

QUANTIFICATION OF SCENARIO-BASED ALTERNATIVE ASSUMPTIONS FOR THE BELGIAN GP WORKFORCE MODEL 2025-2045



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Acknowledgements:	We would like to acknowledge the following persons for their contribution to the report: Jean-Luc Belche (ULiège), Marion Birstill (Inner Ripple), Thomas Boeckx (Departement Zorg), Joanna Geerts (Federaal Planbureau – Bureau fédéral du Plan), Sophie Gerkens (KCE), Karen Geurts (Federaal Planbureau – Bureau fédéral du Plan), Véronique Letocart (UCLouvain), Patricia Chavez Mejia (SPF SPSCAE – FOD VVVL), Didier Giet (ULiège), Paul Herijgers (Universitair Ziekenhuis Leuven (UZ Leuven)), Edouard Louis (ULiège), Victor Maton (Institut national d'assurance maladie-invalidité – Rijksinstituut voor ziekte- en invaliditeitsverzekering (INAMI – RIZIV)), Sarah Missinne



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Reported interests KCE members:

KCE is a federal institution funded by INAMI/RIZIV, by the Federal Public Service of Health, Food Chain Safety and Environment, and by the Federal Public Service of Social Security. KCE's mission is to advise policymakers on decisions relating to healthcare and health insurance on the basis of scientific and objective research. It is expected to identify and shed light on the best possible solutions, in the context of an accessible, high-quality healthcare system with due regard for growing demand and budgetary constraints.

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Reported interests:

All experts and stakeholders consulted within this report were selected because of their involvement in the topic of GP workforce. Therefore, by definition, each of them might have a certain degree of conflict of interest to the main topic of this report.

Layout:

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- **Several external experts (cf. supra) were consulted about a (preliminary) version of the scientific report. They were selected based on their expertise in the topic of this report; potential conflicts of interest were considered in this process. Their comments were discussed during meetings and/or via email. They did not co-author the scientific report and do not necessarily agree with its content.**
- **Subsequently, the KCE research team invited three independent experts ('validators', cf. supra), with no prior involvement in the study, to conduct a peer review of the final version of the scientific report. They were selected based on their expertise in the topic of this report; potential conflicts of interest were considered in this process. The validators decided whether or not the report was scientifically valid. They did not co-author the scientific report and did not necessarily all three agree with its content. Their name and affiliation are included in the colophon.**
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Publication date:	02 July 2026
Project number:	2024-05
Domain:	Health Services Research (HSR)
MeSH:	Health Manpower, General Practitioners, Forecasting, Health Planning, Health Services Needs and Demand
NLM Classification:	W76
Language:	English
Format:	Adobe® PDF™ (A4)
Legal depot:	D/2026/10.273/38
ISSN:	2466-6459
Copyright:	KCE reports are published under a “by/nc/nd” Creative Commons Licence http://kce.fgov.be/content/about-copyrights-for-kce-publications .



How to refer to this document?

Lefèvre M, Bourgeois J, Savoye I, Benahmed N. Quantification of scenario-based alternative assumptions for the Belgian GP workforce model 2025-2045. Health Services Research (HSR) Brussels: Belgian Health Care Knowledge Centre (KCE). 2026. KCE Reports 421. <https://doi.org/10.57598/R421C>.

This document is available on the website of the Belgian Health Care Knowledge Centre.



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LIST OF ABBREVIATIONS

ABBREVIATION	DEFINITION
AI	Artificial intelligence
ASI	Association de santé intégrée
BIHR	Belgian Integrated Health Record
BIM	Bénéficiaire de l'intervention majorée
CfWI	Centre for workforce intelligence
CPAS	Centre public d'action sociale
DMG	Dossier médical global
EBM	Evidence-based medicine
EPS	Échantillon permanent/Permanent steekproef
FTE	Full-time equivalent
FOD VVVL	Federale overheidsdienst volksgezondheid, veiligheid van de voedselketen en leefmilieu
FPS	Federal Public Service
GDP	Gross domestic product
GLEM	Groupe local d'évaluation médicale
GMD	Globaal medisch dossier
GMR	Global medical record
GP	General practitioner
ICT	Information and communication technologies
INASTI	Institut national d'assurance sociales pour travailleurs indépendants
LOK	Lokale kwaliteitsgroep
NIHDI	National institute for health and disability insurance
OCMW	Openbaar centrum voor maatschappelijk welzijn
OLS	Organisation locorégionale de santé
ONSS	Office national de sécurité sociale
PROMES	PROjecting Medical Spending
RSVZ	Rijksdienst voor sociale verzekeringen der zelfstandigen
RSV	Rijksdienst voor sociale zekerheid
RVT	Rechthebbenden op de verhoogde tegemoetkoming
SD	Standard deviation
SPF SPSCAE	Service public fédéral santé publique, sécurité de la chaîne alimentaire et environnement
UK	United Kingdom
VIHP	Verpleegkundige in de huisartsenpraktijk

■ SCIENTIFIC REPORT

1 INTRODUCTION

1.1 Context

The Belgian federal government created in 1996 the Federal Planning Commission – Medical Supply to guarantee accessible, effective, and high-quality care.¹ This Commission is mandated to assess and project workforce needs across several healthcare professions, including doctors, dentists, physiotherapists, nurses, midwives, and speech therapists.¹ Its role consists of providing non-binding recommendations on human resource planning to the federal Minister of Social Affairs and Public Health. The Federal Planning Commission has 72 members representing various institutions, including representatives of universities, professional organisations in the healthcare sector, sickness funds, the National Institute for Health and Disability Insurance (NIHDI), authorities of communities, and offices of the Ministers of Social Affairs and Public Health.

To fulfil its mandate, the Federal Planning Commission is supported by the Planning Unit for the Supply of Health Care Professions, which offers administrative, technical, and mathematical expertise. The Planning Unit develops quantitative models to estimate current workforce levels and to forecast future workforce needs (see chapter 4). Regarding general practitioner (GP) workforce, this model is further referred to as the “the GP workforce projection model”. In addition, the Federal Planning Commission establishes specialised working groups responsible for interpreting how modelling results should inform the annual assessment of medical workforce requirements. The work of the Federal Planning Commission concludes with a recommended number of medical doctors.

Based on this non-binding recommendation, the federal Minister of Public Health determines the annual official number of medical doctors whose care activities may be reimbursed by NIHDI. This number takes the form of a quota system, consisting of an overall federal quota stratified into community-level quotas.¹ While the federal level sets the global quota for each community, the federated entities – through their respective planning commissions, namely the *Commission de planification francophone de l’offre médicale* and the *Vlaamse Commissie voor de Planning van het Medisch Aanbod* – are responsible since 2014 for recommending how this global number should be distributed across medical specialities, including general medicine (also called sub-quotas).

Community and regional ministers of health and education hold responsibility for designing and implementing policies governing the training and supply of professionals in each specialty (see chapter 3.1).

1.2 Objective and scope of the report

The Federal Planning Unit has mandated KCE to formulate alternative assumptions regarding the evolution of the parameters of the GP workforce projection model (see chapter 4). The following research questions are thus formulated:

1. How will the profession of general practitioners evolve over the next 20 years, given the anticipated demographic, economic, technological, and organisational changes?
2. How may these evolutions affect the parameters of the GP workforce projection model?

The mission of KCE was limited to the development of alternative assumptions while the Federal Planning Unit will consider whether and how to integrate them into the workforce model, to calculate the number of GPs needed in the future. Therefore, the present report does not address the gap analysis between the demand and supply of GPs. It also does not provide an in-depth assessment of the current GP workforce projection model used to calculate federal quotas, nor include a forward-looking policy analysis (i.e. identifying which policies should be implemented to achieve a future as described in the scenarios – see chapter 5). Finally, determining the number of medical



students each community would need to train in order to meet healthcare demand under each scenario also falls outside the scope of this study.

2 METHOD

As previously experimented by the Centre for Workforce Intelligence (CfWI) in the UK (see supplement), this report adopted a multimodal approach integrating scenario generation, qualitative and quantitative methods.

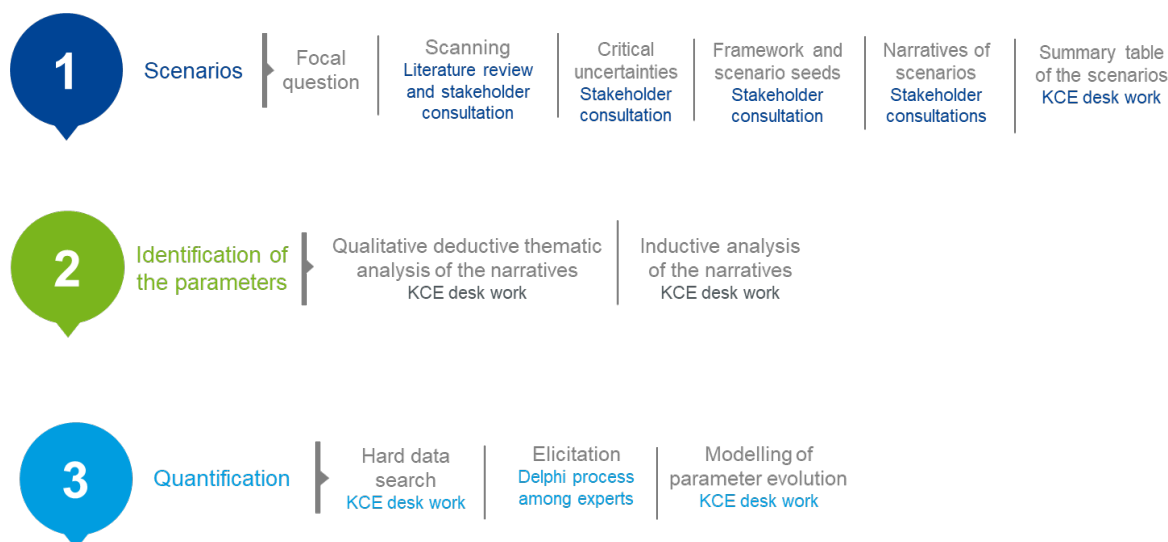
Scenario generation is a stakeholder-driven process used to explore potential futures. To answer the first research question, this technique integrates a literature review and workshops with GPs to produce narratives describing the potential futures of general medicine in Belgium in 2045. The detailed method of scenario generation used in this report is described in section 5.2. Additional information on the scenario methodology can be found in KCE report 410.²

The KCE research team then analysed the narratives to identify which parameters of the GP workforce projection model would be affected by the evolutions in general medicine as described in each scenario.

Based on this analysis, the evolution of the identified parameters was quantified using past trend data adjusted by expert opinion stems from an elicitation process. The latter was based on a Delphi protocol and was employed when hard data were unavailable to inform the future evolution of a parameter in each scenario. Details about the quantification method are provided in section 6.2.

Figure 1 gives an overview of the methodological steps used in the report.

Figure 1 – Overview of the methodology for generating alternative assumptions for forecasting the GP workforce



Note: For detailed methods and results, please refer to chapter 5 for phases 1 and 2 and chapter 6 for phase 3

In this report, the scenarios on the future of general medicine are only used as a tool to identify the parameters whose trend would be affected in the future. They are not used to describe the future of general medicine nor to identify the required policies to achieve such future.

3 ORGANISATION OF GENERAL MEDICINE IN BELGIUM

KEY POINTS

The characteristics of organisation of general medicine in Belgium are as follows:

- Training:

Becoming a GP in Belgium requires nine years of education: a six-year medical degree followed by three years of postgraduate GP training, aligned with European standards.

Admission to medical school is based on a *numerus fixus* system (i.e. an entrance exam combined with a quota ranking system):

- Access to GP specialisation also involves competitive selection, which differs between the French- and Flemish-speaking communities.
- The federal government sets overall quotas for doctors, while the regional communities determine sub-quotas by specialty and manage the organisation of education and training.
- GPs are primary care providers who serve as the initial point of contact in the broadest sense for individuals with health concerns. They coordinate care, ensuring continuity, prevention, and overall patient management. However, there is no gatekeeping, i.e. patients can consult specialists directly without a GP referral.
- GPs work in solo practices or, increasingly, in group practices. The practices are mainly funded through fee-for-service. A smaller proportion use capitation. A new mixed model named “New Deal” has emerged very recently.
- Despite policies aiming to strengthen primary care, there are early signs of a potential GP shortage.

3.1 Training

Since 1991, general practitioner has been formally recognised as a distinct professional medical title, requiring specific postgraduate training and formal certification.³ To bring Belgian medical training into line with European standards,^{a4, 5} two major legislative reforms were introduced. As a first step, the duration of postgraduate training in general medicine was extended from two to three years in 2010.⁴ Subsequently, in the 2016-2017 academic year, the undergraduate medical curriculum (leading to a Master’s degree in Medicine) was shortened from seven to six years.

Overall, although these reforms substantially restructured the training pathway (from a seven-year undergraduate curriculum followed by a two-year GP specialisation to a six-year undergraduate curriculum followed by a three-year GP specialisation), the total duration of GP training in Belgium remained unchanged at nine years. As a result, in 2025, qualification as a GP in Belgium requires the successful completion of a six-year medical degree, followed by a three-year postgraduate training programme in general medicine.

^a Directive 2005/36/EC - Article 24: Basic medical training shall comprise a total of at least six years of study or 5 500 hours of theoretical and practical training provided by, or under the supervision of, a university.

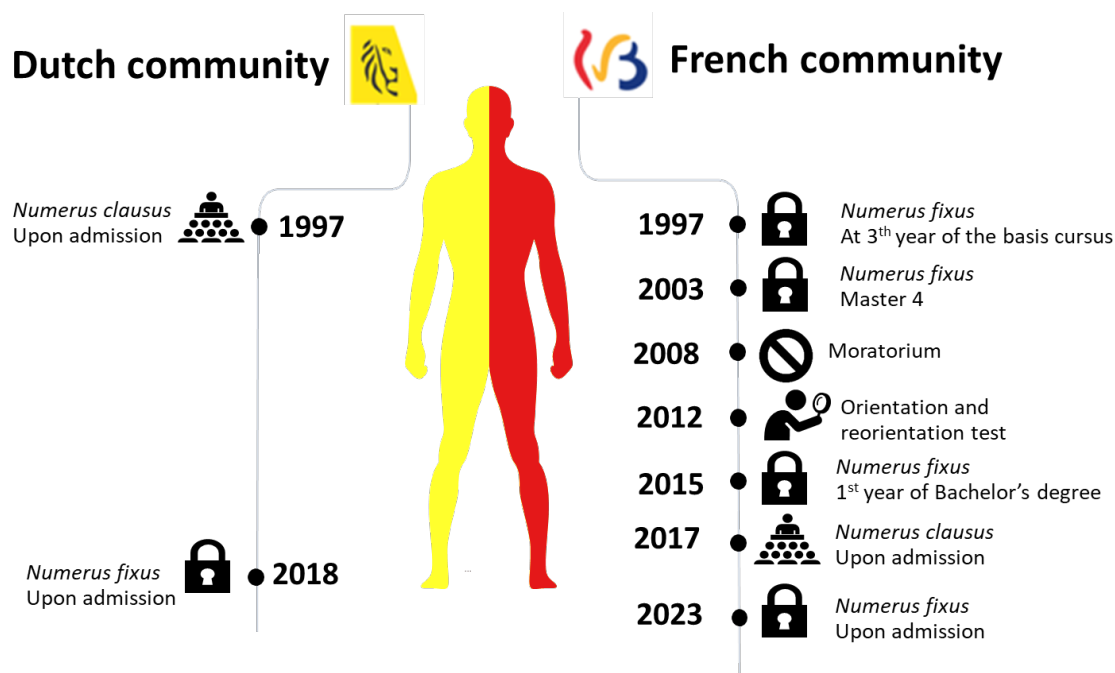
Article 28: From 2025-2026, specific training in general medical practice shall be of a duration of at least three years on a full-time basis with at least six months in an approved hospital possessing appropriate equipment and services and, on the other hand, for at least six months as part of an approved general medical practice or an approved centre at which doctors provide primary health care.

As mentioned above, the assessment of requirements regarding the supply of healthcare professionals is a federal responsibility. Since the 6th State Reform in 2014, the regulation of the number of healthcare professionals has been the responsibility of the communities, while respecting the overall number set by the federal authority. The federal state therefore remains responsible for the overall quotas in medicine, while the communities are responsible for the sub-quotas for, 37 specialties including general medicine, and 12 specific competencies.

ADMISSION TO MEDICAL EDUCATION

As the communities are responsible for education, it is therefore their responsibility to organise access to medical studies.^b Although the methods for selecting medical students have varied over time (see Figure 2), they are currently based on the same principle on both sides of the linguistic border: a *numerus fixus* i.e. the candidates must pass an entrance examination and obtain a ranking position within the limits of the overall quotas set by the federal authorities. On both sides of the linguistic border, the examination covers scientific skills (biology, chemistry, mathematics and physics) as well as competencies related to communication and critical analysis of information including interpersonal skills, equity, empathy, and ethical reasoning.

Figure 2 – Evolution of the selection mechanism for applicants to the Bachelor of Medicine



Notes: (1) *Numerus clausus*: passing an admission test based on a pre-established score, (2) *Numerus fixus*: passing an admission test based on a pre-established score and be ranked above a position fixed according the federal quotas, (3) *Moratorium*: selection of applicants was put on hold, (4) *Orientation test*: indicative and non-binding test granting access to medical studies, (5) *Reorientation test*: end-of-first-term exam during the first training year, which was a prerequisite for admission to the end-of-year exams. Source: adapted from Benahmed⁶

^b However, there is no university organising medical training in the German-speaking community.

ACCESS TO THE TRAINING IN GENERAL MEDICINE

Access to general medicine training is subject to a competitive entrance examination. This examination exists in both linguistic communities.^c However, the practical arrangements differ between the two communities.

In the French community, access to specialisation in general medicine is regulated by a decree organising higher education.⁷ Article 112 of the decree stipulates that access to specialised master's degrees requires a master's degree and, where applicable, the academic authorities may impose additional conditions. For the specialised degree in general medicine, each university establishes a ranking based on its own competitive entrance conditions. This selection process is organised independently by each university, according to its own admission procedures. For specialised master's degrees in medicine, including the specialised master's degree in general medicine, an inter-university jury gathers the ranking of each university to verify that the total number of admissions is in accordance with sub-quotas. The practical details are described in the general regulations for competitions and competitive entrance examinations for inter-university selection leading to specialised master's degrees in medical sciences.⁸

In the Flemish community, access to GP training (*master-na-master in huisartgeneeskunde*) is subject to passing an inter-university aptitude test organised at the inter-university level and based on the CanMEDS roles (international framework for medical competencies).⁹ The test (*bekwaamheidstoets*) assesses aptitudes, clinical skills, medical reasoning, general and specific knowledge of general medicine, and clinical performance. It consists in a computer assisted test with three components: knowledge testing, testing of skills in evidence-based medicine (EBM), and situational judgment testing. In the event of failure, a resit oral examination is scheduled.¹⁰ Only candidates ranked above a position fixed according to the Flemish quotas for general medicine obtain the university certificate giving access to general medicine training.¹¹

Recent efforts to direct new medical graduates toward the general medicine specialty – such as the sub-quotas established by the federated entities – have yielded measurable results. The proportion of graduates entering the general medicine specialty increased from 26.3% in 2011 to 38.3% in 2021. French-speaking graduates have been more likely than their Dutch-speaking counterparts to choose general practice (40.7% vs. 35.9% in 2021), reversing the trend observed in 2018.¹²

CONTENT OF THE TRAINING PROGRAMME IN GENERAL MEDICINE

The minimum requirements for general medicine training are defined in a federal royal decree.⁴ Training in general medicine includes theoretical and practical components. The theoretical part of the training enables the applicants to acquire skills relating to the care provision, specific groups of patients, disorders and conditions, as well as critical analysis of the scientific literature (evidence-based medicine). In addition, the applicants must present and discuss, on the one hand, medical problems in peer-groups during 40 hours of seminars per year and in the other hand, a specialised master's thesis. The practical part of the training involves a continuous programme of a three-year placement in one or more hospital departments (during minimum 6 months and maximum 12 months) and one or more GP practices. Applicants also participate the on-call duties under supervision of the internship supervisor for at least 120 hours per year.

These minimum requirements are applied by universities according to their academic freedom.

^c There is no university organising medical training in the German-speaking community.



3.2 Access to the profession

To access the right to practice general medicine, a licence to practice and a certification are needed. After the completion of a master's degree in medicine, the federal health authorities (FOD Volksgezondheid, Veiligheid van de Voedselketen en Leefmilieu / SPF Santé Publique, Sécurité de la Chaîne alimentaire et Environnement) grant a licence to practise medicine (*visum / visa*). In addition, certification (*erkenning / agrément*)^d, granted by the health authorities of the federated entities,¹³ is a certificate attesting that its holder has successfully completed theoretical and practical training in general medicine. It is necessary for practising as a general practitioner under the compulsory health insurance scheme in Belgium, thus enabling the reimbursement of services to patients.

In Belgium, GP practices are not planned according to geographical areas.^e However, there are financial incentives to improve the geographical distribution of the general practices. For instance, there are local initiatives at the level of municipalities or at the level of the federated entities (e.g. the Impulseo I programme provided an installation bonus for practices in areas experiencing shortages of GPs). From 2015, the federated entities (regions) are responsible for this programme.¹⁴ More details are given in section 3.9.5.

3.3 Role of GPs in the Belgian health system

The organisation of medical practice in Belgium, in general and with respect to GPs in particular, is grounded in three foundational principles: diagnostic freedom,¹⁵ therapeutic freedom,¹⁵ and freedom of choice of practitioner.¹⁶ The principle of free choice of practitioner accounts for the absence of a gatekeeping function traditionally assigned to GPs in other countries. Consequently, patients may consult a medical specialist directly, without any prior referral from a GP. Nevertheless, under the conditions specified in the Royal Decree of 26 November 2006, patients are encouraged, by a reduced copayment, to seek an initial consultation with their GP before their first annual visit to some specialists. Beyond these three foundational principles, GPs retain autonomy in selecting the organisational form of their practice.¹⁷

A doctor's discretion in selecting diagnostic and therapeutic interventions, regardless of his/her specialty, is legally required to be guided by pertinent scientific evidence, clinical expertise, and patient preferences, with the overarching objective of ensuring high-quality care.¹⁵ These professional freedoms are, however, moderated by the fact that only the services explicitly described for each specialty in the healthcare nomenclature are qualified for reimbursement under the compulsory health insurance system. In addition, other restrictions exist for the prescription of some medications (so called chapter IV) and in radiology (CT-scan for lumbar spine).

The FPS Public Health describes the GP as a primary care provider who serves as the initial point of contact in the broadest sense for individuals experiencing health concerns. The GP is responsible for maintaining a comprehensive overview of each patient's health status and coordinating all necessary elements of their care.¹⁸ This definition is aligned with Starfield's framework of the fundamental attributes of primary health care, which is based on the four "Cs": first contact (i.e. serving as the preferred entry point into the healthcare system), continuity (longitudinal follow-up over time throughout patients' life course), comprehensiveness (health promotion, prevention, diagnosis and treatment services through a biopsychosocial approach), and coordination (i.e. coordination throughout the entire care pathways).¹⁹

^d Note that accreditation should not be confused with certification. Accreditation recognises the continuing professional education of healthcare professionals and is valid for a specified period.

^e Although community health centres are free to choose their location, they must formally define the territorial catchment area they cover, which determines the residential areas from which patients are eligible for enrolment (see also section 3.5).

