elderly and/or disabled and for childcare	3472.5	3632.6	3760.3	4085.1	4213.7
	Interventions of the 'INIG'	19.9	16.6	12.9	11.4	0
	Other social transfers in kind	223.2	209.1	212.3	305.6	290.4
B	Collective consumption expenditure	34,571.5	35,349	35,194.7	34,967.4	35,722
	Non-profit institutions serving households (Final Consumption exp)	4032.7	4145.7	4402.9	4553	4613

Table 3. Payment of direct and indirect health care providers

Source: National Bank of Belgium (2020)

The current financing of non-medical hospital activities is based on the reforms introduced in 2002. Between the Hospital Act of 23 December 1963, which was the first law to determine a per diem rate per hospital and per department, and the reform of 2002, **hospital financing** was characterized by a gradual move from a retrospective cost-based system to prospective financing. During this period, the “per diem rate” and “day quota” (i.e. the number of days a hospital should provide care given certain predefined parameters) were the central concepts in the financing system. (EHO-KCE, 2010)

About 25% of hospitals are paid based on a combination of: “common services”, based on surface area, number of cases, number of patient days among other items. 47% are paid according to “clinical services” based on volume and type of activity, intensity of nursing services and other activity indicators and approximately 14% of payments are based on “legally required services” and other smaller items. (EC, 2016) Government funding provides for Belgian hospitals mainly through prospective budgeting which subsidises the real cost of many items. Services of accommodation (nursing units), emergency services, nursing and some pharmaceutical services are financed through the same channel. While medical, medico-technical services and paramedical activities are mainly paid via a fee-for-service system to the service provider, an increasing number of such services are refunded or subsidised by third party payers for chronic care patients for instance (according to their eligibility).

Payment of **physicians in hospitals** is not as straightforward. Net fees only cover activities performed by physicians. They are applicable to the provision of surgical, anaesthesia and emergency services. The remaining costs of non-medical staff, consumables and infrastructure are covered by the hospital budget. Physicians receive a fee-for-service for other services not listed previously, through a global fee.

3.3.2 Payment of Primary Care providers

The total amount spent on ambulatory care in 2017 was over €12 Billion, representing more than 25% of CHE. Primary care is part of ambulatory care. Most expenses went to medical practices, as per Figure 11. With an average over €6 Billion per year, expenditure on medical practices accounted for 46% of the ambulatory care budget in 2017. The total funding received by capitation practices amounted to € 150.3 million euros in 2015 and to € 164.9 million euros in 2016. (KPMG, 2018)

Part of the care for some conditions is paid in a care trajectory or ‘convention’. Such trajectories exist for patients with diabetes, pre-diabetes, and chronic renal failure. (KCE, 2012) Such conventions finance an

integrated care trajectory involving different health care providers for patients suffering from a particular disease. Such expenses are likely to increase with the rise of multimorbidity and overall escalating healthcare costs.

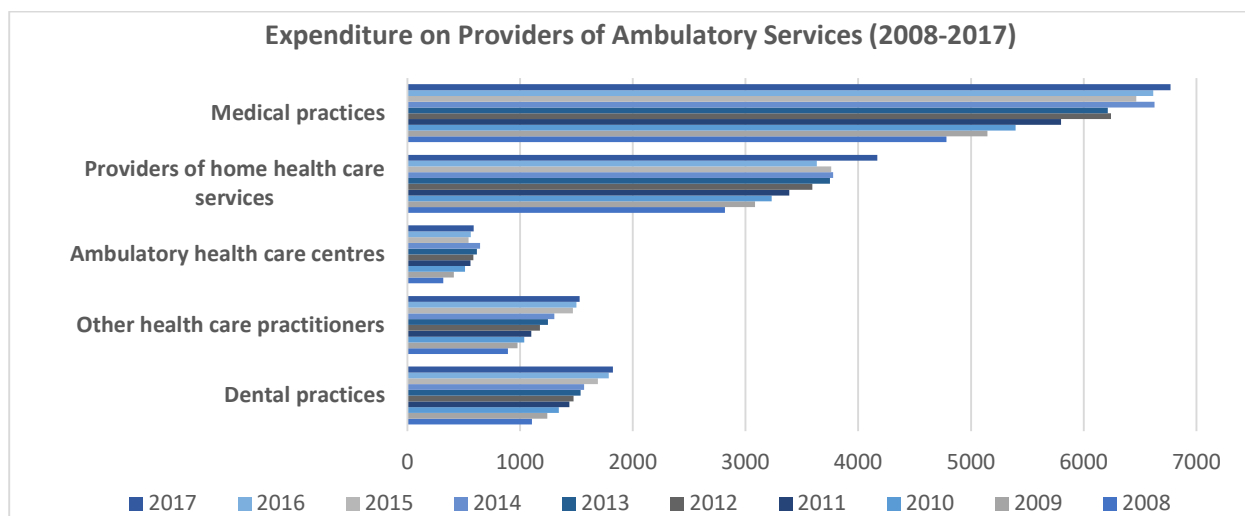


Figure 11. Expenditure on Providers of Ambulatory Services (2008-2017)

Source: OECD (2020)

separate **cost analyses for the capitation practices** were conducted in 2002, 2008 and 2014 respectively. The overall aim of these studies was to assess the monetary implications when comparing individuals benefitting from the capitated system compared to those who did not.