Accordingly, the GP undertakes activities across the curative domain but also preventive and health promotion domains, including vaccination, screening, and lifestyle counselling. GPs also provide basic mental-health interventions. In addition, they manage the patient's Global Medical Record (GMD / DMG), which enables them to ensure the continuity and coordination of care, as well as to guide patients through care pathway.^f GPs also mandatory contribute to the out-of-hours on-call system for general medicine.¹⁵ As shown in section 3.4, the assessment of the number of headcounts or FTE GPs is based on the activities covered by NIHDI described in the nomenclature i.e. curative activities. However, the definition of the GPs' role is broader, including preventive and health promotion domains, whose activities are not included in the nomenclature.

To maintain professional accreditation, a GP must undertake a minimum of 1 250 patient encounters per year,²⁰ engage in continuing professional development activities, and participate in peer-review sessions (LOK – *Lokale Kwaliteitsgroep* / GLEM – *Groupe Local d'Évaluation Médicale*). Although NIHDI accreditation is not legally required for clinical practice, it confers substantial benefits, including an annual lump-sum to support continuing education costs, as well as increased fee for consultations and home visits.²⁰ Other lump sum benefits are available and not linked to the accreditation status (see Table 3).

3.4 Number of GPs in Belgium

At federal level, there are two main data sources available to assess the number of GPs: FPS Public Health and the Planning Unit^{21, 22} on the one hand and NIHDI²³⁻²⁵ on the other hand.

For the data collection, the Planning Unit gathers data from several data bases of the federal authorities such as the National Social Insurance Institute for Self-Employed Persons (RSVZ – INASTI), the National Social Security Office (RSV – ONSS) and NIHDI.²¹ In contrast, NIHDI uses dataset from their own platform (*ProGezondheid* / *ProSanté*). This platform is only accessible for healthcare professionals with a NIHDI number and includes, for each professional, the following data: specialty, convention status^g, birth date, sex, mother language, NIS/INS (postal) code, accreditation status, total amount of procedures (number of contacts and amount reimbursed by NIHDI).

In addition to the variations in the sources of data, there are also variations in definition of professional status of the GP:

- GP trainees

Only the Planning Unit reports data regarding the GP trainees. These figures are differentiated by sex, community, etc. but also by number of years since the start of the internship.

- GPs licensed to practice

The GPs 'licensed to practice' are GPs who have obtained a license from the federal health authorities (see visum/visa described in section 3.2). The definition is the same for the Planning Unit and for NIHDI, but they used their own data bases (*ProGezondheid* / *ProSanté* for NIHDI).

- GPs professionally active

^f The GMD/DMG formalises a therapeutic relationship between the patient and the GP. However, it is less binding than patient list systems observed in other countries. Indeed, patients are free to choose the GP with whom they establish a GMD/DMG and may modify this choice at their discretion.

^g An agreement (convention) can be defined as a periodic agreement between healthcare providers and NIDHI. Under this agreement, healthcare professionals are required to charge the tariff or fees set by NIDHI. In return, the professionals receive various social benefits.



A licensed to practice GP is considered as professionally active when (1) he/she is registered in the database of RSVZ – INASTI or (2) RSV – ONSS at a level of 0.1 FTE at least^h. A linkage with these databases is only performed by the Planning Unit.²² Therefore, NIHDI does not provide any figures regarding this group of GPs.

- GPs professionally active in the healthcare sector

- Number of practising GPs

NIHDI defines practising GPs as those who had billed at least two acts from the nomenclature during the year under study or those who work in a community health centre (*wijkgezondheidscentrum / maison médicale*).

The Planning Unit defines a practising GP as a GP professionally active in the healthcare sector that is either:

- listed in the RSV – ONSS database with at least 0.1 FTE for an employer from the healthcare sector (i.e. hospital sector, ambulatory GP practice, other human health activities, public centre for social welfare (OCMW/CPAS), social work with and without accommodation, and activities of temporary employment agencies)^{21, 22}
- listed in the RSVZ – INASTI database and has at least € 8 839 in NIHDI-reimbursed healthcare costs (in 2023). The working group doctors of the Federal Planning Commission determined this threshold as 5% of the median amount of NIHDI-reimbursed healthcare costs for doctors exclusively working as self-employed and belonging to the age category 45-54y (i.e. € 176 773)ⁱ. This corresponds to 0.1 FTE for a GP working exclusively in the context of NIHDI.

- Number of full-time equivalents (FTE)

As most of the GPs are self-employed, there is no official definition of FTE nor systematic data collection of the number of working hours. Therefore, NIHDI and the Planning Unit use proxies to estimate the number of FTEs. The proxy used varies slightly between the two institutions.

NIHDI calculates the FTE level of each GP using the ratio of the provider's total reimbursement amountⁱ to the median reimbursement amountⁱ for providers aged 45 to 54. For GPs working in community health centres, as they are financed through capitation, FTEs cannot be calculated based on reimbursement amounts. In the absence of activity registration or link with RSVZ – INASTI database, each GP working in a community health centre is assumed to correspond to 0.82 FTE.

The Planning Unit uses data from RSV – ONSS to evaluate (in FTEs) the workforce of salaried GPs. For self-employed GPs, the Planning Unit uses a similar technic as NIHDI to estimate the number of FTEs. The method is based on the comparison of the individual gross reimbursement amount for NIHDI services for each GP, with one FTE corresponding to a gross reimbursement amount of € 176 773 in 2023. This figure pertains to the median reimbursed amount observed within a reference group: exclusively self-employed doctors aged 45 to 54 years, with no salaried activity (i.e. the age group for which self-employed activity reaches its maximum level).²¹

^h The number of FTE is reported by the employer.

ⁱ Calculated based on the observed activity in 2016. It is updated at each prevision cycle.

As shown in Table 1, differences in figures from the Planning Unit and NIHDI may occur due to the aforementioned variations in data sources and definitions of the GPs professional status. While the figures for 2024 are available in the NIHDI report²⁴, we used the 2023 figures to allow comparison with those of the Planning Unit. More detailed figures are available in the supplement.

Table 1 – Overview of the number of GPs in 2023 according to the Planning Unit and NIHDI (Belgium and linguistic communities)

	Planning Unit				NIHDI			
	Be	DC	FC					
GP trainees	2 257	1 065	1 192					
	Be	Flanders	Wallonia	Brussels	Be	Flanders	Wallonia	Brussels
GPs licensed to practice	22 509	11 797	10 712		18 518			
Professionally active GPs	16 504	8 904	5 480	2 035				
Practising GPs	13 632	7 658	4 430	1 532	14 286			
Number of FTEs	12 373	7 574	3 696	1 077	9 615	5 597	3 087	931
Density FTE*	10.52	11.10	10.01	8.62	8.35	8.3	8.1	8.6

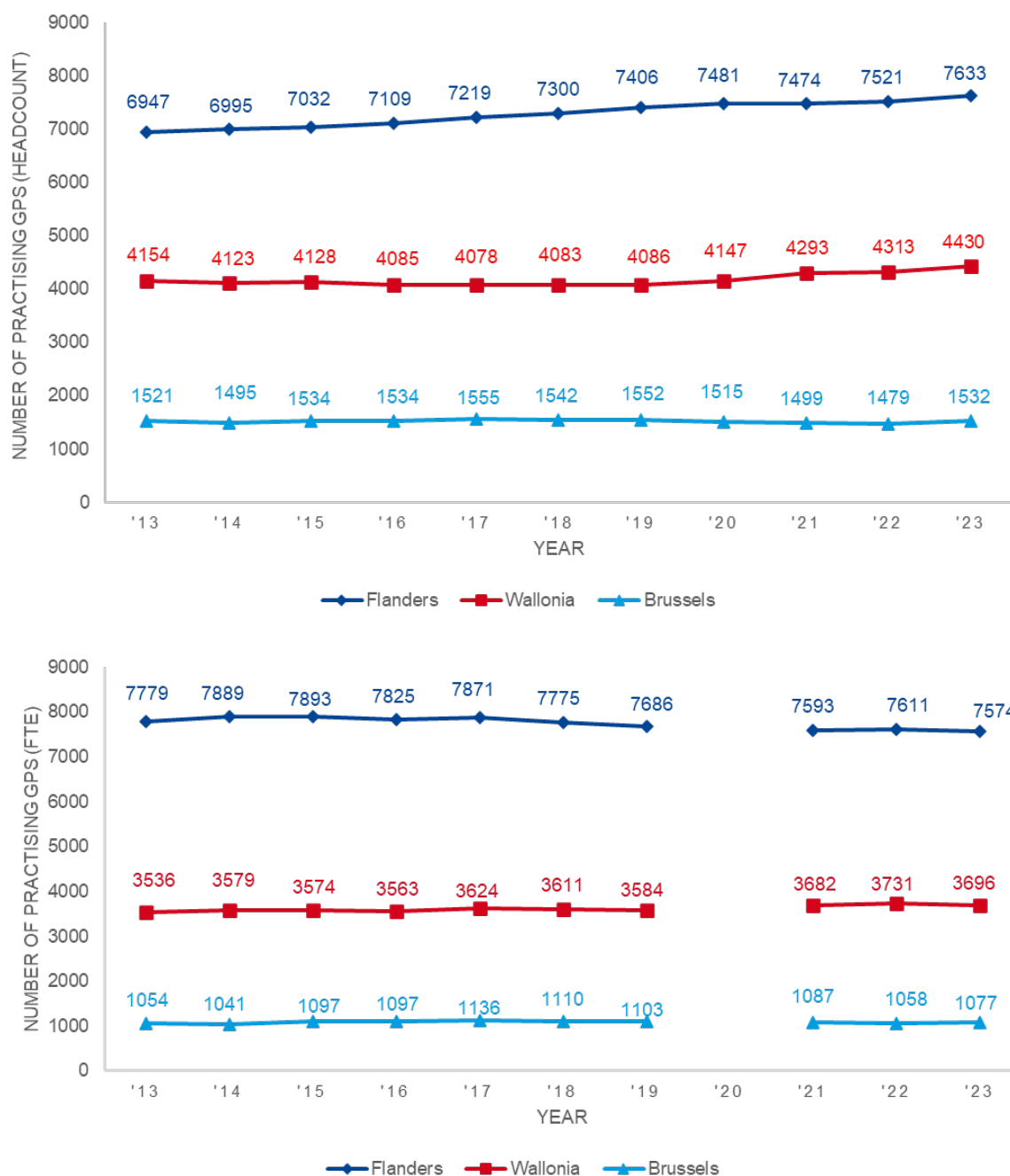
Legend: Be: Belgium; DC: Dutch community, FC: French community, * For Planning Unit the density is calculated based on the ratio of number of FTE of GPs active in the healthcare sector whatever the professional status to population at 01/01/2024, multiplied by 10 000. ²¹ For NIHDI the density is calculated by the number of FTE/ 10 000 insured people.²³

According to the figures of the Planning Unit (see Figure 3), the increase in headcounts this last ten years did not lead to an increase in the workforce, measured in FTEs. It is particularly true for Flanders, where an increase of 10% in headcounts between 2013 and 2023 has led to a 3% decline in the number of FTEs. In contrast, NIHDI reported that the density (FTEs per 10 000 insured) has increased by 5.8% during the same period in Belgium and by 3.8%, 7.5% and 22.7%, respectively for Flanders, Wallonia and Brussels. Figure 4 shows the evolution of the age distribution pyramid between 2013 and 2023.

Note: In Belgium, there is a particular category of medical doctors, who are graduated in Master of medicine, but are not GPs nor specialists. They may prescribe drugs, some lab test or referral to other health professionals. They also can attest consultations and a limited list of technical procedures. Finally, they also may participate to the on-call duties at hospital if they hold a certificate in acute medicine.²⁶ In 2023, the medical doctors without title nor agreement, also called '000' were 7 769 recorded in the database of the federal health authorities (FOD Volksgezondheid, Veiligheid van de Voedselketen, Leefmilieu / SPF Santé Publique, Sécurité de la Chaîne alimentaire, Environnement). They were thus considered as licenced to practice. Most of them (66.4%) live abroad or their place of residence is unknown, 19.0% live in Flanders, 6.6% in Wallonia and 8.0% in Brussels. Only 18.3% are considered as professionally active i.e. registered as self-employed with RSVZ – INASTI or work as salaried (registered with RSZ – ONSS) for at least 0.1 full-time equivalent. The number of such professionally active doctors has risen from 778 in 2013 to 1 398 in 2023.²⁷ Their contribution in primary care is unknown.

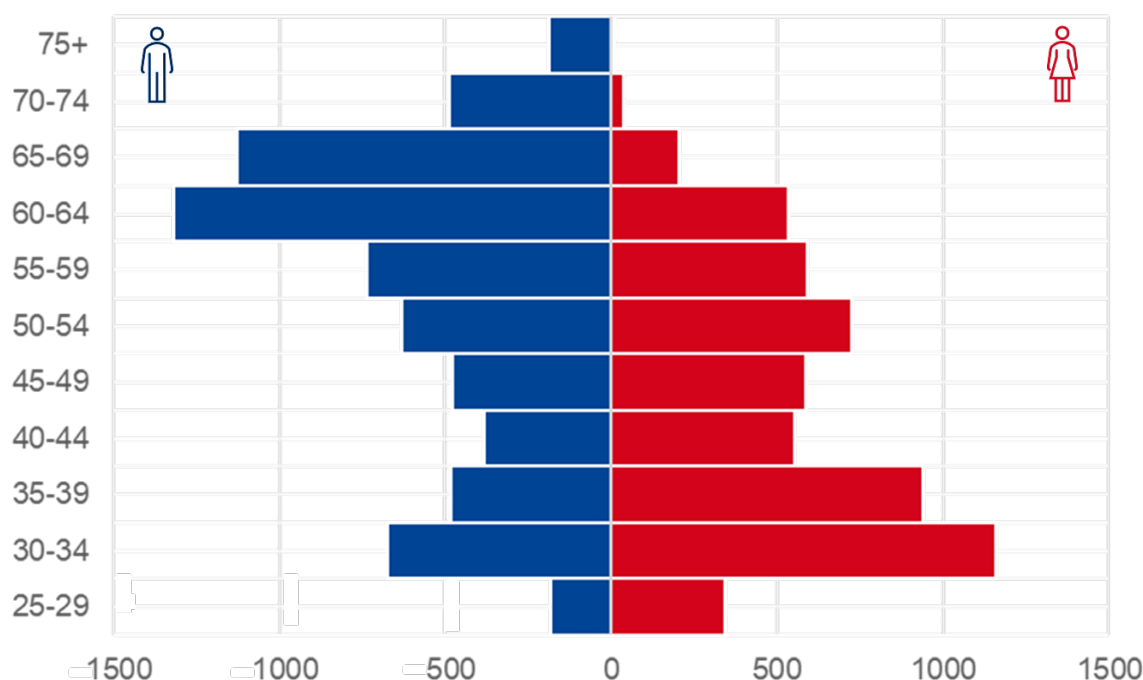


Figure 3 – Evolution of the number of practising GPs in Flanders, Wallonia and Brussels according to the Planning Unit, headcounts and FTEs



Source: Planning Unit²²

Figure 4 – Age distribution pyramid of the FTE GPs in Belgium, 2023



Source: Planning Unit

3.5 Practice types

In Belgium, there are no regulations stipulating where GP must set up their practices. In accordance with the principle of free choice of healthcare provider (see section 3.3), there is no patient list attached to any individual GP or GP practice, except for community health centres and New Deal practices (see below). In consequence of the aforesaid principles, a plurality of general practice forms is thus observed.

A first distinction is made between two forms of general practice: **solo practices**, which operate with a single GP, and **group practices**, which operate with at least two GPs. To be formally recognised as a group practice, the practice must be registered with NIHD. It must comprise at least two accredited GPs, implement a written agreement outlining the terms of collaboration among the general practitioners within the group. In addition, the practice is required to inform patients about the composition of the group, the locations where GPs are established, and the conditions governing access to patients' medical records. Finally, each general practitioner within the group must use an approved medical software. Group practices may be **monodisciplinary** (i.e. including only GPs) or **multidisciplinary** (i.e. GPs can work together with nurses, physiotherapists and other healthcare providers). Also, all types of GP practice can employ administrative staff, but this is less common in solo practices than in other types of practices.²⁸

Secondly, group practices can take various forms, including **community health centres** (*wijkgezondheidscentra / maisons médicales*) or **GP networks**. GP networks consist of group practices including at least two GPs in different locations, whereas community health centres group healthcare providers in the same location. **Community health centres** differ from other forms of GP practices not only in terms of their financing mechanisms (capitation) but also in their organisational features. They are inherently multidisciplinary structures, including at least one general practitioner working in collaboration with at least one physiotherapist or one nurse. Patients are formally enrolled in a community health centre via a contract and commit to consult exclusively within that structure, except in very limited circumstances. The capitation-based payments cover GP consultations and



home visits, as well as physiotherapy and nursing care. Community health centres enrol patients residing within a defined territorial catchment area, which is established through a convention binding them to NIHDI.^{29, 30} In addition, multidisciplinary group practices or community health centres in Wallonia may be accredited as Integrated Health Associations (Associations de Santé Intégrée, ASI) in order to fulfil missions related to curative and preventive care, patient reception, internal multidisciplinary coordination, community health, networking, and primary care observatory function. The mandatory core team comprises a reception function, two GPs, one physiotherapist, and one nurse. In addition, the ASI must ensure the provision of psychosocial functions, either through a member of the internal team or via a formal agreement with an external service provider.³¹

Tabel 2 – Overview of general practice types in Belgium

Practice type	Numbers of GP	Other professionals	Funding system
Solo	1	No other health professionals Secretarial, reception or remote secretarial services not mandatory	Fee-for-service New Deal
GP Network	At least 2 in 2 different locations	No nurses or allied health professionals Secretarial, reception or remote secretarial services not mandatory	Fee-for-service New Deal
Monodisciplinary group practice	At least 2	No nurses or allied health professionals Secretarial, reception or remote secretarial services not mandatory	Fee-for-service New Deal
Multidisciplinary group practice	At least 2	Other health professionals: free composition of the team excepted for ASI in Wallonia (at least 1 nurse, 1 physiotherapist and a psychosocial function) Secretarial, reception or remote secretarial services not mandatory excepted for ASI (reception services are mandatory)	Fee-for-service New Deal
Community health centres	At least 1	A least 1 nurse or 1 physiotherapist Secretarial, reception and remote secretarial services not mandatory	Capitation

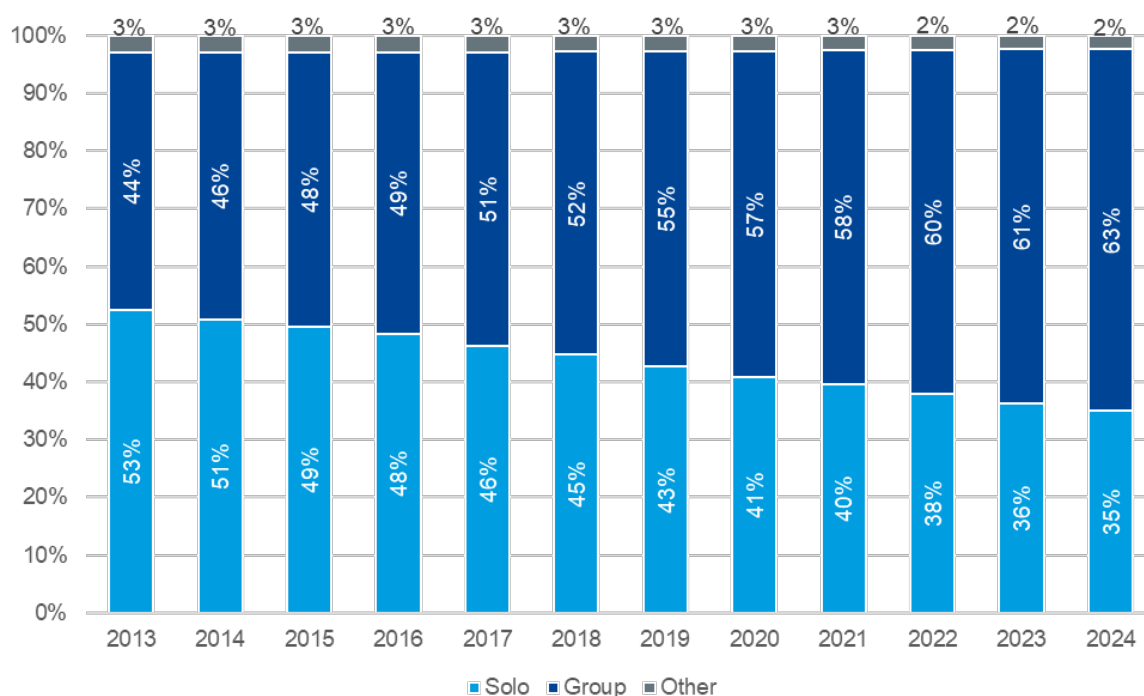
Note: in all practice types, GPs may be self-employed or salaried – New Deal is a mixed system of fee-for-service and capitation (see section 3.6) – There is no obligation to have several GPs in a community health centre but in reality, no community health centre run their activities with only one GP (see figure 12 in report KCE 385³²)

Over time, the share of GPs working in solo practices has declined markedly, decreasing from 52.5% of GPs expressed in FTEs (FTE GP) in 2013 to 35.0% in 2024. In contrast, the proportion of FTE GP working in group practices has increased substantially, rising from 44.4% of FTE GP in 2013 to 62.8% in 2024.²⁴

Marked regional differences are observed. In 2024, nearly seven out of ten FTE GP were working in group practices in Flanders (74.1%), compared with 58.3% in Brussels and only 43.4% in Wallonia (see Figure 5). Regarding Flanders, this question is currently studied in the Flemish GP data inventory^j but the results of the survey were not available yet when this report was published.

^j <https://www.departementzorg.be/nl/data-inventarisatie-huisartsen>

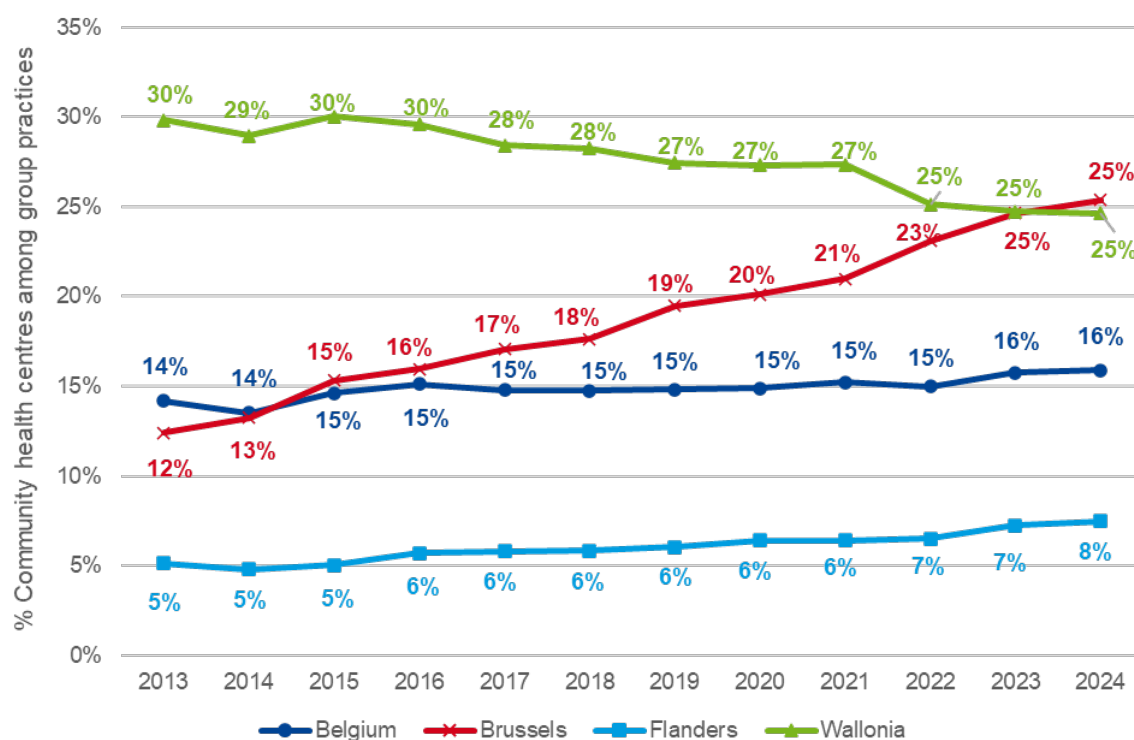
Figure 5 – GP workforce evolution (FTE) by type of practice, 2013-2024



Source: NIHDI – Legend: Other: GPs working at hospital, nursing home and administrations – Note: missing data on practice type represented 20% of the dataset in 2013 and decreased to 7% in 2024

Among GPs working in group practices, fewer than one fifth of FTE GP were employed in community health centres operating under capitation-based payment schemes in 2024 (15.9%), a proportion that has increased only slightly since 2013 (14.2%). Community health centres are unevenly distributed across regions, accounting for a much larger share of group practices in Brussels (25.4%) and Wallonia (24.7%) than in Flanders (7.5%) (see Figure 6). Finally, the proportion of GPs with unknown practice type has steadily declined over time, reflecting the increasing completeness of the database.