The first study reviewed the expenditure of 8 medical practices and found that differences in capital investment (land, infrastructure) could play a significant role when comparing top-down to micro-costing methodologies when assessing the expenditure incurred in different types of medical practices. Hence, it was found that the average expenditure per patient required to break even under the capitated system should range between € 208 and € 286.68 euros for services to be offered on a more sustainable basis, irrespective of the socio-economic characteristics of patients. (INAMI, 2003)

The results of the second study conducted by KCE was different. The average costs for patients were compared according to socio-economic characteristics and mode of payment. Hence the average expenditure per patient under the capitated system was € 1267 a year (€216 for primary care + € 1051 for secondary care). The average costs per patients with similar socio-economic characteristics who paid fee for service were 1280 (€ 112 for primary care + € 1168 for secondary care). The average cost for those who were more representative of the general population was € 1451. (€ 178 for primary care + € 1273 for secondary care). (KCE, 2008) The quality of services were rather consistent across the different categories concerning chronic conditions such as T2D and HT. Sampling was seen as a potential limitation as patients under each category were not necessarily representative of the entire population following regional variations. For instance those under the capitated system were younger and from a lower-socio economic background compared to the rest of the population.

The third study conducted by INAMI-RIZIV replicated the same approach. Findings estimated the annual expenditure for those under the capitated system at € 2042 (€ 381 on primary care + € 1661 on secondary care). The average annual expenses of those with the same characteristics who paid fee for service was € 2067 (€ 197 on primary care + € 1870 on secondary care) and € 2422 (€ 279 on primary care and € 2143 on secondary care) for those who were more representative of the general population and paid fee for service. The findings were quite consistent with findings from the previous study: the cost of primary care under the capitation system remained higher whereas the overall difference with patients who paid fee for service was quite low. Additional expenditure incurred by those paying a flat rate were attributed to

a different age-structure for that sub-sample. The quality of services was assessed as being higher for those under the capitated system, especially in terms of preventive care. The same limitations seen in the first study were noted in terms of representativeness and differences across regions. Those under the capitated system were younger than those in the other 2 categories but morbidity was higher following potential socio-economic inequalities.

Pharmaceuticals are a major cost centre for both patients, as seen through OOP and third party payers. Measures to improve access to innovative medication through Health Technology Assessment (HTA) have been taken since 2010 as well as through the “pact for the future” since 2015 (KCE, 2019). Both increased quality assurance and market regulation are now required as a result. However, more HTA also needs to be done to improve access to generic medication. A recent innovation in pharmaceutical dispensing is promoting better knowledge management through digital platforms. Hence, the “Virtual Integrated Drug Information System” (VIDIS) project aims to organize and stimulate data sharing and information for providers of ambulatory care, the hospital sector with the patient to better organise drug-related processes such as prescribing, drug dispensing, and 'medication review'. This approach improves interoperability between data sharing systems and optimizes data quality through the use of standards, and authentic sources. (E-Health Federal Plan, 2019)

4. The intermediate objectives of financing

Intermediate objectives in the context of health financing are synonymous with Equity in Distribution, Efficiency and Transparency. Such health financing mechanisms are prerequisites to reach UHC goals. Equity in distribution refers to coverage and how health services are distributed according to both vertical (lower-socio economic strata) and horizontal equity (different groups in society such as the elderly, etc). The efficiency in the healthcare sector usually refers broadly to 2 concepts: technical efficiency and cost savings. Technical efficiency is more concerned with maximising on what is available to avoid waste whereas cost savings focus more on avoiding inappropriate use of resources or inappropriate resources used in some cases. Transparency and accountability refer to resource tracking exercises as a well as access to such documents for both service providers and members of the public.

4.1 Equity in Distribution

The public health insurance schemes covers 99% of the population. (OECD, 2019) However, coverage does not always mean that everyone receives the care required and some individuals are actually acknowledged as being a source of concern. Besides the elderly who may not be fully aware or able to access services, other vulnerable groups not covered by the compulsory public health insurance include migrants (undocumented, asylum seekers and Belgian residents born with a foreign nationality), Prisoners, Drug Users, Sex Workers and the homeless. (KCE, 2019) Such individuals are vulnerable for 2 important reasons: their financial and administrative requirements are not fulfilled.

The outcomes of diabetic services are also a reason for concern. Despite the older population in Flanders, the prevalence of diabetes is highest in Wallonia (76 per 1000) and lower in Brussels (55 per 1000), in absolute terms. Age-adjusted statistics showed that Brussels was actually more affected by Diabetes. It is also estimated that more people in Wallonia remain undiagnosed and thus unaware of their condition. From 2007 to 2017, the prevalence of diabetes has increased in all 3 regions, as a result of both the ageing of the populations and a true increase in the risk of developing diabetes. (Sciensano, 2020) Despite a lower prevalence of the disease when compared to Wallonia, more patients are registered on the patient trajectory in Flanders (West Flanders & Limburg), as seen in figure 12.



Figure 12. Prevalence of Patients on Diabetes Pathway in Belgium
Source INAMI (2016)

4.2 Efficiency

Technical efficiency tends to be measured at hospital level, or in secondary care to ease monitoring. 2 main indicators used in Belgium consist in types of surgeries performed and the length of stay in hospital following minor surgery and after childbirth. Hence the proportion of surgical procedures performed resulting in one-day hospital stays in Belgium has changed from 34.8% in 2000 to 47.2% in 2016. This proportion varied in Flanders (49.5%), in Brussels (45.3%) and in Wallonia (42.9%). Comparison with other countries may be more difficult as the aggregates making up what constitutes the category “one day surgeries” is likely to differ across countries. The average length of stay following a normal delivery was slightly higher with 4.3 days compared to the EU average of 3.15 days. The mean stay of T2D patients in hospitals was 8.3 days vs 8.03 days in the EU-15 and 10.6 days for HT patients vs 6.37 days in the EU-15.

4.3 Transparency & Accountability

Both the National Accounts and National Health Accounts compiled by the Belgian National Bank of Belgium and the Ministry of Social Security every year provide some form of macro-economic aggregates which are useful in resource tracking in broad terms. The National Health Accounts are made available to the public through the OECD and the Eurostats website. As explained in section 3.2, the Budget Control Committee is in charge of proposing and monitoring cost saving measures in collaboration with the Insurance Committee, the General Management Committee and the Ministers of Social Affairs and Budget. These measures are based upon audit reports and are applied in several sectors in order to establish projections and comply with the growth rate and increase of the health care index. Audit reports are published annually, carried out by external financing firms and usually available to the public.

5. The final objectives of health care financing

UHC is an ongoing process which needs to be constantly revisited to reach the outcomes desired and ensure sustainability. UHC goals such as “utilization relative to need”, “quality of care” and “financial protection” are closely inter-linked to the Belgian healthcare market. There are 2 sides to consider when discussing use relative to need: demand and supply. The quality, appropriateness and cost of the services will impact on the type and quantity of care demanded.

5.1 Utilisation Relative to Need

Utilisation relative to need is affected by factors such as expenses incurred, health literacy and services available. This sub-section thus explores the dynamics of services supplied, demanded and unmet needs in the context of Belgian healthcare, before looking at relevant indicators for diabetes and the ICP. The number of acute care bed days per capita is an indicator used to assess the population’s need for acute

care beds and demand for secondary care services and infrastructure. In 2016, 12.4 million days were spent in acute care hospitals (classic hospitalisation only, excluding one day stays) (KCE, 2019). Per capita, this represents 1.1 acute care bed days, which is close to the European average of 1.0 but is high compared to the Netherlands (with 0.5 acute care bed day per capita in 2016). (KCE, 2019)

Health literacy plays an important role in population health, patient decision making and consumption of services. It is generally acknowledged that low health literacy (HL) will impact on lifestyle, decision to access healthcare following in need and self-regulation in some cases. In 2018, 66.6% of people aged 15 and over had a sufficient level of HL, 27.8% had a limited level and 5.6% possessed an insufficient level. (KCE, 2018) Thus, in overall terms, one third (33.4%) of the Belgians aged 15 and over had a low level of HL, and as such have limited capacities to access, understand, appraise and /or apply information about health. (KCE, 2018) Men were more likely to have a sufficient level of HL than women: 68.3% of men compared to 65.0% of women had a sufficient level. People aged 75 and over were significantly less likely to have a sufficient level of HL (54.5%) compared to younger age groups (rates ranging from 63.0% to 72.5% for those aged 25-74). HL was higher in Flanders than in other regions. The level of HL increased significantly with the education level: 71.7% of people with a higher education diploma had a sufficient level of HL, 65.2% of those with a high school diploma, 55.4% of those with a lower secondary diploma, and 43.2% of those with a primary diploma or no diploma.