Figure 6 – Proportion of community health centres operating under capitation-based payment schemes among group practices, 2013-2024



Source: NIHDI

In a recent (2022-2023) survey on 1 852 GPs in Belgium, 41.0% worked in a monodisciplinary group practice, 23.0% in a monodisciplinary solo practice, 17.6% in a multidisciplinary practice mainly financed on a fee-for-service basis, 11.8% in a multidisciplinary community health centre with capitation payments and 3.6% on a network practice.²⁸

The organisation of general medicine at local level is the responsibility of medical associations of GPs (*huisartsenkringen / cercles de médecine générale*). They are entrusted with the responsibility of organising on-call services, coordinating frontline staff, ensuring the quality of care, and serving as the official local point of contact for the health authorities. The legal framework is defined by federal authorities and complemented by regional regulations for the agreement and the funding.³³⁻³⁶

3.6 GP payment systems

In Belgium, three funding models for GP coexist. These funding models are completed by additional schemes designed either to improve quality of care or to cover operational expenses of the general practice. Most GPs are self-employed. Only a few are salaried.

The funding model chosen by most GPs is the **fee-for-service payment system**.³² These GPs serve around 95% of the population.³⁷ Under this model, each service provided results in a payment. The tariff corresponding to each service is described in the healthcare nomenclature.³⁸ A bonus of € 4 256 is provided to young GPs (graduated from 2021 onwards) starting in the fee-for-service payment system. The purpose of this bonus is to support them in the electronic management of the medical records.

The second model chosen by an increasing proportion of multidisciplinary general practices is the **capitation system** in which the practices receive a risk-adjusted capitation payment per patient with a fixed therapeutic relationship (i.e. patients for whom the practice manages the global medical record

– see section 3.3).^k In addition to the capitation payments, these practices are paid for technical acts on a fee-for-service basis.³² These general practices serve around 5% of the population.³⁷

A new funding model, called **New Deal**, started in April 2024. It combines fee-for-service and capitation financing systems. In this mixed model, the capitation part takes the form of a weighted capitation payment for patients with a fixed therapeutic relationship. The capitation is weighted by the age (> 65y) and the social status (i.e. patients who benefit from the majored intervention – RVT / BIM) for each patient enrolled in the practice. The fee for consultations and visits is lower for New Deal practices than for practices in the ‘classical’ fee-for-service payment system. New Deal practices may serve patients without therapeutic relationship with their practice, but these must represent a maximum of 25% of total billing.³⁹ These patients are charged at the regular tariff as in the ‘classical’ fee-for-service payment system. In the New Deal model, practices may benefit from an additional lump-sum payments for the remuneration of practice nurses and for practice management under conditions regarding the number of patients or GPs included in the practice.⁴⁰ This type of financial support is also available for practice under fee-for-system system but with other conditions (see Table 3).

Since 2024, GPs have the possibility to rely on support from a psychologist or a clinical orthopedagogue in the context of the agreement for psychological care in primary care, which is entirely funded by NIHDI.⁴¹ Further information is available at section 3.9.

In addition, there are some bonuses available whatever the system. Some bonuses are delivered by the federal health authorities while others are the responsibility of the federated entities, in which case the amount and the conditions to obtain them may vary. Table 3 presents the bonuses available for GPs.

Table 3 – Bonuses for general practices

Bonus	Purpose	Health authorities
Accreditation (annual lump sum)	To cover part of the continuing professional education	Federal level
Integrated practice allowance⁴²	To support the management of the practice and the use of e-services	Federal level
Availability fee (fee per hour)⁴³	To support the participation to an ‘organised on-call service’ for the whole population of a defined area	Federal level
Financial incentives for management of the practice⁴⁴	To support the costs linked to continuity of the practice and the collaboration between health professionals (for multidisciplinary group practices)	Federal level
Impulseo I	To support the set-up of a first medical practice by a young GP in a low GP density area	Wallonia ⁴⁵
Impulseo II	To support the wage costs of a GP’s staff member	Wallonia ⁴⁵ Flanders ⁴⁶ Brussels-Capital region ⁴⁷
Impulseo III	To support the cost associated with a telephone answering service	Wallonia ⁴⁵ Flanders ⁴⁶ Brussels-Capital region ⁴⁷
ASI (Association de santé intégrée)	To support multidisciplinary, collaboration and a biopsychosocial approach, the annual bonus is	Wallonia ^{31, 48}

^k Description of the variables used for the risk-adjustment can be find in page 130 of the KCE report 385.³² Socio-demographic and epidemiologic variables are included.



	calculated based, amongst other factors, on the composition and size of the practice. Additional bonus for infrastructure (equipment and building) for ASI installation in low GP density zones.	
Settlement support grant	To support the settlement of multidisciplinary practices (a larger amount is allocated in area facing a shortage of GPs) and young GPs setting up in an area facing a shortage of GPs	Brussels-Capital region ⁴⁷

Furthermore, the Flemish health authorities propose an interest-free loan for GPs establishing themselves for the first time in a new or existing individual or group practice in the Dutch-speaking area (Flanders or Brussels-Capital region). An additional interest-free loan for additional space or additional infrastructure for collaboration with a practice nurse and/or practice assistant is also proposed in Flanders.⁴⁶ Finally, some municipalities offer funding for the infrastructure of the practice, and the federal government and the governments from federated entities offer some financial support for employment (e.g. Maribel⁴⁹, etc. although these are not specific to the GPs).

3.7 Task shifting, task delegation and collaboration

Task delegation or task shifting is defined as the process of reallocation and redistribution of tasks and the sharing of roles among health professions and different groups of health professionals.⁵⁰ Vertical substitution refers to the structural reorganisation of activities between professional groups with different levels of education, while horizontal substitution refers to the structural reallocation of activities from one professional group to another professional group with the same level of education.⁵¹

Task delegation^l and task shifting^m are seen as strategies to reduce the workload of GPs,⁵³ while maintaining the safety of care.⁵⁴ Tasks may be delegated within the GP practice itself to practice assistants, or to practice nurses, or externally to other healthcare professionals such as nurses, physiotherapists or pharmacists. In comparison to other countries, Belgium lags a bit behind in terms of task delegation of medical tasks.^{52, 53, 55}

Practice assistants have long been part of GP practices, primarily focussing on non-medical tasks. They handle patient intake by phone, electronically, or in person, perform administrative and accounting tasks, and provide logistical assistance. Since 2024, the profession has been officially recognised, with a formal training program requiring at least 90 credits (970 hours) of theoretical and practical instruction, plus a 450-hour internship in a general practice setting. This recognition also defines a set of supervised medical-technical tasks that practice assistants may perform under a GP's supervision. These tasks include anthropometric measurements (height, weight, waist circumference), assessment of biological parameters (temperature, blood pressure, pulse, respiration, oxygen saturation), sample collection and processing (blood, urine), electrocardiogram recording, and preparation of sterile equipment for procedures such as wound closure.⁵⁶

In Belgium, nurses can be integrated within GP practices or offer autonomous support, in accordance with their training and expertise (see thematic sheet in the supplement). A postgraduate training for practice nurse (*praktijkverpleegkundige* or *verpleegkundige in de Huisartsenpraktijk* – VIHP) has been introduced in 2016 in Flanders¹¹ and is underway in the French community. The range of medical

^l i.e. the performance of tasks by healthcare professionals who are not entitled to do it independently, on the orders of a qualified practitioner. In this context, both parties must be convinced of the competence of the person carrying out the tasks, and there must be provision for supervision and possible intervention by the person ordering the tasks.⁵²

^m i.e. the structural rearrangement/redistribution/shifting of tasks/actions between professional groups (existing/new), which subsequently become independently authorised to perform and are subject to disciplinary liability for the relevant actions.⁵²

tasks is more advanced than for practice assistants and includes care for chronic patients, prevention, or more technical acts such as wound care, blood tests, vaccination, preoperative consultation, cryotherapy, cerumen removal, spirometry, etc. They also support the practice organisation, are involved in population health management, etc. Nevertheless, the implementation of practice nurses since 2016 has been rather slow with the main cited barriers being financial and legal uncertainties.⁵⁷ A recent study showed that while the integration of nurses is increasingly supported by GPs, there is also reluctance to delegate too many tasks or responsibilities to others with the risk of losing professional autonomy.³⁷

In addition to practice nurses integrated within GP practices, advanced practice nurses are permitted since 2025 to undertake specific clinical activities or medical acts autonomously (i.e. without supervision of a GP). These activities encompass the diagnosis, treatment and monitoring of patients, referral of patients to other healthcare professionals, prescription of medications and health products, and the drafting of medical certificates. The advanced practice nurse is also authorised to make decisions related to hospitalisation. The execution of these activities is undertaken subsequent to a preliminary diagnosis and treatment by a GP (with the exception of particular situations), within the individual's area of clinical expertise, and for routine tasks of limited complexity, accompanied by the anticipation of potential risks.⁵⁸ The scope of procedures encompassed by advanced practice nurses, which include both intellectual acts and technical nursing services, is more extensive in comparison to that of practice nurses.

A comparative table of the expertise area of different type of nurses can be found elsewhere.⁵⁹

Several policy initiatives stimulate task shifting. For example the recognition and education of practice assistants to take on some medical tasks, financial incentives for hiring practice assistants or nurses,⁶⁰ the pilot project on new organisation and payment forms for GPs (New deal – see above).⁶² Moreover, since the COVID-19 pandemic, policy initiatives have resulted in other healthcare professionals performing specific dedicated tasks such as vaccination (e.g. since 2022, pharmacists are allowed to vaccinate against COVID-19 and, since 2023, against influenza; in 2025, a royal decree described the vaccination of young children by midwives).⁶³⁻⁶⁵

In addition to task delegation, some tasks for GPs have been removed through direct access to physiotherapists (see section 3.9) and the reimbursement of sessions with a psychologist in primary care since 2021.⁶⁶

Finally, one example of interprofessional collaboration aimed at improving care and referral pathways is the partnership between general practitioners and psychologists. Since 2024, GPs can receive support from psychologists or clinical orthopedagogists in care of patients presenting mental health issues. This support can take various forms (see section 3.9), including joint consultations or the soliciting of advice on specific clinical cases. In the context of advice, the purpose is to facilitate the identification of targeted solutions and to guide the patients toward the most appropriate care pathway.⁴¹ This collaboration is of interest due to the fact that one in five adults in Belgium experiences mental health problems on an annual basis⁶⁷ and these patients have a great need of consultation time with their GP.⁶⁸

3.8 Supply demand balance

In Belgium, there is no continuous monitoring of the imbalance between demand and supply of GPs. However, there are some attempts to assess it.

Firstly, a comparison conducted in 2024 between demand forecast (Federal Planning Bureau) and supply projections (Planning Unit) revealed that the number of GP contacts was expected to increase by 3.4% between 2022 and 2027, while the number of FTE practising GPs was expected to decrease by 7.6% between 2021 and 2026. If these forecasts were accurate, they suggest that a shortage of GPs is currently underway in both communities, although the difference was more pronounced in the French community. Forecasts up to 2031-32 show that this imbalance would persist.¹² This forecasting



exercise does not consider a potential increase in a number of contacts by FTE, although this increase is illustrated in the data provided by NIHDI²³ (see also supplement).

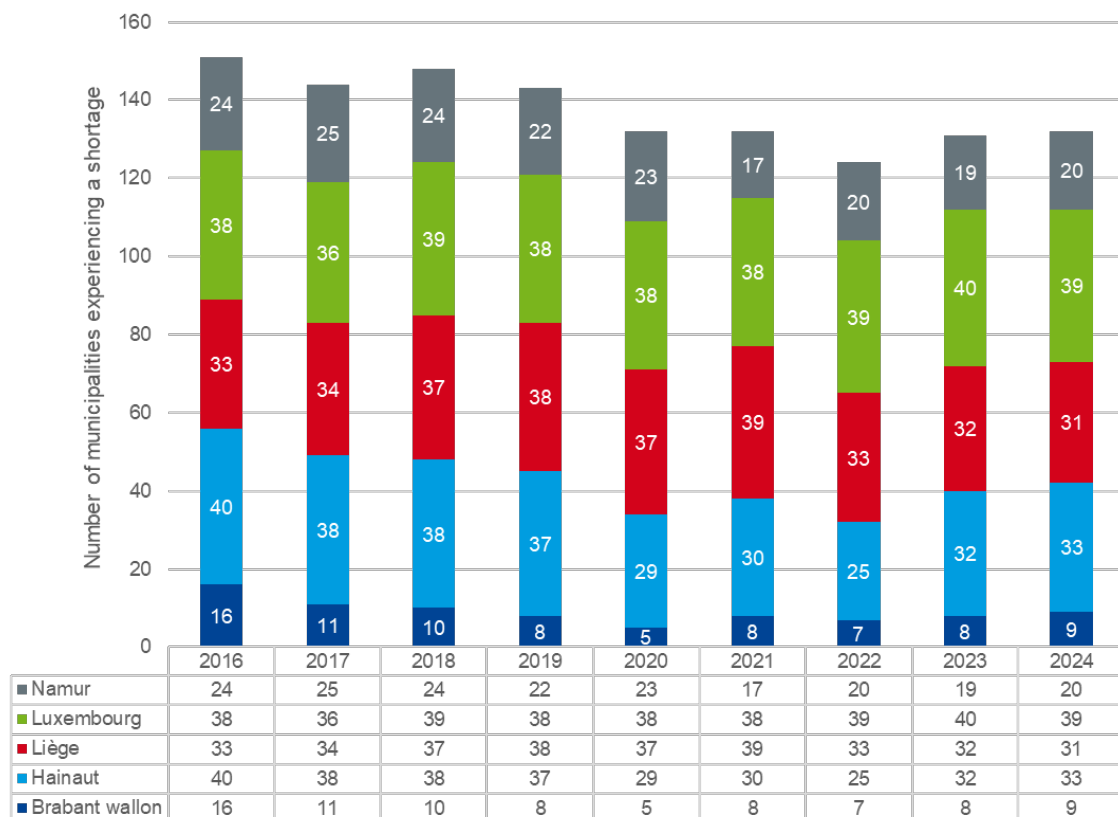
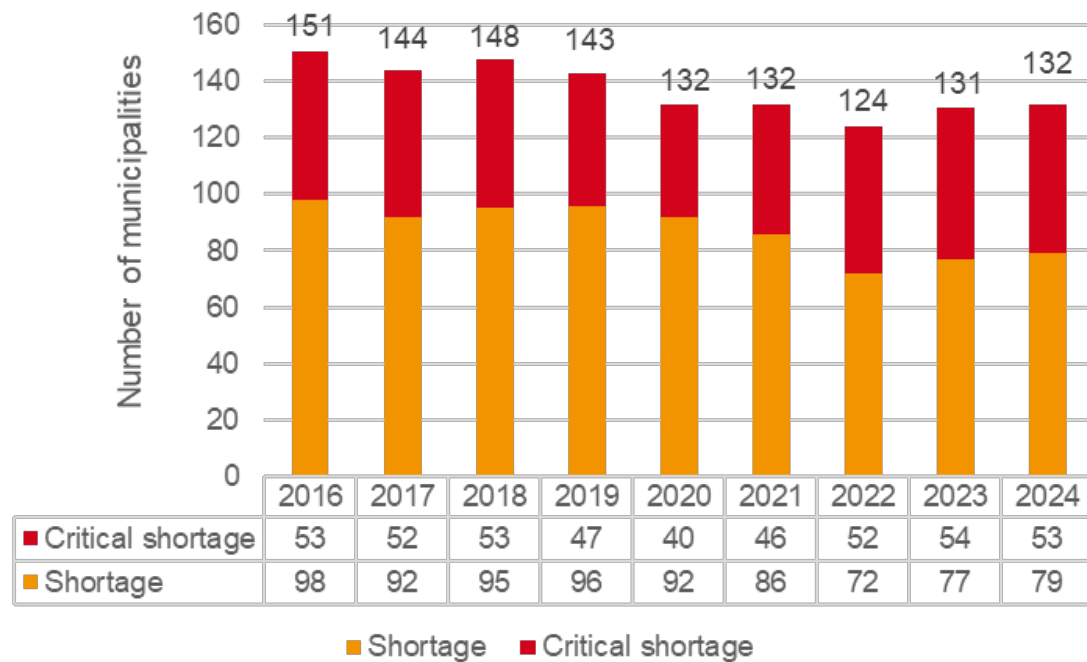
Secondly, practices no longer accepting new patients (also called 'patient stop') can be used as a proxy for demand exceeding supply. While the density of GPs per inhabitant is increasing (see chapter 4), the accessibility to general medicine is decreasing with around 75% of GP practices not accepting any new patients, or only under certain conditions.^{69, 70} Moreover, there is also a geographical disparity in accessibility to GPs, with more rural areas having difficulty to attract GPs.⁷¹

Thirdly, trends in waiting times for obtaining a medical appointment can be used as a proxy for the balance between demand and supply in primary care. In Belgium, there is no system of systematic or continuous collection of waiting-time data.⁷² However, a national Health Interview Survey (HIS), conducted every four to five years, collects data through interviews with a representative sample of the population.⁷³ The purpose of the survey is to provide an overall picture of population health status and experiences of care. Results from the most recent survey indicate a substantial increase in waiting times to obtain an appointment with a GP. Between 2013 and 2023, the proportion of respondents who reported waiting more than two days for a GP consultation rose from 13.6% to 36.1%. This trend is accompanied by a decline in the share of patients consulting a GP without a prior appointment, decreasing from 12.6% in 2013 to 0.6% in 2023–2024. Over the same period, the proportion of patients reporting that the waiting time to obtain an appointment with a GP constituted a problem increased markedly, from 1.4% in 2013 to 7.9% in 2023–2024.⁷⁴

Fourthly, a project is currently conducted on GP capacity in Flanders, including a data collection on practice organisation.⁷⁰ The project will distinguish indicators relating to the healthcare provision and indicators relating to healthcare needs, in order to assess the accessibility of general practice at regional level. Final results from this project are not yet available.

Fifth, the annual report on active GPs in Wallonia for 2024 noted that, although the number of active GPs is steadily increasing, this growth remains insufficient to address regional disparities and to replace retiring doctors.⁷⁵ The analysis set out criteria defining shortage of GPs and critical shortage of GPs based on GPs density according to population density. A municipality with a shortage of GPs is defined as a municipality with: (1) < 90 GPs/100 000 inhabitants or (2) with < 125 inhabitants/km² and < 120 GPs/100 000 inhabitants or (3) with < 75 inhabitants/km² and < 180 GPs/ 100 000 inhabitants. For critical shortage the criteria are: (1) < 50 GPs/100 000 inhabitants or (2) < 125 inhabitants/km² and < 90 GPs/100 000 inhabitants or (3) < 75 inhabitants/km² and < 120 GPs/ 100 000 inhabitants. Between 2016 and 2024, there was a slight decrease in the number of municipalities with a shortage of GPs (151 in 2016 to 132 in 2024, see Figure 7), except in the province of Luxembourg, where the proportion of municipalities facing a shortage rose from 86% in 2016 to 91% in 2024. However, the number of municipalities in critical shortage remained steady (53 in 2016 and 2024).⁷⁶

Figure 7 – Shortage of GPs in Wallonia by severity level and by province (2024)

Source: AVIQ 2025⁷⁶



Finally, a similar exercise is conducted in Brussels^{77, 78}, although using a different methodology. In this case, the criteria for identifying shortages are not based on GP density, but rather on the balance between GP supply and population health needs. GP supply is estimated using headcountsⁿ, weighted by each GP's availability. Availability accounts for several factors, including the number of hours dedicated to consultations and home visits, consultation length, the remuneration system (capitation versus fee-for-service), and whether the practice accepts new patients or operates a patient stop. Advanced spatial analyses allow to evaluate GP supply at the level of statistical sectors. A GP practice is considered to be local if it is located within a 600-metre straight-line radius of the patient's residence. Population needs are estimated based on the average consumption of GP care (consultations and home visits), stratified by age group and socio-economic vulnerability. Vulnerability is proxied by status of beneficiary of the preferential reimbursement (RVV/BIM) and applied to the population of the area under consideration. Finally, six sets of assumptions are considered to model potential GP shortages at the statistical sector level. As shown in Table 4, sets of assumptions contain increasingly more supply and demand variables.