Several measures have been implemented by RIZIV-INAMI (diabetes passport, care trajectories for chronic diseases and convention for diabetes self-management) to expand the array of services provided to diabetic patients. According to official figures summarised in table 4 the proportion of patients under insulin registered in a diabetes care model is now stabilising at around 90% (mainly via conventions), while the number of patients using oral anti-diabetics or non-insulin injectable solutions, remains low when receiving care under such a model (20%, half diabetes passport, half care trajectory). (KCE, 2019)

Utilisation of Diabetic Chronic Care						
Year	Indicator	Belgium	Flanders	Wallonia	Brussels	Source
2013	Proportion of adult diabetics with appropriate follow-up (% of diabetic patients under insulin)	67.8	71.6	61.5	66.6	(IMA – AIM)
2013	Proportion of adult diabetics with appropriate follow-up (% of diabetic patients not under insulin, aged 50+)	43.4	43.5	42.2	47.9	(IMA – AIM)
2016	Proportion of adult diabetics with appropriate follow-up (% of diabetic patients under insulin)	30.2	32.5	26.0	31.1	EPS (IMA – AIM)
2016	Proportion of adult diabetics with appropriate follow-up (% of diabetic patients not under insulin, aged 50+)	11.0	11.3	10.2	13.1	EPS (IMA – AIM)

Table 4. Appropriateness of Chronic Care (Diabetes)
Source KCE (2015 & 2019)

5.2 Quality of Care

Patient satisfaction for the amount of time physician spent during a consult as well as quality of advice provided was higher in Belgium than in the EU 15 region (97.5% vs 87.1% for patient satisfaction and 98.1% vs 91.1% for quality of explanation. (OECD,2011) Despite the high overall patient satisfaction noted, the need for increased investment in preventive services to reduce preventable mortality in Belgium is felt following the higher rates of preventable mortality compared to 15 European countries. Causes of preventable deaths include accidents, chronic respiratory diseases, alcohol-related diseases, suicide and lung cancer. (OECD, 2019) Such deaths can be prevented by adequate public health measures. Lives claimed by treatable causes of mortality include colorectal cancer, breast cancer, pneumonia, ischaemic

heart diseases and stroke which are closely related to chronic diseases such as T2D and HT. Preventable admissions due to complications from T2D are used as an indicator to monitor the effectiveness of the health system, especially in primary care. (KCE, 2019) For the purpose of this report, a similar indicator for HT is used. The number of preventable admissions linked to T2D was 130 per 100,000. The parallel number of preventable admissions for HT was 14.1 per 100,000. (KCE/OECD, 2020) Both indicators are relatively low compared to other countries but remain significant in the Belgian context. Such figures also suggest a need for greater quality in the services provided to diabetic patients which also has economic implications following loss to follow-up, as illustrated in figure 13. Unknown cases and gaps in coverage would potentially imply higher direct and indirect costs in the long-term.

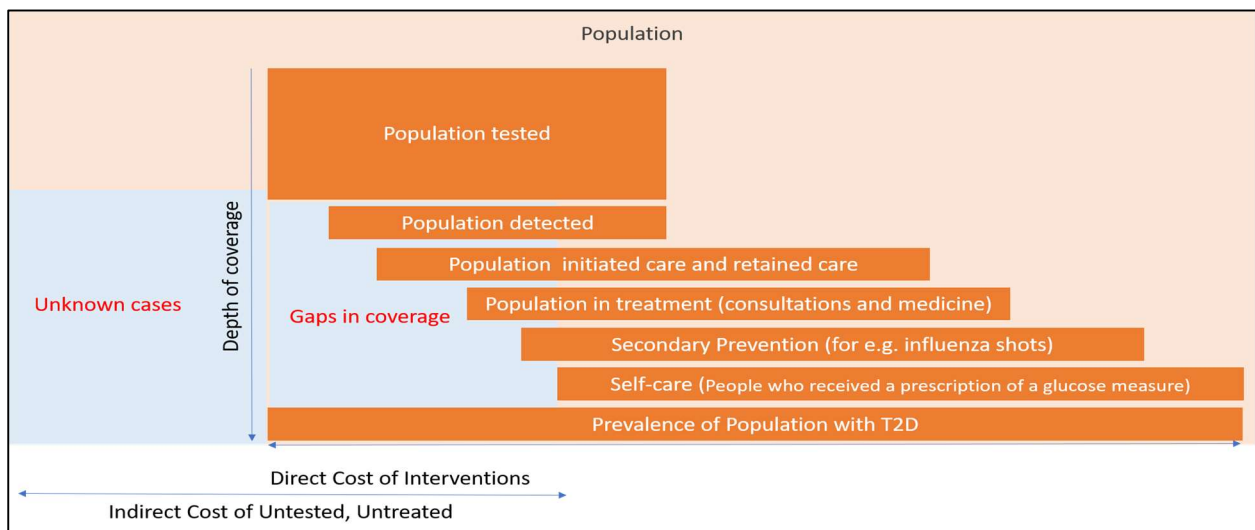


Figure 13. Cost of implication of cascade of Care for Diabetes & Hypertension
Source: SCUBY (2019)

5.3 Financial Protection and cost from the patient perspective (Deliverable 3.3)

The Belgian health insurance system gradually transitioned towards **universal health coverage** in the 60's after managing to include the self-employed and individuals working in the informal sector. (EHO/KCE, 2011). From 1998 onwards, all beneficiaries of compulsory health insurance were covered either under the general scheme (for minor and major risks) or the scheme for self-employed workers (for major risks). Since 2008, all beneficiaries are covered for both minor and major risks. (EHO/KCE, 2011) Next to the compulsory package of essential packages, quite some people have voluntary health insurance (both complementary and supplementary). This form of insurance can increase some benefits received such as a single hospital room when admitted as an inpatient. "Voluntary Health Insurance schemes" were worth € 2,315.63 Billion in 2017. (OECD, 2020)

There are different systems in place to ensure **financial protection**. These include: the capitation system in a small proportion of primary care practices, a maximum billing system for vulnerable people, and care trajectories for people with specific conditions. Medical fees are partially reimbursed by the sickness fund. A structural measure to reconcile social protection and access to healthcare for the vulnerable referred to as "maximum billing" was introduced in 2001. This approach does encourage individuals to take responsibility for their consumption while allowing households found in both the highest earning quintiles to benefit from it according to need which is assessed from a family's net taxable income. This creates an annual "threshold" which should not be exceeded for health care expenses in different households.

Notwithstanding the protection schemes and measures, **household health spending patterns** can point to some challenges in accessing healthcare and in obtaining financial protection against the cost of services. The proportion of OOP in Belgium as a part of total health expenditure is 20%. OOP is 82% of the private health expenditure, and patient co-payments cover a broad scope, although exceptions for elderly patients and chronic patients (partially) exist.

The SCUBY team has done a qualitative survey among vulnerable patients with T2D and/or HT to examine the financial barriers, alongside with other barriers to cost (Deliverable 3.3). The Research Questions (RQs) for this study were: 1) what is the variation in care and support experienced and available, by PWD and what is the influence of other context and patient-related factors? 2) What are incentives and barriers to care and self-management for PWD? 3) What are core drivers of out of cost for their disease? Patients, were purposively selected through a continuum sampling strategy. An inductive thematic analysis, using semi-structured interviews was used. Seven themes were mentioned by participants: (1) financial aspects, (2) supporting assistive devices (3) the care process, (4) psychosocial aspects, (5) lifestyle, (6) quality of care, (7) distance to care. On the one hand, the results show that related factors can impede the care for the patient’s condition to an important extent. On the other hand, patients also report several aspects that can affect their well-being in a positive way. From the results, we concluded that vulnerable people experience multiple barriers to care and self-management, even in a high income country like Belgium. Whereas some relate to the patient context, others are linked organizational care elements. These findings point to the need to assess any scale-up strategy for the potential to reduce the barriers for patients through reducing financial barriers, supporting informal care next to formal care and ensure that psychosocial aspects can be addressed in care models.

Unmet need. 8% of Belgian households claimed they had to postpone healthcare (medical care, surgery, dental care, prescribed medicines, mental healthcare, eyeglasses or contact lenses) for financial reasons in 2013. Unmet healthcare needs for financial reasons may imply that agreed tariffs and the share of fee supplements need to be examined. More recently the survey carried out by European Statistics on Income and Living Conditions (EU-SILC) showed that 1.8 % of the Belgian population could not access medical services for financial reasons, which is higher than the EU-15 average of 1.2%. (Eurostat, 2019)

Unmet needs for medical examinations due to financial reasons may ultimately lead to **catastrophic health expenditure**, especially among the elderly as noted in Belgium in 2016. (Arsenijevic, J et al, 2016) Figure 14 shows the gradual increase in OOP since 2008 and the parallel increase in unmet needs recorded which has slightly declined in recent years. In 2017 unmet medical needs in the Belgian context was higher than in many European countries. (Eurostat, 2018) Catastrophic health expenditure is relatively high, and associated with the presence of diabetes and cardiovascular disease.