Table 4 – Sets of assumptions to study GP shortages at the statistical sector level in Brussels

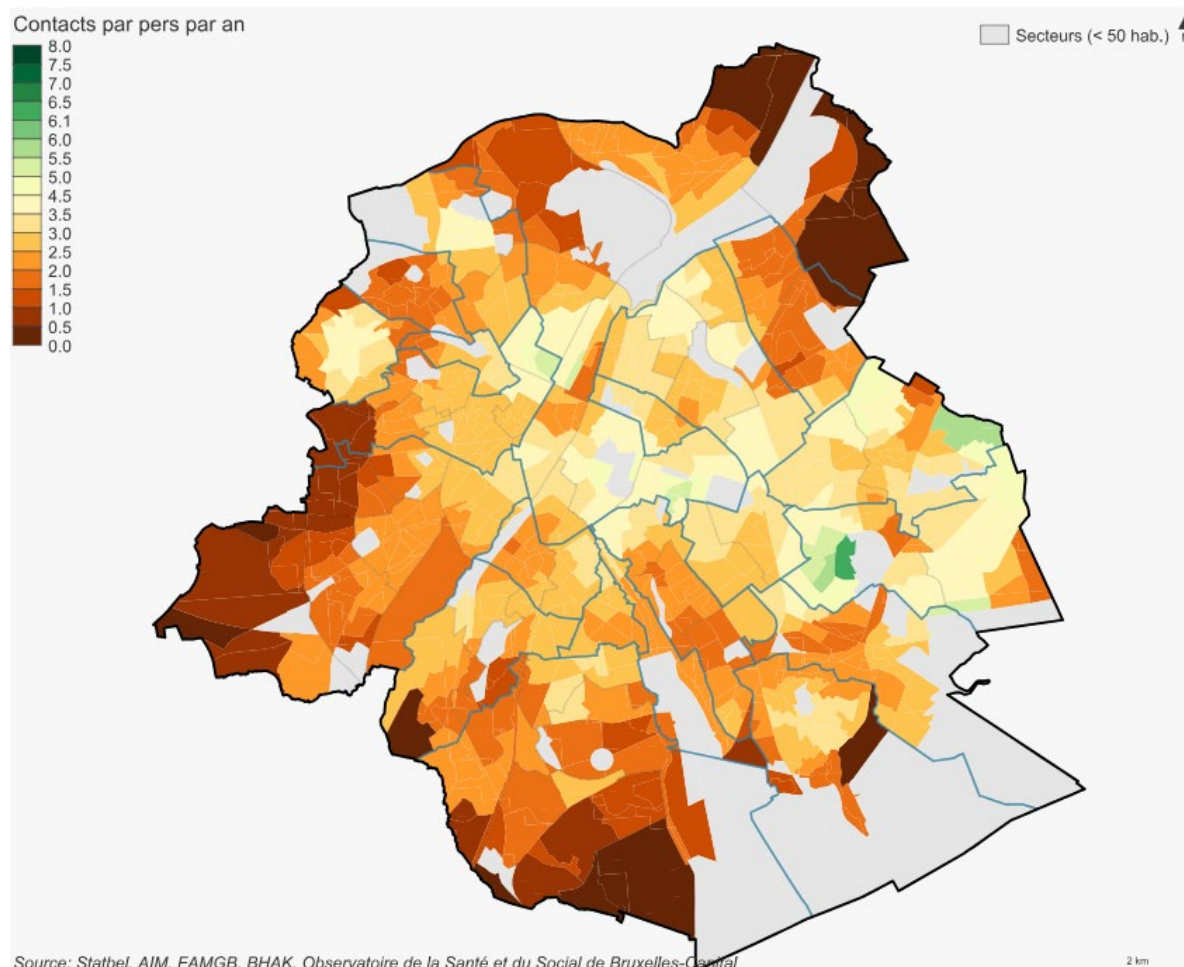
Sets of assumptions	Evaluation of the population needs	GPs' age included in the supply	GPs' willingness to work less*
Set 1	Based on observed care consumption by socio-economic and demographic group	All doctors are taken into account, regardless of age	Not considered
Set 2	Based on observed care consumption by socio-economic and demographic group	All doctors are taken into account, regardless of age	Considered
Set 3	Based on observed care consumption by socio-economic and demographic group	Consideration of the supply of doctors under 65 years of age only	Not considered
Set 4	Based on observed care consumption by socio-economic and demographic group	Consideration of the supply of doctors under 65 years of age only	Considered
Set 5	Based on observed care consumption by socio-economic and demographic group + a 25% increase in consultation duration for the beneficiaries entitled to increased reimbursement (RVV/BIM)	All doctors are taken into account, regardless of age	Not considered
Set 6	Based on observed care consumption by socio-economic and demographic group + a 25% increase consultation duration for the beneficiaries entitled to increased reimbursement (RVV/BIM)	Consideration of the supply of doctors under 65 years of age only	Considered

Legend: * Based on the results of the IM associate study⁶⁹, baseline scenario are reported in light black and high scenario are reported in bold.

Figure 8 shows the results based on the assumption set 6 by municipality and statistical sector.

ⁿ The number of active GP in Brussels was assessed through a survey distributed to the practices through the medical associations of GPs (*huisartsenkringen / cercles de médecine générale*)

Figure 8 – GP shortage level in the Brussels-Capital region under set of assumptions 6, measured in terms of the number of available contacts per inhabitant with a local GP, 2023



Source: Observatoire de la Santé et du Social de Bruxelles-Capitale^{77, 78}

Statistical sectors in which residents theoretically have access to fewer than 3.5 GP consultations per year within a 600-metre radius of their residence are classified as potentially underserved. By contrast, statistical sectors where residents have theoretical access to 3.5 to 4.5 GP consultations or more per year within the same radius are not considered to be at risk of a GP shortage.

3.9 Current and ongoing policies related to primary care

In January 2026, Federal Minister Frank Vandenbroucke published a general policy statement on public health.⁷⁹ The document delineates ten reforms with the objective of enhancing healthcare quality. The following section exclusively reports elements related to general medicine and primary care. They are supplemented by information retrieved from the websites of NIHDI, FPS Public Health and administrations of federated entities.

3.9.1 Number of GPs

In an effort to address the shortage of GPs, Dutch-speaking and French-speaking communities have initiated measures to increase the training positions for general medicine.

In 2025, the Flemish Minister for Education, Justice and Employment decided to tighten the quotas for specialist doctors, thereby freeing up more places for general medicine. However, no minimum quota



for GPs is published, as Flemish legislation only sets maximum quotas.⁸⁰ In contrast, the French community has implemented minimum sub-quotas, which are applicable to general medicine. For the year 2025, 43% of the quotas have been allocated to general medicine, with a minimum of 338 places.⁸¹

3.9.2 Role of GPs

Several strategic directions set out in the general policy statement are likely to redefine the role of GPs. These changes form part of both ongoing organisational reforms and the introduction of new care pathways.

- Role of GPs in ongoing organisational policies

The general policy statement outlines the ongoing development of **integrated care**. It is anticipated that coordination structures bringing together primary and secondary care providers, as well as stakeholders from the social sector, will play a more substantial role in the forthcoming years. The development of integrated care also aims to promote a population-based approach, focused on a comprehensive understanding of territorial health needs rather than an exclusively individual-centred approach. In this context, GPs are expected to contribute to the coordination of care, to support the continuity of care pathways and to participate in the development of interdisciplinary collaborative models.

The implementation of structured primary care models for **mental health** is also mentioned in the general policy statement. One objective of this initiative is to enhance the early detection of mental health problems by GPs in collaboration with psychologists and clinical orthopedagogists (see section 3.7). The collaboration between GPs and psychologists or clinical orthopedagogists can take three forms: (1) joint consultations to support GPs working with children, teenagers or adults facing mental health problems, (2) knowledge sharing to facilitate the identification of mental health problems, and to improve the communication around them, including how to ask patients about their mental health; and (3) support for identifying resources and initiatives to efficiently refer patients.

Finally, the optimisation of the **hospital landscape** is aimed, notably, at providing more outpatient care that is closer to the patient. However, the general policy statement does not specify the implications of this specific objective for a potential increase in GP utilisation and the involvement of GPs in the coordination of the transmural care pathways.

- Evolution of GP's role in upcoming care pathways

In addition to the organisational reforms mentioned above, two further areas aim to strengthen the role of GPs within care pathways.

The role of GPs is set to be consolidated in the follow-up of **incapacity for work**.⁷⁹ Indeed, an annual interview conducted by a GP to renew the patient's certificate of incapacity is considered.

In the domain of **palliative care**, the future care pathway will be designed not only to place greater emphasis on quality of life and the patients' personal goals approaching the end of life, but also to reduce the use of treatments or hospitalisations that offer minimal benefit.⁷⁹ This reorientation therefore confers an increased role to primary care in general, and to GPs in particular.

Finally, the impact of the development of **hospitalisation at home** on the GP workforce should be considered.

At this stage, the impact of these changes on GPs' role and workforce requirements cannot be predicted.

3.9.3 Other primary care professionals

To decrease GPs' workload, the federal government is proposing to remove the gatekeeping role of GPs to access physiotherapy services for patients with mild to moderate conditions by 2026.⁸² Beyond the elimination of certain tasks, GPs' workload reduction is also supported through enhanced collaboration and task delegation (see section 3.7). A range of professionals is envisaged for this purpose, including pharmacists, nurses (i.e. nurses responsible for general care, specialised nurses, general practice nurses, and advanced practice nurses), practice assistants, psychologists and clinical orthopedagogists.

However, the impact of these measures remains uncertain, notably due to the traditional autonomy of the GP³⁷ and the limited availability of relevant professionals within the workforce, particularly nurses and psychologists, and the relatively recent development or the nascent stage of some training programmes, which has resulted in a low number of graduates (e.g. practice assistances or advanced practice nurses).

3.9.4 Organisation of primary care

TERRITORIAL ORGANISATION OF PRIMARY CARE

Over recent decades, healthcare demand in Belgium has undergone substantial transformation. The system has gradually shifted from a predominance of acute care needs toward an increasing burden of chronic conditions. This transition leads to a shift from a hospital-centred health system toward a more territorial approach of the healthcare system.^{83, 84}

In response to this transition, Flanders established 60 *eerstelijnszones* in 2019 (59 located in Flanders and one in Brussels). Each zone is legally required to cover a minimum population of 60 000 inhabitants.⁸⁵ On average, a *eerstelijnszone* covers 118 256 people (SD 36 730). The smallest *eerstelijnszone* has a population of 66 813 inhabitants (*eerstelijnszone* Oostkust), whilst the largest has 273 665 inhabitants (*eerstelijnszone* Gent).^o These areas are governed by *zorgraden* (care councils), whose main missions include promoting interdisciplinary collaboration among care providers, conducting population-based needs assessments, and strengthening the continuity of care pathways.

In Brussels, the territorial organisation of health and social care is more recent. It has been implemented in 2024.⁸⁶ This governance structure is articulated across three levels, consistent with the integrated care framework conceptualised by Valentijn et al.⁸⁷ At the micro level, 56 community-based social-healthcare districts (*quartiers social-santé*) are tasked with analysing social and healthcare needs at the district level (including unmet needs), supporting and organising locallevel coordination, developing and implementing area action plans, and promoting citizen participation. At the meso level, five care and support areas (*bassins d'aide et de soins*), each serving approximately 200 000 to 300 000 inhabitants, are responsible for territorial assessments of social and healthcare needs and for ensuring coherence among policies, stakeholders, and local dynamics within an integrated care approach. The regional level constitutes the macro level of governance.

Concurrently, Wallonia has also undertaken a similar process of territorial reorganisation of health and social care. The Walloon system is structured into ten territories known as Local-Regional Health Organisations (*Organisations locorégionales de santé* – OLS), within which several *bassins de vie* (living areas) are organised according to local specificities.^{88, 89} While the *bassins de vie* are responsible for the delivery of proximity-based care and the coordination of actors at the micro level, OLS primarily fulfil coordination, support, and territorial steering functions at the meso level, covering

^o KCE calculation based on population data from Federal public department Interior and province Antwerpen and the list of *eerstelijnszones* from Vivel.



population sizes ranging from approximately 200 000 to 500 000 inhabitants. The Walloon region assumes responsibility for macro-level governance functions.

The impact of these reforms of the territorial organisation of primary care on the GP needs is yet unknown, as these reforms have only recently been implemented.

AREAS WITH A SHORTAGE OF GPs

As shown in section 3.6, Wallonia and Brussels-Capital region have implemented financial incentives to support the settlement of general practices in areas facing a shortage of GPs.

In Wallonia, practices set up by young GP (i.e. within maximum five years after certification or after returning from a humanitarian mission) in a low GP density area are supported by an establishment / start-up bonus. The Walloon Government Decree of 20 July 2017 set out criteria defining shortage of GPs and critical shortage of GPs based on GPs density according to population density (see section 3.8).

In Brussels-Capital Region, the settlement bonus is allocated to multidisciplinary practices and young GPs (i.e. within a maximum of five years after certification or after returning from a humanitarian mission) setting up in areas facing a shortage of GPs. These areas are listed in a decree⁹⁰ based on results from a study of the *Observatorium voor Gezondheid en Welzijn van Brussel-Hoofdstad / Observatoire de la Santé et du Social de Bruxelles-Capitale*.⁹¹ This study was updated in 2025 (see section 3.8).⁷⁷

To date, the health authorities in Flanders have not taken such measures.

CONTINUITY OF CARE

The general policy statement on public health⁷⁹ states that, by 2026, a Royal Decree concerning the recognition and funding of on-call duties by GPs will be enacted. The focus will be on the establishment of an efficient organisational structure, comprising networks of out-of-hours points of care, with the objective of optimising the number of practices and points of care. This will be achieved by taking into account both patient accessibility and the workload for GPs.

Furthermore, the triage function carried out by GPs during periods of high demand is being strengthened by the reintroduction of telephone triage consultations managed by GPs in organised duty centres. This process entails a comprehensive evaluation of the severity of the condition, followed by the provision of expert medical counsel via telephone.

The 1733 helpline has been developed with the objective of alleviating pressure on the healthcare system and providing enhanced support for patients. Collaboration between associations of GPs (*huisartsenkringen / cercles de médecine générale*) and hospital emergency departments is crucial in this regard. For certain non-urgent issues, advice can be provided via telephone, or the patient can be requested to attend their GP practice the following day. The overarching objective of the 1733 guidance is twofold: firstly, to avert an overburdening of emergency departments organised duty centres; and secondly, to ensure that the delivery of urgent care is not compromised. In the future, this triage process will be more restrictive for patients.

3.9.5 Budget and funding of general medicine

Since 2019, a reform of the healthcare nomenclature for doctors has been underway. The objectives of this reform are manifold and concern both GPs and specialists. Two main focuses of the reform concern GPs: (1) the reduction of income disparities between GPs and specialists in different specialities by placing greater value on certain tasks or functions and (2) the introduction of codes relating to telemedicine and collaboration between different healthcare providers across all specialities.⁹²

It is hypothesised that this reform may result in greater recognition of general medicine compared with other medical specialties. This increased recognition may have a positive impact on the profession's attractiveness to younger generations and may help retain GPs in the practising sector.

During the previous parliamentary term, various measures were implemented to support general medicine, including the continuity of care bonus, the New Deal model, and the option to seek support from and refer patients to psychologists and clinical orthopedagogists (see sections 3.6 and 3.7). The general policy statement on public health aims to raise awareness of these measures, as their utilisation is currently limited despite their potential to enhance the attractiveness of general medicine for professionally active GPs.

Finally, the medical-sickness funds agreement^p stipulates the provision of an additional financial allocation through the integrated practice allowance (see section 3.6) calculated proportionally to the number of global medical records (GMD / DMG).^{79, 94}

3.9.6 Digital transition

The 2026 general policy statement emphasises the ongoing digitalisation and management of health data with a view to promoting collaboration and integration within the healthcare system.⁷⁹ The statement makes specific mention of: the strengthening of the Belgian Integrated Health Record (BIHR)⁹⁵, the continuation of the roll-out of prescription support, the simplification of administration via Medex, and MyCareNet, which facilitates exchanges between healthcare providers and sickness funds. The impact of these initiatives on GPs' workload remains unknown.

The Flemish government agreement also highlighted the collaboration and the data exchanges between GPs, pharmacists and other health professionals as key components of improved access to care.⁹⁶

^p A medical-sickness funds agreement is a national agreement concluded between doctors and sickness funds through the National Medical-sickness funds Commission. Such an agreement sets out the tariff of the healthcare nomenclature and defines measures to improve the organisation and quality of care. It is valid for a period of between one and two years.^{93.}



4 GP WORKFORCE PROJECTION MODEL DEVELOPED BY THE PLANNING UNIT FOR THE SUPPLY OF HEALTHCARE PROFESSIONS

KEY POINTS

- The Planning Unit uses stock-and-flow models to quantify the evolution of the healthcare professional workforce.
- For doctors, the model projects the number of individuals (practising doctors) and full-time equivalents (FTEs) in the workforce for each medical specialty.
- The base scenario for GPs is computed using a stock-and-flow projection model including 15 parameters that incorporates a demand component (evolution of the Belgian population and the associated care consumption).
- The results of the model are presented as raw or weighted densities of GPs and their corresponding FTEs. Raw densities or 'carer-to-population ratios', indicate the number of practising doctors (and FTEs) per 10 000 inhabitants. Weighted densities show the number of practising doctors (and FTEs) per 10 000 people, adjusted for the relative needs of each population group. The evolution of weighted densities not only shows the evolution of the number of practising doctors (and FTEs), but also the evolution of care needs.
- Alternatives to the baseline scenario are also considered. In alternative scenarios, projected values for some parameters deviate from projections based solely on historical trends.
- Based on the results from the alternative scenarios for doctors, the Planning Commission formulates advice for the federal quotas.

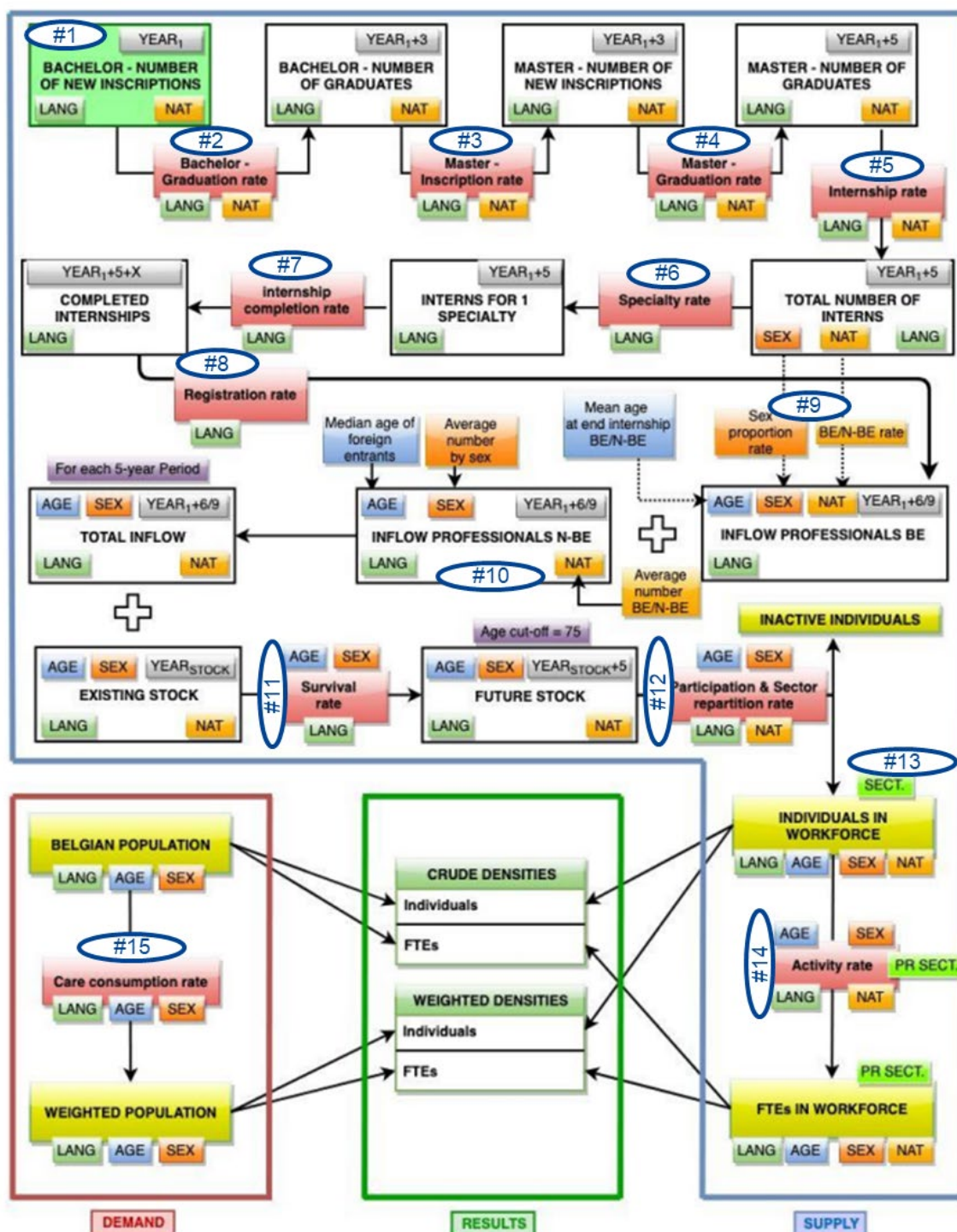
4.1 GP workforce projection model

The Planning Unit uses a stock-and-flow model to quantify the evolution of healthcare professionals' workforce. For doctors, the model projects the number of individuals (practising doctors) and FTEs in the workforce for each medical specialty separately. Although the Belgian stock-and-flow model essentially brings supply-driven projections, it also incorporates a demand component (evolution of the Belgian population and the associated care consumption⁹). The results of the model are presented as raw or weighted densities of professionals and their corresponding FTEs. Raw densities or 'carer-to-population ratios' indicate the number of practising doctors (and FTEs) per 10 000 inhabitants. This measure allows comparisons over time and between language groups. Weighted densities indicate the number of practising doctors (and FTEs) per 10 000 population, adjusted for relative needs in each population group. The evolution of weighted densities shows not only the evolution of the number of practising doctors (and FTEs), but also the evolution of care needs.

The stock-and-flow model used by the Planning Unit is illustrated in Figure 9. It relies on 15 parameters differentiated by age, sex, nationality (Belgian or not) and linguistic community.

⁹ In base scenarios (see section 4.2), the Planning Unit uses the term "care consumption" to refer to the demand-side parameter. In alternative scenarios, an effort is made to adapt the parameter so that it better represents care needs. While need, demand and utilisation are distinct concepts, we use "care needs" when referring to the demand-side parameter.⁹⁷

Figure 9 – Belgian Workforce Model (doctors)



Note : in alternative scenarios, parameter #15 (care consumption rate) is referred to as "care need rate". Source: based on Planning Unit (2023)⁹⁸



The number of bachelor graduates is obtained by multiplying the number of bachelor new inscriptions (parameter #1) by the bachelor graduation rate (parameter #2). Applying the master inscription rate (parameter #3) gives the number of master new inscriptions. Then applying the master graduation rate (parameter #4) gives the number of master graduates. From that, the number of persons starting a training (number of interns) is obtained by applying the internship rate (parameter #5). These calculations are made separately by linguistic community and nationality (Belgian vs non-Belgian) and are common to all medical specialists including GPs. As there is no medical school in the German-speaking community, only French and Flemish communities are distinguished.

From there, specific calculations are made for each medical specialty (hereafter we refer to the general medicine only). The number of persons starting the specialty training in general medicine is obtained by applying the specialty rate (parameter #6) to the number of interns (with a Master's degree obtained in Belgium or abroad). The internship completion rate (parameter #7) allows to calculate the number of completed internships in general medicine. All these persons are supposed to be automatically registered (*kadaster /cadastre*) as the registration rate (parameter #8) is set equal to 1. This inflow of newly registered GPs is separated by sex and nationality (Belgian vs non-Belgian) using parameter #9. To this inflow of GPs trained in Belgium an additional inflow of GPs trained abroad is added (parameter #10). The sum of these inflows is the total inflow of GPs who are licensed to practice. It is calculated by age, sex, nationality and linguistic community.

The total inflow is added to the existing stock of GPs. A survival rate (parameter #11) is applied to take into account losses due to mortality. The survival rates differ by age and sex, but not by nationality. At this step, all persons aged 75 or above are also removed in order to limit the supply forecast to those in age of working. From this future stock, only **professionally active GPs** are kept, using the participation rate (parameter #12) calculated by age, sex and nationality. To be considered as professionally active a doctor must be either registered as self-employed with RSVZ – INASTI or work as salaried (registered with RSZ – ONSS) for at least 0.1 full-time equivalent (see also section 3.4).⁹⁹

Professionally active GPs are divided into four sectors (three inside the healthcare sector, one outside) using the sector repartition rate (parameter #13): (1) active in the healthcare sector as self-employed (minimum activity threshold of 5% of the median income of the group of GPs aged 45–54 years old, defined per specialty), (2) active in the healthcare sector with a mixed status (self-employed and salaried), (3) active in the healthcare sector as salaried worker, and (4) active outside the healthcare sector (calculated by age, sex and nationality). Healthcare sector should be understood here as patient direct care. The fourth group include doctors who are professionally active but not involved in direct patient care (for instance working in the pharmaceutical industry or in public health administrations). The first three groups are called **practising GPs**.

This provides the projected number of practising GPs (the number of individual GPs active in the healthcare sector). Applying the activity rate (parameter #14) allows to calculate the number of **practising FTEs**. The activity rate is calculated by age, sex, nationality and professional status (only for the first three sectors, i.e. only for practising doctors). For salaried workers, the activity rate takes into account activities for all employers of the healthcare sector. For self-employed doctors, the activity rate is calculated using the amounts paid by NIHDI for performed acts. A reference full-time equivalent is determined by specialty, using the observed median of the total amount reimbursed for care provided by the reference group.