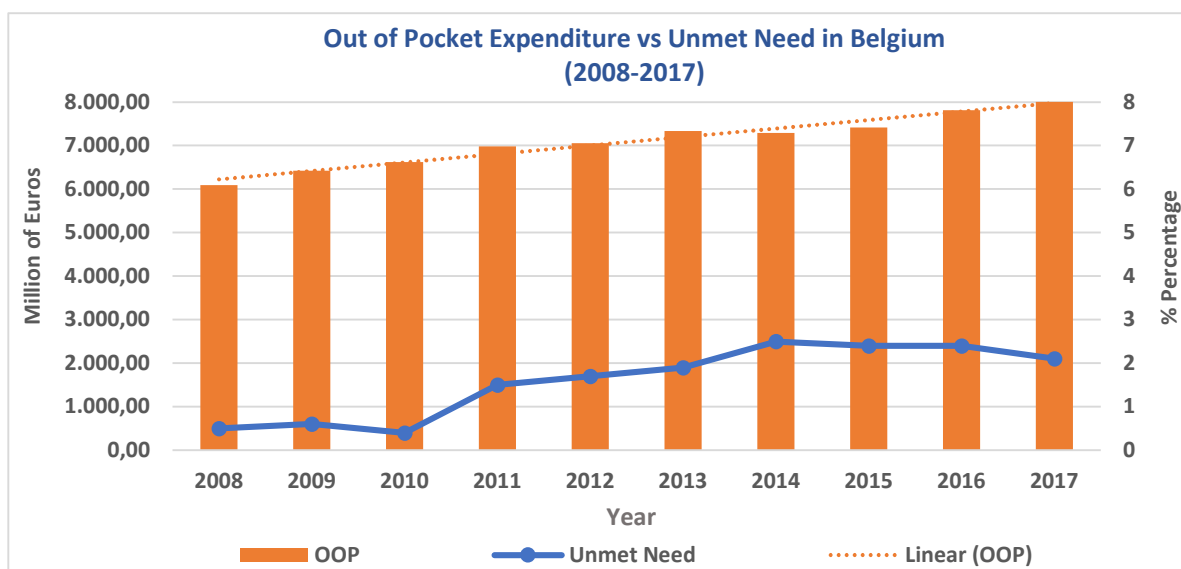


Figure 14. Out of Pocket Expenditure vs Unmet Need in Belgium (2008-2017)
Source: Eurostat (2020)

6 Discussion

While every national health system aims to meet the needs of its population, service delivery is often the product of contextual factors negotiated between providers and consumers of services, which are in turn

influenced by wider governmental, socioeconomic, demographic and financial policies. This is also seen in the Belgian context.

Investing in integrated care for T2D and HT is worth considering following the increasing threat which chronic conditions represent. The following sub-sections discuss potential learning opportunities from best practices and a SWOT analysis for a more integrated care package for chronic conditions.

6.1 Provider payment strategies

One of the key issues in the literature concerning successful integrated care is the **provider payment strategy**. Countries such as Austria, France, the Netherlands and Germany have implemented payment schemes such as PFC (pay-for-coordination), PFP (pay-for-performance) and bundled payments that are designed to promote the integration of chronic care. (Tsiachristas et al, 2013) The implemented payment schemes targeted different stakeholders depending on the structure of each individual health system. The PFC implementation in Austria, Germany and France was perceived as the most successful in increasing collaboration within and across healthcare sectors. The PFP implementations in France were instead perceived as the most successful with regard to the improvement of other indicators of quality of care.

The success of payment schemes depends on the context-specificity of the health system. Hence, a combination of different schemes may be more effective at overcoming the barriers of each individual scheme. (Tsiachristas et al, 2013) In Belgium, where the need to reform provider payment mechanisms has been discussed extensively, (Annemans et al, 2009) this could imply **embracing the existing variation across and within regions**, rather than adopting a one size fits all approach. Holding open dialogues with stakeholders to explore barriers and ways to overcome them over a defined timeline could yield important insights and help in identifying enablers of change.

Evaluations have identified barriers to implementation at operational and higher levels. Such barriers need to be addressed. The professional barriers for successful implementation include: distrust in the competence of others, high case load and unrealistic expectations; fear of boundary crossing, unwarranted task shifting across occupational groups; unclear allocation of responsibilities, lack of knowledge, lack of feedback among teams; inadequate training; lack of guidelines, suboptimal clinical engagement. Additional organisational or system level barriers include: lack of cooperation between organisations, teams or professions; lack of resources, wrong incentive structure in place and fragmented budgets; lack of visionary leadership, lack of interest and commitment from leadership, high leadership turnover, not enough continuity; underutilised information technology, incompatibility of information and high administrative burden.

A concrete negative outcome of the failure to adopt integrated care is the increase in the volume of consults and stays at hospital level for T2D and HT patients. One way to assess the impact of provider payment scenarios for integrated care would be to run a micro-simulation on the volume of hospital stays and quality of care (avoidable admissions) over a 10 year to 20 year period, based on an ageing population.

6.2 Legal and regulatory reform

The implementation of multidisciplinary teams also requires laws and regulations that allow task distribution and data sharing. A German case study shows the effect of legal changes. **Changes in the legal framework and reforms of the health system** have been implemented over more than a decade to promote innovative medical care structures and disease management programmes (DMPs), integrated care contracts, community nurse programmes, the introduction of GP-centred care contracts, and new opportunities to offer interdisciplinary outpatient care in polyclinics (Fullerton et al., 2011). However, only 10% of the population were covered by such mechanisms of healthcare delivery by the early 2010s (Geraedts, 2014). Since then, the German government passed the Health Care Strengthening Act in 2015 with a strong patient-focused integrated care drive, offering extensive freedom of contract and allowing for need-driven and regional solutions, as well as substantial start-up funding allowing for innovative endeavours in this area (Milstein and Blankart, 2016).

6.3 Decentralisation and autonomy of health care organisation

Decentralisation allows for contextualisation of health care delivery according to local needs. Often, the lack of decentralised financing mechanisms constraints impacts decentralised healthcare delivery. An interesting successful decentralisation health care delivery model for nursing care in the Netherlands is the Buurtzorg model, which ensures quality by **allowing nurses to lead the assessment, plan and coordinate patient care**. The model consists of small self-managing teams of up to 12 professionals (comprising both nurses and other allied health professionals). These teams provide coordinated care for a specific catchment area, typically up to 60 patients. The composition of these teams in terms of specialty and level of practice varies according to the needs of each catchment area. Such teams care for a range of patients with chronic conditions or who require home care following major surgery. Giving such groups more autonomy has resulted in major cost savings in terms of bureaucracy and client expenditure compared to other options adding to € 2 Billion saved per year. Despite not being a for profit organization this structure still managed to generate some revenue (4%) and to attract top nursing graduates.

6.4 SWOT analysis

The SWOT analysis carried out and summarised in Table 5 outlines the strengths, weaknesses, opportunities and threats of the current health financing system towards the scale-up of integrated care for chronic diseases (by example T2D and HT), while minimising unintended costs.

6.4.1 Strengths

At the macro-economic level Belgium is a **stable economy** which balances investment in healthcare against societal risk, as seen during economic downturns over the past 12 years. The overall welfare system is based on social solidarity through taxation on wages and redistribution for maximum social risk sharing and protection which also extends to health risks. Both the **decentralisation** of health administration following the 6th state reform and resources injected into pilot projects to strengthen primary care show the existing **political commitment** towards improving chronic care. The ratings given to patients to the quality of care received also points to overall consumer satisfaction compared to neighbouring countries.

The budgeting process for healthcare allows for discussions at different levels from the micro to the macro-level. Advantages linked to having a liberal and pluralistic service provision is that such a system allows patients to choose service providers freely while medical practitioners are self-employed. This maintains some form of competition among providers who commit to providing quality care. Moreover, consultation fees are regulated and there are mechanisms favouring health equity and financial protection. 99% of the population is covered by national health insurance. There is also a strong evaluation culture, through monitoring of routine data by governmental organisms (for e.g. KCE and Sciensano) and through research on healthcare, carried out by academia, think tanks and consulting firms with a focus on chronic conditions and primary care.

6.4.2 Weaknesses

The ageing population at societal level **increases the dependency ratio**. This partly explain the recurring decrease in revenue generated through social health insurance and resulting increase in government financing schemes generated through other sources of revenue. Preventable hospital admissions among patients with chronic conditions are likely to inflate direct costs to patients as well as decrease the overall efficiency of services. While there is a wealth of **data** available at many different levels of governance, national aggregates on morbidity and subsequent healthcare costs are not readily accessible for evaluation and steering.

The regional **variance** in the prevalence of T2D and HT and the availability of care is a source of concern. There are more people with these conditions in Wallonia, yet more patients are enrolled in the diabetes

care trajectory in Flanders. 1% of the Belgian population, deemed vulnerable, remains without health coverage and hence do not have access to services which could be accessed for free. The healthcare needs and barriers faced by such sub-groups within this small population remain unknown.

A disadvantage in the budgeting process at the moment is the absence of a disease specific line item, implying that there are **no disease specific funds earmarked for NCDs**. This prevents direct resource tracking and performance-based financing from the perspective of chronic conditions while keeping the debate on the cost efficiency and effectiveness of current guidelines open. The perceived responsiveness and autonomy of a more decentralised financial system with internal reallocation of funds is deceiving in some cases. The disconnect between operational decentralisation and the lack of the decision space for financial reallocation was very visible in the Integreo projects. The reallocation of funds also suggests the creation of new internal structures within entities which did not administer any such matters previously and the potential loss of efficiency along the way.

6.4.3 Threats

Macro-economic factors and areas of public finance are a source of concern for the overall welfare of Belgium especially during recessions. Such potential problems are likely to increase the public deficit and limit government investment, as planned in the absence of appropriate stimulus packages. The overall annual growth in health expenditure compared to GDP implies the need to adhere more closely to cost containment measures taken by the government. An increase in expenditure on ambulatory services and hospitals might also lead to **increasing OOP** which in turn is likely to increase unmet needs.

Patient empowerment at societal level is key in preventing and mitigating the impact of chronic conditions by helping to regulate behaviour and consumption of services. Yet, **the lower levels of health literacy** noted in some of the regions which are the most affected by NCDs are likely to impact rational use of integrated care. Health literacy and lack of patient empowerment are a direct result of **inappropriate allocation to preventive services** which need to be revised to improve self-management over a long period of time.