The weighted population is calculated using demographic forecasts made by the Federal Planning Bureau and the care need rate (parameter #15). For the base scenario (see section 4.2), the 'raw' forecasts of the population are multiplied by a care need rate based on amounts reimbursed by NIHDI for GP care during the three previous years. This is translated into 're-weighted population figures' that reflect the 'weight' of each segment of the population in current and future healthcare consumption. The consumption rate varies with the linguistic community, age, and sex. This rate must be interpreted in a relative way and allows a comparison with the consumption of the reference year. More specifically, the weighted average consumption in t equalled to 1. The consumption rate of each

segment of the population is then calculated by comparison to this reference consumption. A segment of the population with a consumption rate of 2 thus indicates that the individuals in this segment weights twice more on average on healthcare consumption than the average consumption in year t . By default, the consumption rate is supposed constant in each segment of the population, only the composition of the population changes. But in alternative models a linear increase is applied for each combination of age and sex of the population in order to estimate population needs.

4.2 Base scenario – evolution of GP workforce 2016-2036

In December 2020, results from the base scenario were published by the Planning Commission, with (forecasted) evolution for the period 2016-2036.¹⁰⁰ In this scenario, projections were made 'under constant policy and conditions'. For each parameter included in the workforce projection model (see section 4.1), an assumption was made, in line with observed historical trends. In particular, the consumption rate is supposed constant in each segment of the population, only the composition of the population changes. The combination of parameter values inserted into the mathematical model leads to results obtained by projection (in terms of individuals, FTEs and densities) that reflect the evolution of the workforce under unchanged circumstances and constant policies for the period 2016-2036. In addition, the specialty rate (parameter #6) for general medicine (the proportions of interns choosing to specialise as GP) was set for the future at 42% in the French community and 40% in the Flemish community. Specialty rates for other specialties were reduced accordingly. This choice was based on observed evolutions and the decisions made in both linguistic communities to increase access quotas to the GP specialisation. Indeed, sub-quotas for GPs had been increased in the French community in 2018 and 2019 and there was a political willingness to increase them in the Flemish community from 2021 (see also section 3.9.1).¹⁰¹⁻¹⁰³

Projections from the base scenario indicated that the number of practising GPs (i.e. professionally active in the healthcare sector) in Belgium was expected to increase from 12 099 in 2016 to 12 525 in 2021, that is an increase of 3.5%. This number was expected to further increase to 12 844 in 2026, 13 269 in 2031 and 13 999 in 2036. This increases only partially translates into an increase in the number of FTEs, from 11 977 in 2016 to 12 387 in 2036. These increases were not sufficient enough to compensate for the projected increase in needs, so that the weighed densities were expected to decrease from 10.63 FTEs per 10 000 inhabitants in 2016, to 9.34 in 2036. This decrease was expected to be more marked in the French community (-19.0%) than in the Flemish community (-8.5%) (see Table 7 and Table 8).

In general, the base scenario ('under constant policy and conditions') is not used to set quotas, but forms the cornerstone to build alternative scenarios, on which quotas could be based. Nevertheless, in the context of the COVID-19 pandemic and observed shortage of doctors, the Planning Commission wanted to send out a strong signal, and formulated (on 2 February 2021) an advice for the 2027 quota only.¹⁰⁴ The quota was set to 1 517 doctors for 2027, which represents an increase of 72 doctors compared to the annual quota for 2023-2026. Although the federal Planning Commission is only responsible for setting the global quota, this quota was obtained as the sum of sub-quotas calculated for each specialty. For 2027, all sub-quotas were maintained at the same level as for the period 2023-2026, except for general medicine, that was increased from 628 to 700. It was decided to wait for the results of the alternative scenarios before proposing changes for the other specialties.



4.3 Alternative scenario – evolution of GP workforce 2016-2036

In April 2022, results from an alternative scenario were published by the Planning Commission, with (forecasted) evolution for the period 2016-2036.¹⁰⁵ This scenario took into account possible evolution of the parameters of the model, both in terms of organisation of care and of care delivery itself. It assumed:

- A reduction of the activity rate (parameter #14) compared to historical trends. In the age group 60-69, GPs will, on average, carry out a greater volume of activity in the future due to the increase in the legal retirement age, but at the same time will work fewer hours. These two effects were supposed to compensate themselves, so that the activity rate from this age group was not impacted. From 70 years old, the activity rate will progressively decrease.
- Additional adjustments in the activity rate (parameter #14) were made for (1) male GPs aged 30-34 in the French community in order to flatten the curve, (2) for all GPs aged 40+ in the Flemish community based on the expectation of convergence in activity levels between the two communities (work-life balance), and (3) for non-Belgian GPs in order to smooth the curve.
- Due to a longer life expectancy in good health, a shift in demand for care was made towards older age groups: the care need rate (parameter #15) is reduced in the age group 50-64 and increased in the age group 75+.
- The care need rate (parameter #15) is increased in the age group 20-70 to take into account the need for 'population management' as observed during the COVID-19 crisis.

According to this alternative scenario projections (see Table 7 and Table 8), the number of practising GPs in Belgium was anticipated to rise from 12 099 in 2016 to 12 885 in 2026 and 14 074 in 2036. However, such growth was not expected in FTEs, as they should evolve from 11 977 in 2016 to 10 751 in 2026 and 11 902 in 2036. Due to that and to the projected rise in demand, weighted densities were expected to decrease from 11.50 FTEs per 10 000 inhabitants in 2016 to 9.22 in 2026 and 2036 in the Flemish community and from 9.36 in 2016 to 7.98 in 2026 and 2036 in the French community.

Using this alternative scenario for GPs as well as alternative scenarios for other medical specialties, the Planning Commission formulated (on 10 March 2022) an advice for the 2028-2033 quotas.¹⁰⁶ The global annual quota for the period was set to 1 769 doctors. As this quota was calculated as the sum of sub-quotas for each medical specialty, the Planning Commission also published these sub-quotas, even though it is only legally responsible for setting the global quota. The sub-quota for general medicine was 789, which represents an increase of 89 GPs compared to the 2027 sub-quota.

4.4 Revised alternative scenario – evolution of GP workforce 2021-2041

In June 2022, the Health Minister mandated the Planning Commission to revise the suggested quota from 2029 onwards, taking more into account the impact of the COVID-19 crisis and potential future crises, in particular on general medicine. To do so, the Planning Commission has requested several additional studies, including a literature review on the impact of the COVID-19 pandemic on general practices¹⁰⁷ and a survey on Belgian GPs' working time⁶⁹. Results from these complementary analyses were summarised in a report that identified a list of factors (see Table 5 and Table 6) having a potential impact to be integrated in stock-and-flow model.¹⁰⁸

Table 5 – Factors with an impact on the activity rate (parameter #14)

Factor	Likelihood	Impact intensity	Impact direction
<i>Work-life balance</i>	High	Major	Decrease of activity rate
<i>Increase of group practices</i>	High	Major	Decrease of activity rate
<i>Technology and artificial intelligence</i>	High	Medium	Decrease of activity rate
<i>Tasks delegation to other health professionals</i>	Rather high	Medium	Decrease of activity rate
<i>Tasks delegation to other professionals outside health care</i>	Rather high	Medium	Decrease of activity rate
<i>Care coordination</i>	Medium	Medium	Increase of activity rate
<i>Subsidiarity between specialties</i>	Rather high	Major	Uncertain
<i>Increase retirement age</i>	High	Minor	Uncertain
<i>Increase of teleconsultations</i>	Medium	Medium	Uncertain

Source: Planning Unit (2023)¹⁰⁸

Table 6 – Factors with an impact on the care need rate (parameter #15)

Factor	Impact intensity	Impact direction
<i>Reduction hospital length of stay</i>	Major	Increase of care need rate
<i>Prevention and self-managed care/patients' autonomy</i>	Major	Increase of care need rate
<i>Social inequalities and access to care</i>	Major	Increase of care need rate
<i>Mental health care</i>	Major	Increase of care need rate
<i>Population aging</i>	Major	Increase of care need rate
<i>Keeping patients at home and coordination by a GP</i>	Medium	Increase of care need rate
<i>Longer healthy life expectancy</i>	Medium	Increase of care need rate
<i>Levels of care (global medical file) – referrals</i>	Medium	Increase of care need rate

Source: Planning Unit (2023)¹⁰⁸.

On the basis of the factors set out above and the survey of GPs, the working group doctors within the Planning Commission has decided to adapt the parameters values in the stock-and-flow model as follows:

- Reduce the observed FTEs (activity rate – parameter #14) for all GPs by 20% by 2031 (rapidly: -15% in 2026; -20% from 2031) except for the current generations aged 60 and over, who will keep the average activity rates currently observed when they change age group.
- Increase the care need rate (parameter #15) by 2041 by 5% for the age group 15-74 and by 10% for the age group 75+ (linear increases). An additional adjustment is applied by simulating the increase of 1% per year in the percentage of beneficiaries entitled to increased reimbursement (RVV/BIM).

In addition, parameters were modified following the availability of new data:

- The number of bachelor new inscriptions (parameter #1) was set at 992 in the French community and 1 391 in the Flemish community. In addition, the percentage of non-Belgian students was adapted in the French community from 2023 onwards.



- The specialty rate (parameter #6) for general medicine (the proportions of interns choosing to specialise as GP) was set for the future at 43% in the French community and 40% in the Flemish community.

The revised alternative scenario was published in September 2023, with (forecasted) evolution for the period 2021-2041, using the revised values described above.⁹⁸ Under these projections, the number of practising GPs in Belgium was anticipated to rise 12 554 in 2021 to 13 089 in 2026, marking a 4.3% increase. This number was expected to further increase to 13 606 in 2031, 14 716 in 2036 and 16 268 in 2041. The number of FTEs was expected to decrease from 4 327 in 2021 to 3 857 in 2031 in the French community and from 7 454 in 2021 to 7 038 in 2031 in the Flemish community. Then it would increase in 2041 to 4 467 in the French community and to 9 091 in the Flemish community. Weighted densities, however, were expected to decrease everywhere: from 9.30 FTEs per 10 000 inhabitants in 2021 to 7.45 in 2031 and 7.71 in 2041 in the French community and from 10.88 in 2021 to 9.10 in 2031 and 10.38 in 2041 in the Flemish community (see Table 7 and Table 8).

Based on the revised alternative scenario for GPs, as well as on adaptations in the alternative scenarios for other specialties, the Planning Commission formulated on 18 April 2023 a revised advice for the 2029-2033 quota.¹⁰⁹ The revised global quota amounts to 2 073 doctors, corresponding to an increase of 304 compared to the previously published 2028-2033 quota. The sub-quota for general medicine, although not a federal responsibility, corresponds to 980 GPs, an increase of 191 individuals compared to the previously published sub-quota.

A simulation was also performed where the number of persons starting the practical training for general medicine was set, from 2029 onwards, to the optimal level determined by the Planning Commission. In this simulation exercise, the increase in the number of practising GPs was expected to be larger: up to 17 690 in 2041, representing a 40.9% increase compared to 2021.¹² The number of FTEs was expected to increase to 14 547 in 2041 (+23.5% with respect to 2021) (see Table 7 and Table 8).

Table 7 – Forecasted evolution of GP workforce in the French community, 2016-2036 and 2021-2041

	2016	2021	2026	2031	2036	2041
Number of GPs						
<i>Base scenario</i>	5 192	5 363	5 386	5 358	5 489	
<i>Alternative scenario</i>	5 192	5 360	5 577	5 693	5 832	
<i>Revised alternative scenario</i>		5 310	5 539	5 585	5 821	6 297
<i>Simulation</i>		5 310	5 539	5 585	6 347	7 367
Number of FTEs						
<i>Base scenario</i>	4 284	4 028	3 866	3 856	4 041	
<i>Alternative scenario</i>	4 284	4 019	3 935	4 050	4 324	
<i>Revised alternative scenario</i>		4 327	3 957	3 857	4 076	4 467
<i>Simulation</i>		4 327	3 957	3 857	4 371	5 147
Weighted densities (FTEs per 10 000 inhabitants)						
<i>Base scenario</i>	9.36	8.49	7.86	7.53	7.58	
<i>Alternative scenario</i>	9.36	8.50	7.98	7.84	7.98	
<i>Revised alternative scenario</i>		9.30	8.08	7.45	7.42	7.71
<i>Simulation</i>		9.30	8.08	7.45	7.96	8.88

Table 8 – Forecasted evolution of GP workforce in the Flemish community, 2016-2036 and 2021-2041

	2016	2021	2026	2031	2036	2041
<i>Number of GPs</i>						
<i>Base scenario</i>	6 907	7 162	7 458	7 911	8 510	
<i>Alternative scenario</i>	6 907	7 203	7 308	7 707	8 242	
<i>Revised alternative scenario</i>		7 244	7 550	8 021	8 895	9 971
<i>Simulation</i>		7 244	7 550	8 021	9 072	10 323
<i>Number of FTEs</i>						
<i>Base scenario</i>	7 693	7 460	7 283	7 632	8 347	
<i>Alternative scenario</i>	7 693	7 280	6 816	6 964	7 578	
<i>Revised alternative scenario</i>		7 454	6 923	7 038	7 925	9 091
<i>Simulation</i>		7 454	6 923	7 038	8 070	9 400
<i>Weighted densities (FTEs per 10 000 inhabitants)</i>						
<i>Base scenario</i>	11.50	10.65	9.99	10.05	10.52	
<i>Alternative scenario</i>	11.50	10.35	9.22	8.94	9.22	
<i>Revised alternative scenario</i>		10.88	9.51	9.10	9.62	10.38
<i>Simulation</i>		10.88	9.51	9.10	9.80	10.73

4.5 Updated alternative scenarios – evolution of GP workforce 2023-2043

In 2025, the Minister of Health mandated the Planning Commission to revise the suggested quota for 2032 and 2033 and to pay particular attention to the impact of foreign trained doctors on future quotas calculation. The Planning Commission developed a so-called “autonomy” scenario to assess the impact of doctors fully trained abroad on national quotas as estimated in section 4.4. This scenario examines the consequences, over the entire projection period, of a disappearance of the inflow of newly fully foreign-trained doctors on the Belgian labour market. It is intended for analytical purposes only and does not form part of the official advice of the Planning Commission.

The new alternative scenarios were published in April 2026, with (forecasted) evolution for the period 2023-2043.¹¹⁰ Three scenarios were considered:

- A general alternative scenario (**AS**) based on assumptions described in section 4.4, applied to more recent data (historic data up to 2022)
- An alternative scenario (**AS quota**) where the number of persons starting the practical training for general medicine is set, for 2032 and 2033 to the optimal level determined by the Planning Commission.
- An alternative autonomy scenario (**AS auto**) where the additional inflow of fully qualified professionals trained abroad is set to zero from 2025 onwards.

Results from these simulations are presented in Table 9 and Table 10. Based on the updated alternative scenario for GPs, the Planning Commission formulated on 30 March 2026 a revised advice for the 2032-2033 quota.¹¹¹ The revised suggested global quota amounts to 2 199 doctors, of which 1 041 GPs.



Table 9 – Forecasted evolution of GP workforce in the French community, 2023-2043

	2023	2028	2033	2038	2043
<i>Number of GPs</i>					
AS	5 762	5 944	6 307	7 101	8 022
AS quota	5 762	5 944	6 307	7 468	8 868
AS auto	5 762	5 912	6 244	7 011	7 904
<i>Number of FTEs</i>					
AS	4 684	4 204	4 225	4 770	5 477
AS quota	4 684	4 204	4 225	4 964	5 982
AS auto	4 684	4 184	4 189	4 716	5 403
<i>Weighted densities (FTEs per 10 000 inhabitants)</i>					
AS	9.93	8.48	8.13	8.77	9.66
AS quota	9.93	8.48	8.13	9.12	10.55
AS auto	9.93	8.44	8.06	8.67	9.53

Table 10 – Forecasted evolution of GP workforce in the Flemish community, 2023-2043

	2023	2028	2033	2038	2043
<i>Number of GPs</i>					
AS	7 492	7 754	8 629	10 066	11 632
AS quota	7 492	7 754	8 629	9 896	11 246
AS auto	7 492	7 742	8 605	10 032	11 591
<i>Number of FTEs</i>					
AS	7 561	6 959	7 326	8 639	10 181
AS quota	7 561	6 959	7 326	8 508	9 861
AS auto	7 561	6 947	7 304	8 607	10 141
<i>Weighted densities (FTEs per 10 000 inhabitants)</i>					
AS	10.73	9.29	9.22	10.24	11.40
AS quota	10.73	9.29	9.22	10.09	11.04
AS auto	10.73	9.27	9.19	10.20	11.36

5 EVOLUTION OF GENERAL MEDICINE IN BELGIUM OVER THE NEXT 20 YEARS

KEY POINTS

- A scenario-based foresight approach was used to explore multiple plausible futures for GPs in Belgium by 2045.
- A panel of GPs, with the assistance of an external research team, has outlined **four scenarios** for the future. The scenarios exhibited variation regarding the degree of technological support and the degree of task diversification among GPs.
- The qualitative analysis of the scenario narratives enables the identification of four parameters for which the trend may deviate from the historical pattern:
 - the **specialty rate** represents the proportion of medical graduates who specialise in general practice (as a percentage of all medical graduates who begin a specialisation).
 - the **repartition rate** categories GPs into four groups, depending on whether they are active in clinical practice (as self-employed practitioners, salaried doctors or a combination of both) or in another field (in administration, pharmaceutical industry, school medicine, occupational medicine, etc.).
 - the **activity rate** is used to convert the 'gross' number of GPs engaged in clinical practice into full-time equivalents. Their actual practice time is influenced both by the number of hours they work during the week, and the proportion they dedicate to any other professional activities outside the practice.
 - the **care need rate** covers all services relating to a general practitioner's clinical practice. This measure comprises two main components: direct contact with patients ((tele)consultations and visits) and related tasks (administration, management, communication with other professionals, continuing professional development, etc.).

5.1 Introduction

To answer the first research question (i.e. how will the profession of general practitioners evolve over the next 20 years, given the anticipated demographic, economic, technological, and organisational changes?), a foresight method was used. Foresight refers to the ability to anticipate future developments. In other words, it involves looking ahead and identifying what might happen in the future, based on current data.

The foresight field encompasses many different methods: trend scanning and analysis, road mapping, visioning, back-casting and others.¹¹² Future scenarios are one amongst the range of foresight methods.

A defining feature of the scenario approach is that it goes beyond an extrapolation of past trends into a single future. The method projects multiple alternative futures based on an understanding of how uncertainties that can be perceived today, interact with one another to result in alternative, but plausible and internally consistent futures.¹¹³

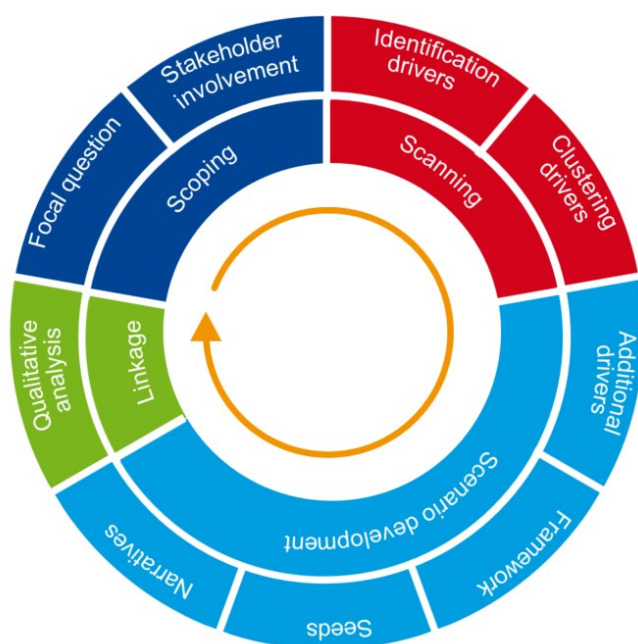
The end product of the process is a set of scenarios, usually presented in the form of a collection of narratives that each describe a future state and, if so desired, the transition path that links the present to the future. In the context of this report, the transition path is out-of-scope (see section 1.2).



5.2 Method

The scenario approach is a stakeholder-driven process aiming to explore and understand potential futures. Its use in KCE studies is described in detail in KCE report 410.² In this report, we focus on generating prospective scenarios to explore the future of the GP profession and its organisation. An additional methodological step links the output of the scenarios to the GP workforce projection model. As shown in Figure 10, in the context of this report, the scenario approach was completed by a qualitative analysis of the scenarios to inform the modelling of their impact on the parameters of the GP workforce projection model (see chapter 6).

Figure 10 – Methodological overview of chapter 5



5.2.1 Scenario generation

The scenario approach is a three-step process including a scoping phase, a scanning phase, and a scenario generation phase. Results are presented in sections 5.3.1, 5.3.2 and 5.3.3 respectively.

As the scenario approach is a stakeholder-driven process, the **scoping phase** involves the organisation of the stakeholder involvement. Additionally, the focal question to which the scenarios must provide an answer is defined. Stakeholder involvement consisted of recruiting participants for the scenario development phase (see below). Participants were recruited through an open call distributed via various professional associations. Furthermore, the KCE research team contacted individuals directly within their networks. An online registration form enabled interested GPs to express their interest in participating. Selection criteria were based on the availability to attend all workshops, and on diversity in terms of gender, age, language, practice type and region and involvement in regional or federal planning commissions. The scenario approach is typically guided by a focal question that reflects the strategic agenda of the planning organisation.¹¹⁴ In practice, the focal question should address the following three dimensions: what (i.e. the definition of the issue), where (i.e. the geographical limits) and until when (i.e. the time horizon).²

During the **scanning phase**, information is gathered on key elements (drivers) that either influence the GP workforce or the surrounding environment of the general practices. The scanning phase began with a scoping review of scientific literature, searching Pubmed for the last ten years in March 2025, supplemented by a grey literature search. The literature review search strategy, together with the inclusion and exclusion criteria and the PRISMA chart, are provided in the supplement. Information

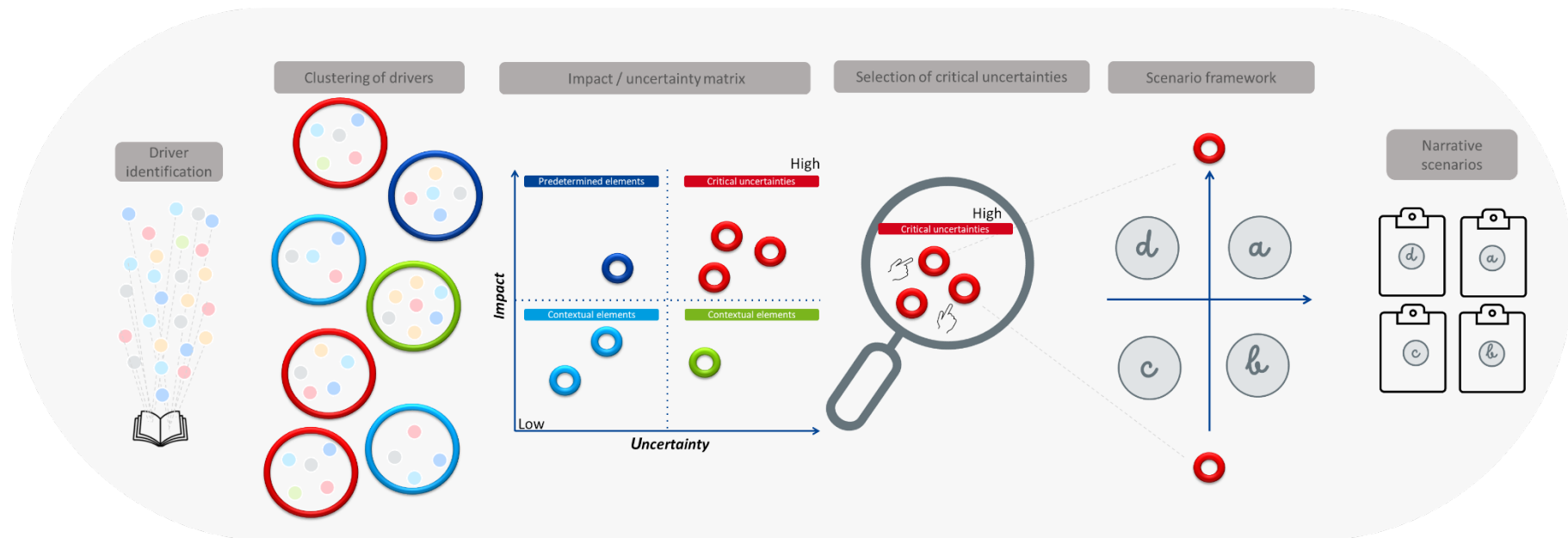
gathered from grey literature consisted of an analysis of documents from Belgian planning commissions and policy documents from federal authorities and federated entities as well as a recent book on the future of primary care¹¹⁵, and Belgian and foreign reports on GP workforce projections. Documentation of the Belgian context was supplemented with additional sources. Based on this material, KCE researchers identified several elements, which they organised into thematic sheets, detailing the theme definition, a (published and grey) literature summary, information on the Belgian context, and a list of factors potentially affecting the GP workforce (see supplement). Each thematic sheet thus represented a cluster of drivers. No specific systematic review was conducted for each identified theme. These thematic sheets represented a first attempt to organise the available (peer-reviewed and grey) literature as a foundation for the next steps in the scenario process and facilitating a shared understanding among the various stakeholders involved in the process. In addition, important topics such as accessibility of care (e.g. regional shortage) were identified in the scoping review but were not included in the thematic analysis. It was judged that these topics did not directly impact the parameters used to describe the GP supply or demand in the GP workforce projection model. However, they could be relevant for policy discussions, particularly, regarding supply distribution. These topics were identified and discussed with the stakeholders during the workshops.