Integrated care for chronic conditions is a **competing concern** within the overall health system. Other threats include providing LTC for an ageing population. Both sectors require careful planning and balancing of resources and may overlap at times, adding to the complexity of practical and policy decisions to be made. Despite several layers of decision making, healthcare decisions are subject to path dependency and are thus informed by existing weaknesses such as lack of human resources and inappropriate consumption patterns (e.g. medication).

The initial investment required to scale-up integrated care may not be as straightforward, leaving room for resistance to change at policy, operational and occupational level. **Several projects aiming to reform primary care are taking place at the moment**. Many are being conducted simultaneously, each with their own priorities and vision. This suggests the following risks: fragmented interventions, information overload for decision makers, competition and the need for constant environmental scanning for providers, as well as not taking enough time for in-depth evaluation, reflection and learning from past experiences for all actors involved.

6.4.4 Opportunities

Innovative public finance and government interventions represent key drivers of change which need to be harnessed for innovative healthcare delivery. The government's investment strategy includes **digital technologies and healthcare**. Such measures represent a significant opportunity for integrated care considering the need for telehealth and the shortage of human resources in specific geographic areas. Taxes could be an important source of revenue for chronic care given the growing importance of government schemes in funding healthcare.

Many **innovative projects** provide opportunities for scale-up. Multidisciplinary care can take many shapes as shown by the complementary nature of the work carried out by community health workers in Gent who provide services at cross-roads between chronic care, geriatric care and social assistance. This synergy is to some extent reflected in the underlying sources of funding for such a service which include other revenue streams. Other local projects include multisectoral mental health networks which have a high impact through skilful regionalization and service delivery redesign.(WHO, 2019) Such mental health teams are funded through a hospital budget but operate in the community. Best practices from neighbouring European countries such as Germany and the Netherlands appear as viable in the Belgian context.

There is a **felt shortage of GPs** in Belgium, seen for instance in vulnerable urban neighbourhoods or rural areas. (INAMI, 2019). Given this fact, it is possible that task shifting to nurses and other health professionals, as well as increased training campaigns (Continuous Professional Development and student recruitment) will become increasingly viable options.

More decentralised health financing could be an opportunity for regionally responsive care, provided that budgeting mechanisms and such novel arrangements are aligned. If combined, a real double risk pooling function would occur and allow for appropriate resource allocation at both the macro and meso, level based on both need and capacity.

Directly related to Health System Financing	Indirectly related to Health System Financing
Strengths	
<ul style="list-style-type: none"> Highly decentralised and democratic budgeting process Pluralistic, choice oriented. 99% health coverage Equity oriented: Conventions & maximum billing Strong evidence-base for interventions 	<ul style="list-style-type: none"> Wealthy economy: adequate purchasing power Principle of social solidarity Political Commitment Patient satisfaction with service, lower waiting time compared to EU
Weaknesses	
<ul style="list-style-type: none"> No NCD specific budgeting, resource tracking and outcome monitoring mechanism Layered and potentially bureaucratic (several ministers of health) Escalating healthcare costs: primary & secondary care Modest allocation to non-curative & rehabilitation services 	<ul style="list-style-type: none"> Ageing Population Arguably : decrease in taxation on wages and increase in government financing schemes Preventable Hospital Admissions/Quality Low enrolment in GP practices Fragmentation of services and health information system Regional variance in prevalence and availability of care Unequal access for vulnerable groups Human Resources
Opportunities	
<ul style="list-style-type: none"> Decentralised health financing & double risk pooling function following the state reform Medication: review of prescription patterns (over-prescription), generics and biosimilars New approach to provider payment Digitisation/Global Medical Dossier 	<ul style="list-style-type: none"> Government Investment Plan Synergy with Social Security e.g. Community Health Workers in Ghent Pilot Projects: Integreo Best Practices from other countries Mental Health Networks in Belgium
Threats	
<ul style="list-style-type: none"> Competing concerns and shift in priorities Information overload and rate of change 	<ul style="list-style-type: none"> Modest GDP growth and over-reliance on consumerism Health Literacy

Table 5. SWOT of the Belgium Health financing system for the scale-up of integrated care for T2D and HT

7.0 Conclusion and Recommendations

This report has outlined the complexity of the Belgian health financing system with a view to trigger evidence-based change for integrated care for chronic conditions such as T2D and HT. While resistance to change is to be expected at different levels, the identification of potential drivers and enablers for the reform facilitate better preparation and implementation of scale-up. (EC, 2020)

The following recommendations can be considered during policy dialogues for scale-up:

- To investigate and address financial and other barriers among groups deemed to be vulnerable
- To analyse morbidity-related expenditure and major cost centers to assess the fiscal space, inefficiencies and determinants
- To model the effect of alternative provider payment scenarios on the care process, health care utilization and expenditure
- To create a health financing subgroup within the policy dialogues held by WP5 to leverage on existing systemic and institutional knowledge to discuss different scenarios.

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