The **scenario development phase** (see Figure 11) was conducted by an external team specialised in the generation of future scenarios (ShiftN, more information available at <https://shiftn.com/>). The process consisted of four steps which were implemented during four online workshops lasting two hours each, using interactive boards and virtual working rooms:

- Firstly, the clusters retrieved during the scanning phase were reviewed by the workshop participants. At this stage, participants could add drivers to the list of clusters previously identified.
- Secondly, the participants were asked to identify the potential uncertainties. To this end, they were asked, during the second workshop, to evaluate and prioritise the clusters based on their potential impact on the GP workforce and the level of uncertainty linked to the cluster. To perform this assessment, the members of the scenario development panel were split into four subgroups based on participant's language: two French-speaking and two Dutch-speaking groups. This analysis was supported by the use of an impact/uncertainty matrix. Clusters located at the top of the graph (high impact) are referred to as 'driving forces'. Those located in the top-left corner (high impact and low uncertainty) are referred to as 'predetermined elements'. Those located in the top-right corner (high impact and high uncertainty) are referred to as 'critical uncertainties'. These two types of driving forces are the key driving forces that are expected to exert a decisive influence on the system's future dynamics. A cluster of drivers was considered as a driving force when three out four groups independently assessed it as driving force. In case of disagreement between the four groups regarding the level of impact or uncertainty, the ShiftN team and members of the scenario development panel reached a consensus on the identification of driving forces and critical uncertainties through discussion. These critical uncertainties serve as the building blocks of the scenario framework. A common approach is the use of a '2-by-2' matrix, formed by placing two key uncertainties orthogonally. This produces a scenario space – a framework of four quadrants – each representing a distinct scenario "seed". At this stage, the initial complexity stemming from the scanning phase is reduced to a few underlying dimensions.
- Thirdly, once the framework has been established, small groups of participants were allocated a quadrant of the matrix (i.e. one scenario). In this phase, the scenario seeds were developed into narrative scenarios. Each narrative describes a plausible end state at the chosen time horizon. The pathways leading to these futures are out-of-scope of the present study. Participants were invited to draft a short 'day in the life of a GP in 2045' story in a text of around 200 words. They were also asked to address predefined elements and incorporate a few contextual factors identified earlier.
- Finally, the narratives were refined during the last workshop.



Figure 11 – Methodological approach for scenario generation



Legend: in red: critical uncertainties, in dark blue predetermined elements, in light blue contextual elements with low impact on the focal question

5.2.2 From scenarios to the GP workforce projection model

The scenarios are designed to provide consistent narrative descriptions of four possible future situations, which are organised around a scenario framework. Within each narrative, some elements pointed out how the demand for GP services might look in a hypothetical future, while others detailed how the supply of GP professionals might look like. In order to suggest and quantify alternative assumptions for the parameters of the GP workforce projection model (see section 4.1), we selected a qualitative approach to gain an in-depth understanding of how each scenario impacted the parameters of the GP workforce projection model. We performed a qualitative, deductive, thematic analysis of the scenario narratives, meaning that codes and themes were derived from the wording of the scenarios. The following phases were used during the analytical process:¹¹⁶

- Phase 1: familiarisation with the data

Two KCE researchers read all narratives multiple times to ensure a comprehensive understanding of the dataset.

- Phase 2: generation of initial codes

The narrative of the scenario A was coded independently by two KCE researchers. The codes used by the two researchers were compared and used to develop a coding tree to be applied to the narratives of the other scenarios. The coding tree was completed when new codes were identified in scenarios B, C and D. Where appropriate, segments of text from the narratives were given multiple codes to be fully described.

- Phase 3: thematisation

The codes were then collated into broader themes. Results are presented in section 5.3.4.1.

This deductive thematic approach was completed by an inductive analysis which was performed by one KCE researcher to identify potential additional elements influencing the parameters of the GP workforce projection model. Results are discussed in section 5.3.4.2.

Finally, the identified themes were linked to the parameters of the projection model. A distinction was made between parameters that are impacted differently depending on the scenario (results presented in section 5.3.4.3) and those that are impacted in a same way in all scenarios (results presented in section 5.3.4.4). The results are illustrated by quotes stemming from the narratives of scenarios.

5.3 Results

5.3.1 Scoping phase

CHARACTERISTICS OF THE PARTICIPANTS

The list of the scenario development panel members is reported in the supplement. Their characteristics are presented in Table 11. The scenario development panel was well balanced in terms of age, gender, language, and region. However, group practices (whether mono- or multidisciplinary) seem to be overrepresented. Details on participation rate are provided in the supplement.

**Table 11 – Scenario development panel: characteristics of the participants (n=20)**

	n
Age	
< 30	1
30-39	7
40-49	6
50-59	3
60-64	1
>65	2
Gender	
Female	11
Male	9
Language	
French	10
Dutch	10
Type of practice	
Multidisciplinary group practice	9
Community health centre	6
GP group practice	2
Solo practice	3
Region	
Flanders	10
Brussels-Capital region	4
Wallonia	6

FOCAL QUESTION

The scenarios are intended to support federal-level medical workforce planning in Belgium (see section 1.2). The focal question was defined as:

"How will the GP profession in Belgium evolve over the next 20 years in light of anticipated demographic, economic, technological, and organisational changes?"

This focal question directs attention to a specific medical specialism (general medicine), within a clearly defined geographical context (Belgium), and across a 20-year time horizon (to the year 2045). The time horizon was determined based on the scope of the Federal Planning Commission's planning cycle.

5.3.2 Scanning

The scoping review resulted in a rich database of factors flagged in the scientific and grey literature as potentially influencing the future shape of the GP profession. The results of the review are included in supplement. The KCE research team clustered the elements identified in 242 peer-reviewed papers and 27 documents from the grey literature into 13 thematic clusters. The 13 identified themes exhibit interconnectedness and influence one another. Consequently, it would have been possible to categorise the identified elements in the literature in a variety of ways. Table 12 presents a summary of the thematic clusters.

Table 12 – Themes identified during the scanning phase

Title	Definition
<i>Inflow in the workforce</i>	This theme includes all entries into the workforce from migration or from education. The inflow from migration can take place at different moments, i.e. during education or directly in the active workforce after the recognition of the equivalence of the diploma and the licence to practice.
<i>Drop-out</i>	There are several reasons why GPs leave general medical practice: death; retirement and pre-retirement; career break; choice of different career path/reorientation towards other healthcare activities; emigration of recent GP graduates.
<i>Attractiveness</i>	It has been argued that the GP profession has become less attractive. Many studies have investigated what determines most the attractiveness of the profession. While attractiveness influences the choice of general medicine as career or specialty, it can also affect GP's intentions to retire early. It is thus an important aspect to consider when planning the future GP workforce.
<i>Working hours</i>	The working time of GPs encompasses not only the time dedicated to clinical activities but also indirect clinical activities. Clinical activities are defined as direct patient care i.e. interactions with patients either in person during consultations or via home-visits, either remote interactions such e-consultations, phone calls or e-mail, etc. Conversely, indirect clinical activities designate the provision of other medical work, on top of clinical activities. Next to these, some GPs have non-clinical activities such as education, management, administration, etc. (see also theme non-direct clinical activities). The measurement of working time is typically undertaken in terms of full time equivalent (FTE), although it can also be measured in sessions i.e. periods of time. The number of hours related to a session or a FTE is subject to variation according to the geographical location, or the type of practice.
<i>Out-of-hours GP services</i>	Out-of-hours services are services provided during evenings, nights, weekends and bank holidays.
<i>Shifts in types and organisations of GP practice</i>	GP practice types can be classified as follows (see also section 3.5): • Solo practices where a unique GP provides care at a given location. • Group practices or larger-scale practices are GP practices involving two or more GPs who provide medical care within the same facility. These GPs usually share resources (equipment, etc.) and personnel if any (receptionist, etc.). • Multidisciplinary practices are GP practices involving at least one GP and one other healthcare professional (e.g. nurse, physiotherapist) who provide care within the same facility. These practices imply a certain degree of task delegation from GPs to other professionals (see also theme task delegation). • Multi-practice collaboration involves several practices (on different locations) working together. They can pool resources to enhance operational efficiency. These collaborations can take various forms, such as federations, networks, or alliances.
<i>Technological and digital tools</i>	Technological and digital solutions are finding their place in the medical landscape. The pace of implementation and use differs. This theme includes e-consults (video, emails) and teleconsultations, tools for interprofessional/multidisciplinary communication (including an electronic patient file), remote health monitoring and mobile health, clinical decision support tools (risk scores, AI driven symptom diagnostic tools, link to guidelines), increased data availability (e.g. indicators, population management) which require data analysis skills.
<i>Evolution of patient population</i>	This theme focuses on demographic and socio-economic characteristics of the population, but also the changing disease patterns (more chronic conditions, more mental health problems, impact of environment and pollution on the emergence of new diseases and risk factors) and changing patient expectations.



Task delegation	Task delegation or task shifting is defined as the reallocation and redistribution of tasks and the sharing of roles among health professions and different groups of health professionals.⁵⁰ Vertical substitution refers to the structural reorganisation of activities between professional groups with different levels of education, while horizontal substitution refers to the structural reallocation of activities from one professional group to another professional group with the same level of education.⁵¹ The redistribution of less complex, specialised medical care from hospitals to GPs¹¹⁹ is an illustration of horizontal task delegation also called subsidiarity.¹²⁰ The follow-up of diabetic patients by nurses specialised in this pathology exemplifies vertical task delegation. In primary care, vertical task delegation can be organised with or without the supervision of a GP. GP's task delegation to other healthcare professionals or to non-clinical professionals can have several purposes: improving cost-efficiency, decreasing pressure on the GP's workload, coping with GP shortage, matching the care need of the patients, or supporting out-of-hours primary care.¹²¹⁻¹²⁶
Impact of hospital and home care on general medicine	The impact of hospital and home care on general medicine is defined by the manner in which the organisation of such care and the empowerment or behaviour of its patients influence the demand for general practitioners.
Non-direct clinical activities	Indirect clinical activities entail all sort of activities away from direct patient care and is sometimes also called: non-medical tasks; non-patient-facing work or non-face-to-face activities; hidden work; non-billable work. These activities designate the provision of other medical work, in addition to direct patient contacts. Among others, indirect clinical activities include education-related activities, management, administration, etc.¹¹⁷ Non-direct clinical activities are defined as all activities outside "direct patient care", which includes all direct contact with individual patients, including face-to-face contacts but also phone calls, emailing, etc.¹¹⁸
New skill mix and tasks	The changing context of society, patient population, organisation of health systems and health care, requires healthcare professionals to have an adapted skill mix. New skills will be necessary. Factors driving the need for an adapted skill mix and work package for the GPs are more focussed on prevention (lifestyle, screenings, vaccinations); patient empowerment and improving health literacy; more care coordination; multi and inter-disciplinary team working; more mental health care (including addiction care); genomic medicine (genetic testing); acute crises (such as COVID-19). While international trends provide an overall direction, for example through a stronger focus on prevention, the tasks and required skills largely depend on how policy makers implement these trends at national and regional levels. The country/regional context is thus important.
Co-location of GP practices and emergency services	This approach aims to reduce low acuity use of the emergency department, i.e. to reduce the use of emergency departments for non-urgent conditions or conditions that could be handled by a GP. In this approach, a GP practice is co-located with the hospital emergency department. Both services provide a unified entry point for care, using joint triage to determine the appropriate care level based on established algorithms and protocols. Although both services function independently, they maintain extensive mutual consultation and referral.

5.3.3 Scenario generation

ADDITIONAL DRIVERS

The scenario development panel identified an additional cluster named 'Regulation and Financing' (Figure 12). This cluster gathers policy-related factors at macro level concerning the non-medical determinants of health, such as housing and food policies, etc., and the global organisation of health care including the primary funding (including orientations of ongoing policies regarding the

nomenclature), prevention, hospital care organisation and the stimulation of geographical collaborative networks (e.g. primary care networks, integrated care). Additionally, the members of the scenario development panel proposed additional factors within the clusters suggested by the KCE team. The list of factors is provided in the supplement.

Figure 12 – Overview of drivers related to the GP workforce



SCENARIO FRAMEWORK

The first assessment based on the impact / uncertainty matrix led to a consensus on the identification of five driving forces. Two of these were predetermined elements (Cluster 1: Inflow into the workforce and Cluster 4: Working hours) and three were critical uncertainties (Cluster 2: drop out, Cluster 5: Out-of-hours GP services and Cluster 14: Regulations and funding).

In addition, Cluster 8 (Evolution of patient population) was assessed as a predetermined element by two groups. Cluster 3 (Attractiveness), Cluster 12 (New skill mix and tasks) and Cluster 13 (Co-location of GP practices and emergency services) were also assessed as critical uncertainties by two groups.

The four groups were asked to select two critical uncertainties from those that had reached a consensus or at least those chosen by half of the groups. All groups chose Cluster 3 (Attractiveness).

Surprisingly, both Dutch-speaking groups paired this with Cluster 7 (Technical and Digital Solutions), even though only one Dutch-speaking group assessed this cluster as critical uncertainty during the first assessment. The group highlighted the many uncertainties surrounding the future integration of technology into general medicine, including performance, accessibility, interoperability, and control issues.

In contrast, both French-speaking groups selected Cluster 12 (New skill mix and tasks) as their second critical uncertainty. This choice reflects differing views on the evolving role of the GPs, ranging from an optimistic vision of the GPs as central coordinators and clinical anchors in patient care, to a more critical perspective anticipating a potential marginalisation of the profession within an increasingly hospital-centric healthcare system.

The shiftN team observed that all groups' scriptwriting imagination played out particularly on the diagonal of the scenario space where the levels of critical uncertainties correlate: high attractiveness with the high positive impact of technology, and vice versa, and high attractiveness with strong clinical autonomy and scope of GPs' responsibilities, and vice versa.



SCENARIO SEEDS

To strengthen the analytical clarity of the scenario framework, the shiftN team proposed, based on the output of the second workshop and the subsequent notes and discussions, that Cluster 3 (Attractiveness) should be treated not as a structuring critical uncertainty, but as a dependent variable, to be explored and assessed within each scenario. By focusing the 2x2 matrix on two truly independent and high-impact uncertainties – the role of technology in general medicine and the evolution of tasks and competencies – the shiftN team retained a coherent framework, while inviting GPs to actively reflect on how each scenario would affect the attractiveness of their profession.

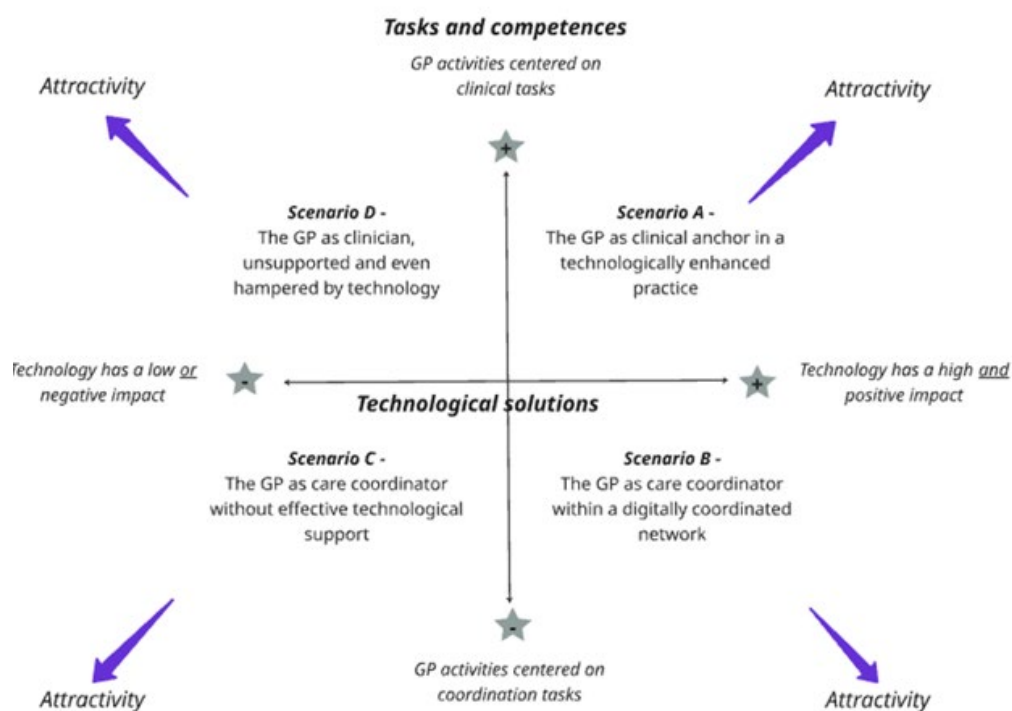
The two critical uncertainties were defined as follows:

- X-axis: Impact of technological solutions, with as polarities:
 - Technology has a low or negative impact [left]
 - Technology has a high and positive impact [right]
- Y-axis: Dominant nature of GP tasks and competences, with as polarities:
 - GP activities centred on coordination tasks [bottom]
 - GP activities centred on clinical tasks [top]

The members of the scenario development panel agreed with this approach resulting into four distinct and pertinent scenarios:

- Scenario A (top right): The GP as clinical anchor in a technologically enhanced practice.
- Scenario B (bottom right): The GP as care coordinator within a digitally coordinated network.
- Scenario C (bottom left): The GP as care coordinator without effective technological support.
- Scenario D (top left): The GP as clinician, unsupported and even hampered by technology.

Figure 13 – Proposed scenario framework



Source: shiftN

NARRATIVE SCENARIO

The four scenarios were developed during the third and fourth workshops. The narrative scenarios were of about one page. Table 13 provides an overview of the scenarios, enabling comparisons between them.

Table 13 – Summary of the four scenarios

Scenario A	Scenario B	Scenario C	Scenario D
Technology is very prominent in the practice. There is task shifting to technology for clinical as well as administrative tasks: parameter cabins that take blood pressure, weight, height, input via wearables managed via AI, simpler questions and follow-up of known conditions are managed by technological solutions.	Technology is very prominent in the practice. There is task shifting to technology for clinical as well as administrative tasks: many (health) care questions are managed by technological solutions (referral to other professionals, proposition of diagnoses and treatment, active follow-up). There is also task shifting to other professionals for clinical and administrative tasks.	There is task shifting to other professionals for clinical and administrative (incl. coordination) tasks: e.g. follow-up consultations and management of chronic patients largely delegated to nurses, practice assistants and allied health professionals.	There is limited task shifting to technology or to other professionals. Healthcare questions, and consultations are mainly managed by GP. Technology is present but non supportive: GP is reachable via all kinds of technological platforms: chat or connected monitoring systems.
Collaboration with other professionals (outside of the practice) is facilitated by technology: referrals to specialists are done via automatic triage, electronic consultations with specialists. There is a well-functioning shared patient record.	Collaboration with other professionals and task shifting are prominent and facilitated by technology (e.g. working in digital networks). There is a well-functioning shared patient record.	Collaboration and coordination with other professionals in and outside the practice are prominent but lack efficient technological tools.	Collaboration with other professionals (outside of the practice) are not specifically supported by efficient technological tools.
Patient contacts with GP are prominent, but few contacts for simpler questions or follow-up of known conditions. Patient contacts can be digital or physical. Technology reduces the need for direct GP contacts per patient. Longer consultations are organised for complex cases and patients in need for more time.	Patient contacts can be digital or physical. Technology and task shifting reduce the need for direct GP contacts per patient. Longer consultations are organised for complex cases and patients in need for more time.	Patient contacts with GP for more complex cases with option for longer consultations. The most common type of consultation is face-to-face. Task shifting reduces the need for direct GP contacts per patient.	The most common type of consultation is at the GP's office. Consultations can be time consuming as there is a lot of input from technology (wearables, online fora) that must be handled by the GP. Non supportive technology and lack of clear task shifting increases the number and/or duration for GP direct contacts per patient.
Main other tasks: managing and checking input from technology and input from other professionals.	Main other tasks: coordinating and checking input from technology and other professionals, but also time for population management, proactive approaches, policy.	Main other tasks: care coordination, meetings with other professionals, proactive approach, population management, practice organisation tasks and managing input of (fragmented / non supportive) technology.	Main other tasks: administration and managing input of (fragmented / non supportive) technology.



Autonomy of GP is high in terms of practice organisation and clinical management. They are responsible for medical decisions including those from technology.	Practice organisation and clinical management is a shared responsibility with other professionals.	Practice organisation and clinical management is more a shared responsibility with other professionals.	Autonomy of GP is high in terms of practice organisation and clinical management.
Small monodisciplinary practices (even solo practice) are the standard, with a practice assistant familiar with technology, but few real multidisciplinary practices.	There are several practice types possible as most interactions with other professionals are managed in a digital care network.	The dominant type of general practice is large multidisciplinary practice with a lot of direct (face-to-face) interactions with other professionals.	The dominant type of general practice is monodisciplinary (group) practices.

Note: In the context of this research, the term “task shifting” is a broad term and includes task transfer to another health professional, or to technology. Technology refers to services, material and IT solutions including AI supporting GP in their practice for administrative tasks, management of the practice, communication, solutions for prevention, diagnosis, monitoring, treating their patients. “Professional autonomy” and clinical independence describe the processes under which individual doctors have the freedom to exercise their professional judgment in the care and treatment of their patients without undue or inappropriate influence by outside parties or individuals. ¹²⁷

These scenarios would unfold within the surrounding healthcare system, as described by the following contextual elements, notably, related to the policy developments outlined in section 3.9:

- In 2045, there will be a quota system for doctors
- In 2045, the general health budget and growth norm will not specifically be different from today
- In 2045, the policy initiatives on the out-of-hours structuring will have been implemented
- In 2045, the policy initiatives aimed at structuring mental health care in primary care will have been implemented
- In 2045, the policy initiatives to stimulate geographical collaborating networks (primary care networks, integrated care, etc.) will have been implemented
- In 2045, the policy initiative to restructure the nomenclature will have been implemented
- In 2045, the use of hospital inpatient care will not be increased (i.e. length of stay per pathology will not be increased, daycare will not be shifted back to inpatient care)
- In 2045, the population profile (demographics, socio-economic, health, comorbidities) will be the same for every scenario (an older, diverse population with more co-morbidities).

5.3.4 From scenarios to the GP workforce projection model

This section aims to explore how parameters of the GP workforce projection model evolve within the futures outlined by the scenarios. To this end, a qualitative analysis of the narratives was conducted following the methodology described in section 5.3.4. The findings from this qualitative analysis are illustrated using selected quotes drawn from the narratives.

5.3.4.1 Thematic analysis of the scenarios

SCENARIO-DEPENDANT FACTORS AFFECTING THE GP WORKFORCE

Attractiveness

Each scenario explores the appeal of general medicine, shaped by factors such as opportunities for independent practice (relative to specialists), and evolving skill requirements for GPs. These include an interest in team leadership and the adoption of new technologies.

'New generations of doctors are attracted by this balance between human and machine: they are digitally skilled, clinically curious, and willing to work with AI' (Scenario A)

'The appeal of the profession increases for doctors who feel at home in a digital, leadership role' (Scenario B)

Drop-out of the GP profession

In the scenario narratives, drop-out refers to the GPs who leave clinical practice, either partially or completely, before reaching the retirement age. The described motivations are diverse and related to adaptability in the care delivery ecosystem (e.g. a high-tech practice environment), burnout (e.g. due to constant GP accessibility, mental pressure), or conversely, boreout (e.g. lack of meaningful clinical work) and a decrease in clinical activities compared to other tasks. These elements may affect GP's drop-out behaviour differently depending on their age, for instance the lack of adaptability to the care delivery ecosystem affects to a greater extent the older age categories of GPs while the decline in the proportion of time spent on patient consultations might lead to an exodus of the younger GPs.

'[...] this evolution may also lead to an outflow of doctors who feel less at home in a high-tech practice environment' (Scenario A)

'Younger doctors drop out because they cannot do enough clinical work, while older doctors who are less reliant on technology may remain longer.' (Scenario C)

Content of GPs' tasks

The variation in the content of GPs' tasks is discussed in all scenarios. Participants distinguished between 'tasks linked to the patient encounter' and 'other tasks'.

The **tasks linked to the patient encounter** encompass the following elements:

- Access to the practice, e.g. patient triage, continuity of care, etc.
- Consultation methods, i.e. remote or physical consultations, and their duration
- Maintenance of electronic medical records
- Specialist referrals
- Content of the consultation:
 - Management of the data flow from different sources: such as other healthcare providers, lab tests, imaging and new technology devices that monitor the patient health parameters
 - Patient awareness of information retrieved from AI or other sources of information
 - Diagnosis and care of patients

'AI performs triage, proposes diagnoses, and follows up treatment' (Scenario B)

'There is no seamless shared record, leading to a significant loss of time through extra meetings, paperwork, and coordination' (Scenario C)

'Referrals to specialised care proceed smoothly via automated triage and electronic consultation' (Scenario A)



'Patients arrive armed with information obtained beforehand via apps, AI diagnosis tools, or online forums. Some are worried about serious conditions suggested by their digital coach; others seek a 'second opinion' because they don't trust the AI. The first part of the consultation is often spent dispelling incorrect conclusions, rationalising online advice, and rebuilding trust.' (Scenario D)

The **'other tasks'** include administrative duties, organising the practice, and activities related to population health.

'Alongside these core tasks, time is also reserved for 'strategic work': preparing prevention campaigns, neighbourhood-level population health initiatives, or policy input at a higher level.' (Scenario C)

Depending on the scenario considered, 'tasks linked to the patient encounter' and 'other tasks' can be delegated to nurses, allied health professionals, practice assistants, social workers or AI at different intensity.

'The GP has minimal clinical contact with patients. Nurses and allied professionals conduct the majority of consultations' (Scenario C)

FACTORS AFFECTING THE GP WORKFORCE IN ALL SCENARIOS

Patient profiles

Scenarios identified the impact of ageing and variations in multimorbidity prevalence on the need of GPs. However, these trends are not influenced by changes in the organisation of care, therefore the impact is expected to be the same in all scenarios.

'Meanwhile, the volume of health care continues to rise, driven by an ageing population and multimorbidity' (Scenario C)

Work-life balance

The importance of work-life balance is acknowledged in all scenarios, albeit sometimes indirectly (through description of remote working options or out-of-hours organisation). The new generations of GPs are looking for a better work-life balance. Also, literature shows that there is a societal trend towards reducing working hours, including for GPs.^{128, 129}

'There is little administrative burden, few on-call shifts, and the possibility of remote working. [...] This scenario offers opportunities: more efficient care, less administrative burden, better population-level oversight, and a manageable work-life balance ' (Scenario B)

OTHER FACTORS

While the organisation of the practice is addressed in the scenarios, its impact on GP workforce is not explored in the narratives. The scenarios identified solo, group and multidisciplinary practices as practice types. The size of the practices also varies according to the scenario. Several remuneration methods were also discussed, such as fee-for-service, capitation, pay for quality, and salaried employment with additional bonuses for practice organisation. These methods may coexist in different ways depending on the scenario.

Literature shows that the type of GP practice or remuneration method may influence professionals' activity rates (i.e. the number of working hours).^{130, 131} However, such an impact was not discussed in the narratives..

5.3.4.2 Inductive analysis of the scenarios

The inductive analysis did not reveal any additional factors that would influence the GP workforce projection model. However, it provided deeper insights into the aforementioned factors and their impact on the parameters. Furthermore, the inductive approach facilitated the identification of resulting variables within each scenario. These resulting variables are text fragments that describe the consequences of the scenarios for the healthcare ecosystem. They describe how scenarios could

influence primary care efficiency, resilience in the face of health crises, the nature of patient relationships and care delivery (e.g. degree of personalised care, scope of biopsychosocial approach), patient experience, care fragmentation, policy consistency, population trust in the health system, the degree of care commercialisation and the GP practice costs. However, these elements do not directly affect the parameters included in the GP workforce projection model. Therefore, these text fragments were not analysed further.

5.3.4.3 Identification of parameters for scenario-dependent alternative assumptions

As identified in the thematic analysis, three elements were found to strongly differ in the four future scenarios (attractiveness, drop out of the GP profession and content of the GPs' tasks). These concepts can be mapped with three parameters of the GP workforce projection model as illustrated in Table 14. In addition, during the elicitation process (see chapter 6), it was identified that partial drop out should also be considered, i.e. when GPs decide to partially reorient in other professional activities (therefore dedicating a smaller part of their working time to practice). This element can also be mapped with a parameter of the projection model as illustrated in Table 14.

Table 14 – Parameters with scenario-dependent alternative assumptions

Concept identified in the scenarios	Corresponding parameter
Attractiveness	Parameter #6 (specialty rate) – percentage of medical interns starting the GP training
Drop out of the GP profession	Parameter #13 (repartition rate) – percentage of professionally active GPs who are practising in the healthcare sector
Content of the GPs' tasks	Parameter #15 (care need rate) – a proxy for the demand for GP services
Partial drop out of the GP profession	Parameter #14 (activity rate) – coefficient allowing to convert a number of practising GPs into FTEs

SPECIALTY RATE

The appeal of the GP profession was largely discussed within the narrative scenarios. Depending on the considered scenario, the GP profession is expected to become more or less attractive in the future. Attractiveness influences the choice of general medicine as specialty. In the GP workforce projection model, parameter #6 (specialty rate) is defined as the percentage of medical interns who start the GP training, among all medical specialties.

REPARTITION RATE

In the GP workforce projection model, parameter #13 (repartition rate) separates active GPs in four groups based on the type of employment statut: (1) active in the healthcare sector as self-employed (*Zelfst. in GZ / Ind. Santé*), (2) active in the healthcare sector with a mixed status (self-employed and salaried) (*Gem. in GZ / Comb. Santé*), (3) active in the healthcare sector as salaried worker (*Werkn. in GZ / Sal. Santé*), and (4) active outside the healthcare sector (*Niet in GZ / Hors Santé*). Healthcare sector should be understood as patient direct care. GPs active outside the healthcare sector are therefore GPs who are professionally active but not involved in direct patient care (for instance working in school health services, occupational medicine, family planning, academic or pharmaceutical research, public health administrations). The other three groups are practising doctors.

From the narrative scenarios, it appears that GPs might drop out of the practising sector and choose to work in another sector. The repartition between practising and non-practising GPs appears to be scenario dependent.



ACTIVITY RATE

In the GP workforce projection model, the activity rate (parameter #14) is calculated by age, sex, nationality and professional status (self-employed, salaried or mixed). For salaried workers, the activity rate takes into account activities for all employers of the healthcare sector. For self-employed doctors, the activity rate is calculated using individual gross reimbursement amount for the NIHDI services. Although it is based on reimbursed amounts, the activity rate should not be confused with the care need rate (parameter #15). The activity rate allows to translate the number of practising GP (headcount) into a number of practising FTEs. It must be interpreted as the proportion of a full-time equivalent that is worked by a given group of GPs. For instance, in 2021, the activity rate for Belgian self-employed female GPs aged between 25 and 29 was 0.53, meaning that, on average, this group of GPs was estimated to be working 53% of the time worked by GP in the reference group (male, self-employed, with no salaried activity, aged between 45 to 54). On the other hand, the activity rate for Belgian self-employed male GPs aged between 40 and 44 was 1.56, meaning that these GPs were estimated to have a workload 56% higher than a GP in the reference group.

In the scenarios, several references are made to an increased or decreased workload in the future. However, these elements often result from a change in the number of the type of services provided, elements that will be included in the alternative assumptions for parameter #15 (care need rate). To avoid a double counting, these elements must not be taken into account in the alternative assumptions for parameter #14 (activity rate).

Nevertheless, during the elicitation process (see chapter 6), it appeared that, not only drop out is scenario-dependant, but also partial drop out, i.e. the choice of partially working outside of practice. This impacts the activity rate, as practising GPs are expected to dedicate a smaller proportion of their working time to practice.

CARE NEED RATE

In the GP workforce projection model, the care need rate (parameter #15) is based on reimbursed fees for GP care observed over three years in the context of the compulsory health insurance (calculated by age and of the patient). Projections are made using demographic forecasts made by the Federal Planning Bureau. By default, the care need rate is supposed constant in each segment of the population, only the composition of the population changes.

The care need rate is used as a proxy for the demand for GP services. However, as it is based on reimbursed fees only, it only accounts for medical acts (i.e. direct patient encounters). Tasks of GPs go beyond only medical acts, as they also include administrative tasks, continuous training, collaboration with other professionals, communication with families, etc. Implicitly, in the GP workforce projection model, these tasks are considered to evolve proportionally to reimbursed fees, for each segment of the population.

But it was clear from the narrative scenarios that the balance between direct patient encounters and other tasks is expected to change in the future. These two components of the demand are not expected to evolve proportionally, nor are they expected to have a zero-sum relationship. In addition, the changes in these two components are scenario-dependent. To take this into account, we suggest separating parameter #15 into two sub-parameters, to be quantified separately: need in terms of patient encounter (parameter #15a) and need in terms of other tasks (parameter #15b).

5.3.4.4 Identification of parameters for common alternative assumptions

From the elements identified in the thematic analysis, two were also found to impact the future GP workforce independently of the considered scenarios. These concepts can also be mapped with parameters of the GP workforce projection model as illustrated in Table 15.

Table 15 – Parameters with common alternative assumptions

Concept identified in the scenarios	Corresponding parameter
Patient profile	Parameter #15 (care need rate) – a proxy for the demand for GP services
Work-life balance	Parameter #14 (activity rate) – coefficient allowing to convert a number of practising GPs into FTEs

CARE NEED RATE

In the GP workforce projection model, parameter #15 (care need rate) is used as a proxy for future demand. However, this indicator presents two major drawbacks. First, consumption is measured by expenditures, but fees are not proportional to the time spent with a patient. The time spent with a patient may depend on (1) patient-level factors such as patients' age, socioeconomic status, the presence of comorbidities, disabilities or mental health disorders, etc. (2) practice-level factors, for instance the GP's consultation rate (3) factors linked to healthcare organisation such as healthcare spending per capita, primary care doctor density, etc.^{68, 132} Second, future consumption forecasts only account for the evolution of population but suppose consumption is unchanged in each segment of the population.

Independent of the scenarios above, changes in population characteristics (including ageing but also a longer life expectancy in good health, a change in multimorbidity, etc.) are expected to have an impact on the future needs of GP care, that is currently not taken into account in the forecasts of parameter #15.

Combining these assumptions (common to all scenarios) with the scenario-specific assumptions described in section 5.3.4.3, will allow to develop a comprehensive set of alternative assumptions for parameter #15, that take into account changes in population characteristics as well changes in the type of services that will be provided by GPs in the future.

ACTIVITY RATE

Independent of the scenarios, future societal evolutions in lifestyle and work-life balance are expected to impact the activity rate. Although this was already previously identified, this element is not included in the baseline scenario developed by the Planning Unit (see section 4.2). However, it was accounted for in the alternative projections for the period 2016-2036 (see section 4.3).¹³³ These societal changes are still likely to occur, independent of the scenarios developed above. Therefore, for the development of the alternative projections up to 2045, we suggest defining alternative assumptions for parameter #14 that take into account these evolutions in lifestyle and work-life balance.

5.3.4.5 Impacted and unimpacted parameters

From the 15 parameters included in the GP workforce projection model (see section 4.1), five are common to all medical specialties and ten are specific to GPs. Among those ten parameters, two are impacted by changes that are both scenario-dependent and scenario-independent and two are impacted by scenario-dependent changes. The other 11 parameters are not directly impacted by the scenarios. Therefore, no alternative assumptions will be determined for these parameters. For the development of the alternative projections up to 2045, the assumptions for the evolution of these parameters should be similar to those used in the base projections (see Table 16). Note that, for the



five parameters common to all medical specialties (not shown in Table 16), also the base assumption is kept for future projections.

Table 16 – Impacted and unimpacted parameters

Parameter (GP specific)	Assumption for projection
Parameter #6 – Specialty rate	Alternative assumptions (scenario-dependent)
Parameter #7 – Internship completion rate	Base assumption
Parameter #8 – Registration rate	Base assumption
Parameter #9 – Sex and nationality proportions rates	Base assumption
Parameter #10 – Inflow of doctors trained abroad	Base assumption
Parameter #11 – Survival rate	Base assumption
Parameter #12 – Participation rate	Base assumption
Parameter #13 – Repartition rate	Alternative assumptions (scenario-dependent)
Parameter #14 – Activity rate	Alternative assumption (common + scenario-dependent)
Parameter #15 – Care need rate	Alternative assumptions (common + scenario-dependent)

6 QUANTITATIVE ASSESSMENT OF THE SCENARIO EFFECT ON THE PARAMETERS OF THE GP WORKFORCE PROJECTION MODEL

KEY POINTS

- Alternative assumptions have been formulated for three parameters associated with the GP supply (namely, the specialty rate, the repartition rate and the activity rate), and for one concerning the demand side (i.e. care need rate).
- A mixed-method approach was employed to quantify the alternative assumptions for the four considered parameters. The approach encompassed a synthesis of historical data and existing projections, complemented by an elicitation process informed by a Delphi process with a panel of GPs.
- Under the alternative assumption, the **specialty rate** ranges between 30% and 40% in 2045, depending on the scenario. A linear convergence is assumed for both the Flemish and French community, toward those uniform values.
- The alternative assumptions for the **repartition rate** foresee no change in the proportion of non-practising GPs in comparison to the base scenario, for one future scenario. For the three other future scenarios, the share of non-practising GPs in 2045 is assumed to be 17.5% above base projections, in both communities. A linear increase is assumed between 2025 and 2045.
- The alternative assumption supposed a sharp decline in the **activity rate** (-20% to -35% between 2022 and 2045, depending on the scenario). The decline is more pronounced in the future scenarios with less technological support. Whether a sharp decrease followed by a plateau or a linear decrease should be applied is left to the discretion of the working group doctors within the Planning Commission.
- Alternative assumptions for the **care need rate** consider both the need in terms of patient encounters and need in terms of other tasks. In each future scenario, the trends of these two elements were considered separately. The need for patient encounters is rising in each future scenario in all regions of the country. The extent of the increase depends on the data sources and the forecasting method employed. The need for other tasks may be reduced by the implementation of efficient technology. However, this also gives rise to new tasks for the GPs. Moreover, an increase in the need for other tasks was observed in future scenarios characterised by elevated level of task diversification, particularly in a context of collaboration and coordination activities. In our main specification, an increase ranging between +25% and +36% (depending on the future scenario) is expected for the care need rate at the national level. Sensitivity analysis is also presented.

6.1 Introduction

As shown in Table 16, alternative assumptions are to be developed for four parameters of the GP workforce projection model, three being related to the supply side (specialty rate, repartition rate and activity rate), one concerning the demand side (care need rate). The objective is to provide alternative figures to be used in the model, that differ from the ones that are purely based on historical data.

6.2 Methods

To develop quantified alternative assumptions for the four considered parameters, a mixed-method approach was applied (see Figure 14).



First, historical data and existing projection data were collected from different sources. These data were analysed to get an estimation of the value of each parameter in 2045. These estimations are always scenario independent. In the results sections, they are reported in the sub-sections 'historical data'.

Second, an expert elicitation process was carried out, using the Delphi Panel technique. Elicitation refers to the drawing out of knowledge from experts, in particular here regarding the future values of parameters.¹³⁴ This process is used because the future is complex and uncertain and cannot accurately be forecasted by projecting historical data forward.¹³⁴ The elicitation concern scenario-dependent values. Therefore, experts were provided with the table deprescribing the four scenarios (see Table 13) and the list of contextual elements (see section 5.3.3).

There are several approaches to expert elicitation, among which the Delphi Panel is commonly used.¹³⁵ The Delphi Panel method is a structured approach used to gather and refine expert knowledge through consensus. It involves multiple rounds in which experts submit their own estimates on the parameters being examined, along with the reasoning behind them. A facilitator then circulates these responses and a summary of the reasoning anonymously to the rest of the group. This allows participants to reconsider and adjust their estimates across iterative rounds.

Twenty-five experts (GPs from the academic institutions, representatives of professional organisations, medical unions, see supplement) participated to an introduction workshop, held online on 12 November 2025, where the aim of the process and the narrative scenarios were presented. Three online surveys were then successively sent to the participants. In the first round (from 13 November to 25 November 2025), they were asked to provide an estimated future value (in 2045) for identified parameters or sub-parameters, that might differ depending on the considered scenario. They could suggest any possible value in each case (open question), along with their reasoning. To help them, preliminary analyses based on historical data were provided.

The second round was introduced by an optional information workshop, where participants had the opportunity to ask clarifications on the scenario method and functioning of the elicitation process. During the second round (from 14 January to 26 January 2026), a predetermined value was suggested based on answers to the first round, along with a summary of respondents' justifications from the first round. Respondents were asked if they agree or not (on a four-point scale) with the suggested value. If at least 70% of the respondents agreed with the suggested value^r, it was considered that a consensus was reached. In some cases, several values were suggested, and respondents were asked to choose among them, or to state that none of them was appropriate. If at least 70% of the respondents selected the same suggested value, it was considered that a consensus was reached. For each parameter or sub-parameter, respondents were also asked if they agree that the value should not be further differentiated (for instance by age category of the GP, or by region). If at least 70% of the respondents agreed with the statement, it was considered that a consensus was reached.

Only values and statements for which no consensus was reached in the second round were discussed in a third round (from 17 February to 4 March 2026). In the latter, the consistency of suggested values across scenarios was also discussed, and respondents were asked, for each parameter or sub-parameter, whether they agree with a set of four assumptions (one per scenario). If they do not agree with the set, they could choose for which scenario(s) they disagree with the suggested assumption. If at least 70% of the respondents agreed with a suggested value, it was considered that a consensus was reached.

A final workshop was held online on 12 March 2026 to discuss values for which no consensus was reached during the second or third round. During this meeting, additional elements were also discussed such as the shape of the 2025-2045 trend for some parameters.

^r The consensus threshold was set at 70% as it is the minimum consensus rate as recommended by Skrinjar et al.¹³⁶

Table 17 shows the number of participants at each step. Participants names and affiliations are detailed in the supplement.

Table 17 – Participants to the elicitation process

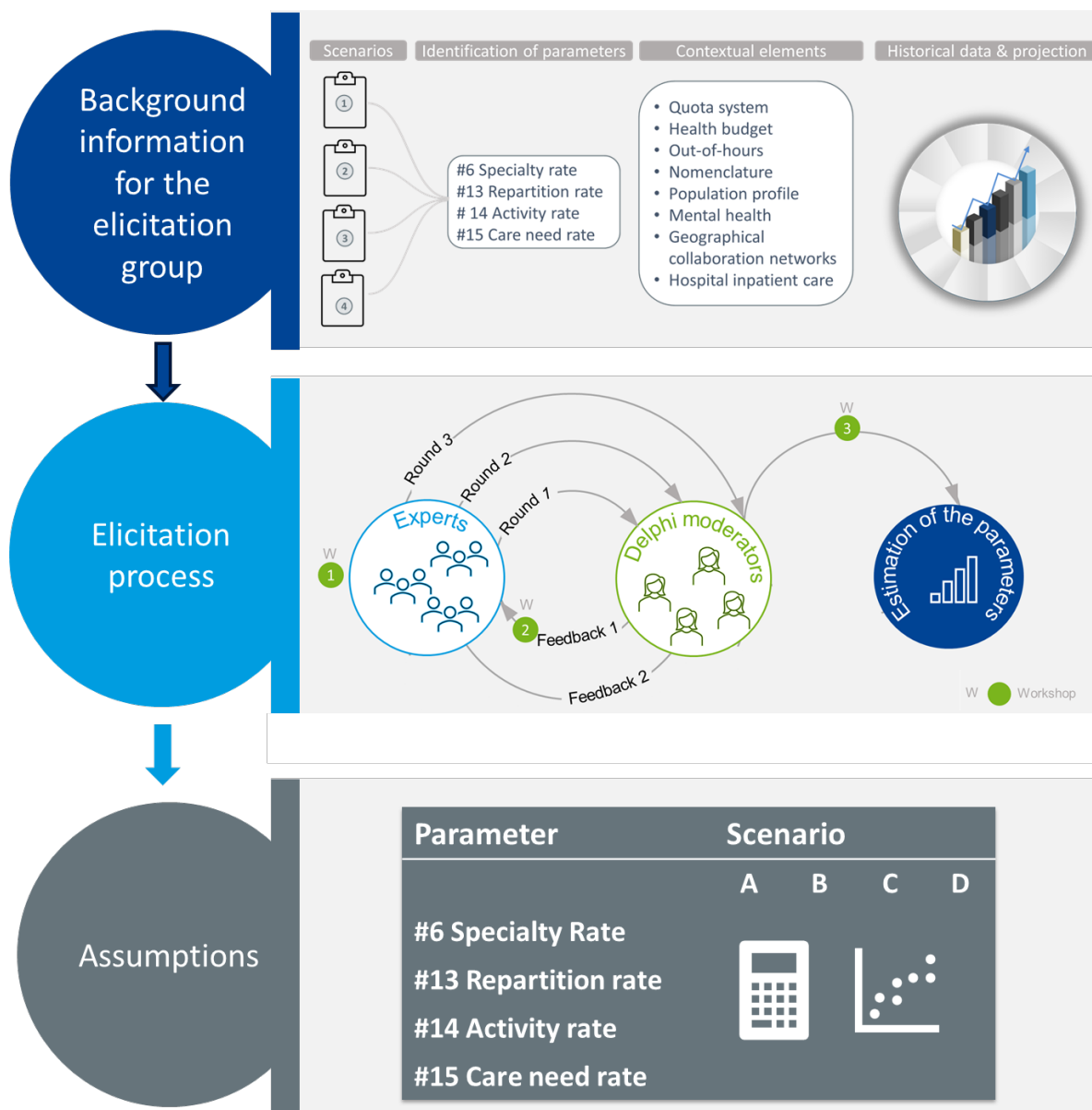
	Introduction workshop	Round 1	Round 2	Round 3	Final workshop
<i>French-speaker</i>	13	8	8	10	4
<i>Dutch-speaker</i>	12	11	11	10	8*
<i>Total</i>	25	19	19	20	12*

* One participant who was not able to attend provided his vote in advance

Hereafter, values resulting from the consensus process are described, along with the rationale for the results (retrieved from experts' comments during the Delphi Panel). Detailed results of intermediary steps are available in the supplement. All questionnaires (including a summary of participants' comments during previous rounds) are available, in French and Dutch, upon request.

Values resulting from the elicitation process, along historical data and other relevant data sources, form the base to build alternative assumptions for the four identified parameters. In some cases (e.g. for the specialty rate), elicited values were directly translated into alternative assumptions. In other cases (e.g. for the care need rate), further transformation or computation was necessary. Indeed, as it may be very difficult for experts to assess directly the future value of a parameter, the elicitation process rather focused on deviations from existing or projected trends, or on sub-components of the parameters.

Figure 14 – Overview of the methodological approach for the quantification of the scenario effect on the parameters of the GP workforce projection model



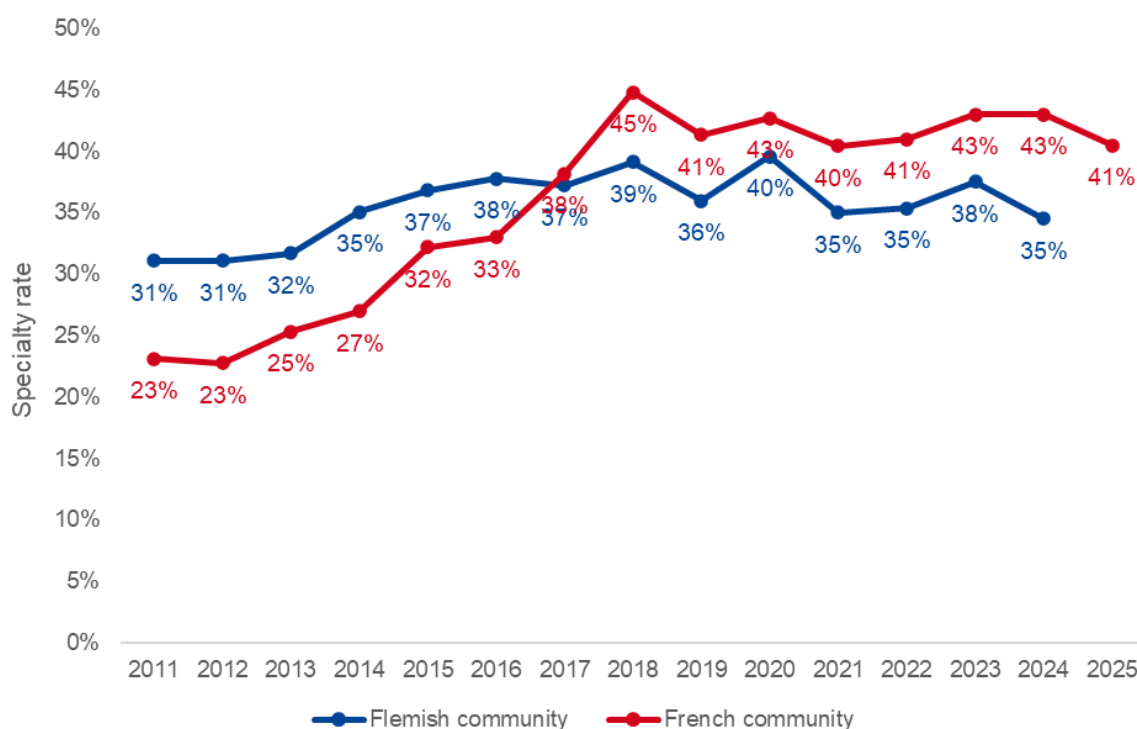
6.3 Alternative assumptions for the specialty rate

The specialty rate (parameter #6) is defined as the number of persons beginning their training in general medicine compared with the total number of persons beginning a training in any specialty. This parameter is calculated separately for each linguistic community.

HISTORICAL DATA

Figure 15 shows historical data. In 2024, the specialty rate was 35% in the Flemish community and 43% in the French community. Given the efforts made in both communities to increase the attractiveness of general medicine (and the number of internship locations), in a previous projection exercise (revised alternative scenarios 2021-2041 – see section 4.4), the Planning Commission assumed that this percentage would be (up to 2041) 40% in the Flemish community and 43% in the French community.

Figure 15 – Specialty rate in French and Flemish communities, 2011-2025



Sources: 2011-2015: FPS Public health (Cadastre); 2016-2022: FPS Public health (Planning Unit); 2022-2024 (Flemish community): Departement Zorg; 2022-2025 (French community): Jury inter-universitaire des facultés de médecine belges francophones.

DELPHI PANEL

Based on historical data and their own expertise, the elicitation panel members were asked to estimate the value of the specialty rate in 2045 in the four scenarios. During the second round, respondents were also asked whether a unique national assumption was sufficient for this parameter, or if the assumption should be differentiated for instance by region. During the final workshop, participants were asked whether the specialty rate is expected to evolve linearly between 2025 and 2045. Results from the Delphi Panel are presented in Table 18.

Table 18 – Specialty rate: results from the Delphi Panel

	Elicitation	Agreement	Consensus
Scenario A	40%	14/19 (74%)	Round 3
Scenario B	40%	7/8 (87%)	Workshop
Scenario C	35%	14/19 (74%)	Round 3
Scenario D	30%	16/19 (84%)	Round 3
Differentiation	Unique national assumption	13/17 (76%)	Round 2
Trend	Linear	5/6 (83%)	Workshop

RATIONALE

The specialty rate is determined by many factors that are not specific to the scenarios. In particular, it depends on political decisions regarding (sub-)quotas and the incentives to choose general medicine as a specialisation. Assuming these elements remain similar to what prevails today, the specialty rate



for general medicine should remain in a similar range in 2045 as in 2025, the four scenarios only having marginal impact on the rate.

In 2045, part of the students will be attracted by an organisation of general medicine such as the one described in scenario A. However, the characteristics of this scenario (technology and autonomy) that will attract some may appear unappealing for others. In addition, it is likely that the specialty rate has already reached a maximum, as it is difficult to envisage that more than 40% of the students will specialise in general medicine. Therefore, the impact of scenario A seems rather limited. Similar arguments apply for scenario B.

In scenarios C and D, general medicine will be less attractive to students, due to the lack of technology support. Respondents also emphasised that this effect is stronger in scenario D.

Respondents expect that regional differences, which are already decreasing, will disappear in the future. Therefore, for each scenario, a unique national assumption for the specialty rate in 2045 appears as sufficient. Of course, trends to reach this unique level will be different in the French and Dutch communities, as the starting point is slightly different. In the scenarios for which the specialty rate is expected to decrease (scenarios C and D), this decrease is expected to occur progressively, following a linear trend.

ASSUMPTION

Table 19 summarises the alternative assumptions suggested for parameter #6. In scenario A and B, in both communities, the specialty rate is assumed to stay constant (at 40%) between 2025 and 2045. In scenario C and D the specialty rate is, globally, expected to linearly decrease between 2025 and 2045. However, for scenario C, it should be noted the projected percentage in 2045 (35%) corresponds to the current level in the Flemish Community. Therefore, in that community, the percentage is actually projected to stay constant, while it is decreasing in the French community.

Table 19 – Alternative assumptions for parameter #6 (specialty rate)

Scenario	2030	2035	2040	2045
<i>Flemish community</i>				
<i>Scenario A</i>	40.00%	40.00%	40.00%	40.00%
<i>Scenario B</i>	40.00%	40.00%	40.00%	40.00%
<i>Scenario C</i>	35.00%	35.00%	35.00%	35.00%
<i>Scenario D</i>	33.75%	32.50%	31.25%	30.00%
<i>French community</i>				
<i>Scenario A</i>	40.00%	40.00%	40.00%	40.00%
<i>Scenario B</i>	40.00%	40.00%	40.00%	40.00%
<i>Scenario C</i>	39.50%	38.00%	36.50%	35.00%
<i>Scenario D</i>	38.25%	35.50%	32.75%	30.00%

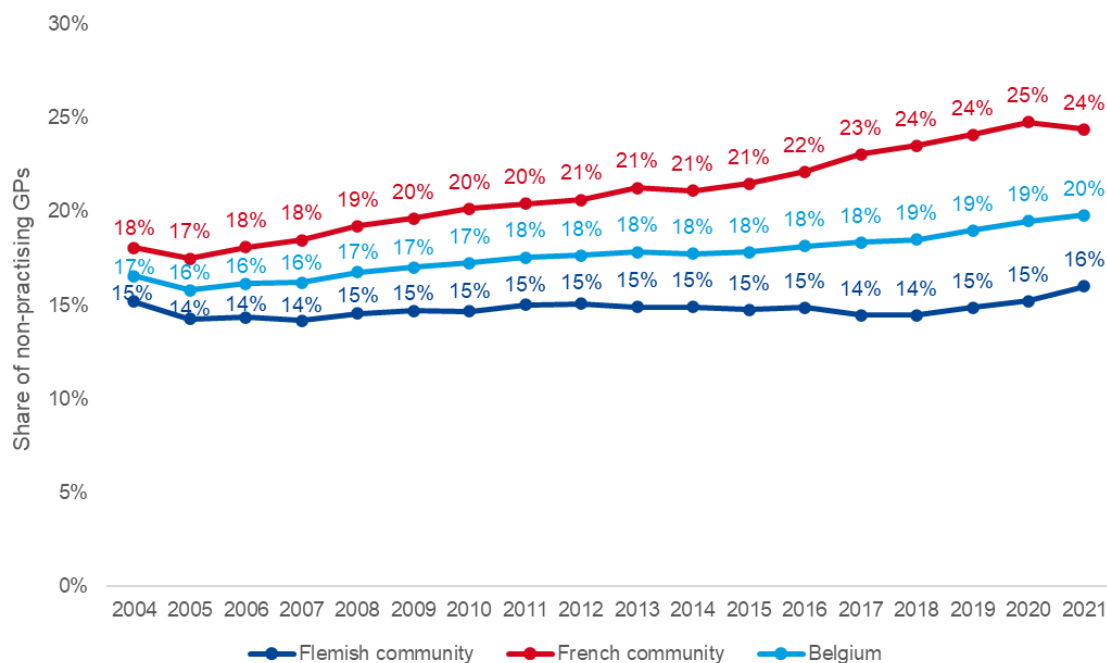
6.4 Alternative assumptions for the repartition rate

The repartition rate (parameter #13) separates professionally active GPs into three groups of practising GPs (self-employed, salaried, and mixed self-employed and salaried status) and one group of non-practising GPs (see section 3.4). The latter group concerns GPs who are professionally active, but not involved in direct patient care (for instance working in school health services, occupational medicine, family planning, academic or pharmaceutical research, public health administrations).

HISTORICAL DATA

Figure 16 shows historical data for the share of non-practising GPs among professionally active GPs. In 2021, this share was 16% in the Flemish community and 24% in the French community, corresponding to 20% at the national level.

Figure 16 – Share of non-practising GPs among professionally active GPs, 2004-2021



Source: Planning Unit, FPS Public Health

In the base scenario published by the Planning Commission for the period 2016-2036 (see section 4.2), this percentage was forecasted using 2016 data per community, age, sex and nationality.¹⁰⁰ In 2036, the share of non-practising GPs would be 17% at the Belgian level, 12% in the Flemish community and 23% in the French community (see Table 20).

Table 20 – Share of non-practising GPs, forecast base scenario 2016-2036

	Flemish community	French Community	Belgium
2026	13.96%	23.01%	18.00%
2031	12.85%	23.09%	17.30%
2036	12.16%	23.18%	16.83%

Source: Planning Unit, FPS Public Health (2020)¹⁰⁰

DELPHI PANEL

Depending on the future organisation of care, a different share of professionally active GPs might drop out of the practising sector and choose to work in a non-practising sector. Using historical data, previous projections, and their own expertise, the elicitation panel members were asked to estimate the value of the share of non-practising GPs in 2045 in the four scenarios. Results from the Delphi Panel are presented in Table 21.

**Table 21 – Share of non-practising GPs (Belgian level): results from the Delphi Panel**

	Elicitation	Agreement	Consensus
Scenario A	17% (as previous projections)	16/17 (94%)	Round 3
Scenario B	20% (above previous projections)	13/17 (76%)	Round 3
Scenario C	20% (above previous projections)	14/17 (82%)	Round 3
Scenario D	20% (above previous projections)	15/17 (88%)	Round 3
Differentiation	Unique national assumption	13/18 (72%)	Round 2
	Relevant in a further step to take into account historical differences between communities	13/17 (76%)	Round 3
Trend	Linear	7/7 (100%)	Workshop

Regarding the unique national assumption, a consensus was reached in round 2. In round 3, a statement explained that the suggested values are estimated at the Belgian level but that it might be relevant to differentiate further the assumption to account for historical differences between the Flemish and the French communities. A consensus was reached for the complete set of assumptions, including this last statement (76% of the respondents fully agreed with the suggested set of assumptions).

During the final workshop, a consensus was reached regarding the linear evolution of the share of non-practising GPs between 2025 and 2045.

RATIONALE

As respondents pointed out, there are many other career options outside of practice. Given this and the historical trend (see Figure 16), a decrease in drop-outs does not seem possible. Only in scenario A, the share of non-practising GPs would follow previous projections. In scenarios B, C and D, the share would be higher than foreseen in the previous projections. According to the consensus, the share of non-practising GPs would be 20% in 2045, which is 17.5% higher than the previous projections.

Many respondents also highlight the important regional differences in historical data, that do not seem to disappear over time.

ASSUMPTION

Table 22 summarises the alternative assumptions suggested for parameter #13. Because base projections for 2025 are not known yet and will likely differ from previous projections presented in Table 20, the assumption is presented as a method to be applied, rather than as actual numbers. In scenario A, the repartition rates in 2045 will be similar to those given by the base projections. In scenarios B, C and D, the share of non-practising GPs in 2045 would be 17.5% above the one predicted by the base projections, in both communities. Shares in other groups must be adapted accordingly.

Table 22 – Alternative assumptions for parameter #13 (repartition rate)

Scenario	Alternative assumption	
	Non-practising GPs Group 4 (“Niet in GZ” / “Hors Santé” /)	Practising GPs Groups 1 (“Zelfst. in GZ” / “Ind. Santé” /), 2 (“Gem. in GZ” / “Comb. Santé”) and 3 (“Werkn. in GZ” / “Sal. Santé”)
Scenario A	Unchanged with respect to base scenario.	Unchanged with respect to base scenario.
Scenario B	Share in 2045 is 17.5% above base projections, in both communities. For intermediate years, a linear increase between 2025 and 2045 is applied.	Repartition in three groups proportionally adapted to changes in group 4.
Scenario C		
Scenario D		

6.5 Alternative assumptions for the activity rate

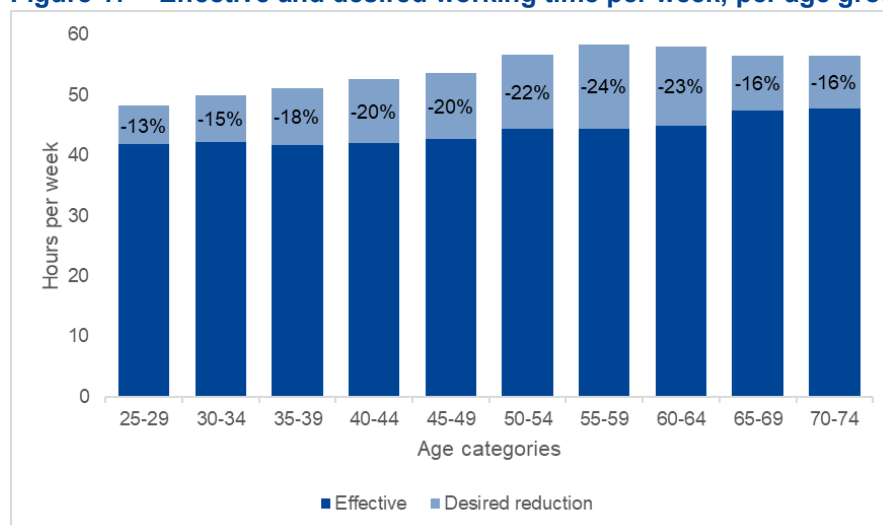
As discussed above, the future GP activity rate (parameter #14) depends on two elements (see sections 5.3.4.3 and 5.3.4.4). First, societal evolutions regarding working time, referring to working hours deemed appropriate to meet society's aspirations, taking into account the legislative framework that governs them. Given the societal nature of this change, it is not scenario dependant. Second, a possible desire for the GPs to partially reorient towards other activities (e.g. school medicine, occupational medicine, family planning, academic or industrial research, public administrations). In this case, GPs combine a practising activity with other activities. This desire to partially drop out may vary from one scenario to another.

EXISTING DATA

A survey conducted at the end of 2022 among nearly 3 000 GPs shows that the desired working time for GPs corresponds to 40 hours per week, while the actual working week at the time of the study was 50 hours on average.⁶⁹ It can be estimated that GPs would like to reduce their working hours by 20%.

Figure 17 shows results per age group. It can be seen that younger GPs already have an effective work week that is closer to their desired work week. The largest gap between effective and desired work week appears for GPs aged 50 to 64. It is to be expected that new generations of GPs will have a desired work week lasting around 40 hours, and an effective work week close to their desired one.

Figure 17 – Effective and desired working time per week, per age group



Source: Beersmans, Euben and Gils (2023)⁶⁹



These results are consistent with another survey, carried out in 2023 and completed by more than 1 800 GPs in Belgium, in which respondents indicate their preference in terms of practice organisation.²⁸ The status quo situation was compared to a model in which task delegation to a nurse leads to shorter working week by 5 hours. This model was preferred by 80.1% of the respondents.

Furthermore, in the context of the alternative projections for the period 2016-2036, the working group doctors within the Planning Commission assumed a 20% reduction in working hours for GPs (aged under 60 in 2021).¹⁰⁵

Similar trends are observed in other countries. In France for instance, more than 70% of the GPs participating to the National panel of self-employed GPs (n = 1 530) work longer than they would like.¹²³ The average duration of a work week decreased from 54.7 hours in 2018-2019 to 51.1 hours in 2022, corresponding to a 6.6% decrease in a few years.

In Australia, the Australian Medical Association showed that on average GPs have been trending towards fewer hours per worker for both male (mean 1.08 FTE in 2013 to 1.01 FTE in 2020) and female workers (0.83 FTE in 2013 to 0.81 FTE in 2020).¹³⁷

In the UK, around one quarter (24%) of permanently employed, qualified GPs worked full-time in general practice in 2021 (defined as 37.5 hours or more per week), while the majority worked part-time. Among part-time GPs, 68% worked between 15 and 37.5 hours per week.¹³⁸

It should be noted that these results contrast with trends observed in the Netherlands. Results from the Nivel Tijdsbestedingsonderzoek survey among 884 GPs (see supplement) showed that the working week of a Dutch GP lasts on average 48 hours in 2024, which is higher than the 44 hours observed in 2018 and 2013.¹³⁹ An increase was observed for both men and women, and for all types of work status.

DELPHI PANEL

Members of the elicitation panel were asked to estimate the variation of the activity rate between 2025 and 2045, taking into account both the societal evolution and the impact of each scenario. Results from the Delphi Panel are presented in Table 23.

Table 23 – Change in activity rate: results from the Delphi Panel

	Elicitation	Agreement	Consensus
Scenario A	-20%	14/15 (93%)	Round 3
Scenario B	-20%	13/15 (87%)	Round 3
Scenario C	-25%	14/15 (93%)	Round 3
Scenario D	-30%	14/15 (93%)	Round 3
Differentiation	Above decreases apply to the activity rate observed in each region in 2022	12/15 (80%)	Round 3
Trend	(a) Linear decrease between 2022 and 2032, then stable	4/6 (67%)	No
	(b) Linear decrease between 2022 and 2045	5/9 (56%)	No
	Present both assumptions (a) and (b)	4/5 (80%)	Workshop

RATIONALE

In scenario A and B, a decrease in working time is expected largely due to the societal evolution and not specifically driven by the scenario. Respondents estimate that scenario C and more importantly scenario D would lead to an increase in partial professional reorientations for GPs. It was argued that the unappealing character of scenarios C and D would not lead to an increase in drop-outs (see section 6.4) but will encourage GP to diversify their professional activities. If GPs partially work in other activities, their working time as practising GP is expected to decrease.

Several respondents pointed out that a decrease in working time is already happening. Preliminary results from the Flemish GP data inventory^s indicate that Flemish GPs worked in 2025 less hours per week than what is illustrated in Figure 17. Therefore, applying the elicited decreases to 2025 data would overestimate the impact. There was a consensus on applying the decreases to the 2022 data (see differentiation in Table 23).

In addition, as changes are already rapidly unfolding, some respondents expected the full decrease to occur in 10 years. They advocated the trend should be linear between 2022 and 2032. After that, the activity rate would have reached a plateau and would remain constant. However, other respondents pointed out that a rebound is also possible after a first decrease, as suggested by the Dutch data. Finally, some respondents argued that the decrease is likely to be gradual, therefore following a linear trend between 2022 and 2045. No consensus was reached on that matter. When asked whether both options (linear decrease until 2032 then stability or linear decrease until 2045) should be proposed, 80% of the respondents agreed with the suggestion.

ASSUMPTION

Table 24 summarises the alternative assumptions suggested for parameter #14. In the top part of table, the first assumption (linear decrease followed by a plateau) is presented, while the second assumption (linear decrease) is presented in the bottom part. Only the trend differs between these two assumptions, so that values for 2045 (last column) are similar under both assumptions.

Table 24 – Alternative assumptions for parameter #14 (activity rate)

Scenario	2027	2032	2035	2040	2045
	Change in activity rate compared to 2022 level, per community				
	(a) linear decrease followed by a plateau				
Scenario A	-10.00%	-20.00%	-20.00%	-20.00%	-20.00%
Scenario B	-10.00%	-20.00%	-20.00%	-20.00%	-20.00%
Scenario C	-12.50%	-25.00%	-25.00%	-25.00%	-25.00%
Scenario D	-17.50%	-35.00%	-35.00%	-35.00%	-35.00%
	(b) linear decrease				
Scenario A	-4.35%	-8.70%	-11.30%	-15.65%	-20.00%
Scenario B	-4.35%	-8.70%	-11.30%	-15.65%	-20.00%
Scenario C	-5.43%	-10.87%	-14.13%	-19.57%	-25.00%
Scenario D	-7.61%	-15.22%	-19.78%	-27.39%	-35.00%

As explained before, parameter #14 (activity rate) is calculated for self-employed doctors using the amounts paid by NIHDI for performed acts. A reference FTE is determined using the observed median of the total amount reimbursed for care provided by the reference group. This implicitly assumes that working time (dedicated to medical acts and to other tasks) is proportional to reimbursed amounts. However, this assumption can be challenged as, for instance, administrative tasks are not proportional to the number of contacts.

In the elicitation process, the activity rate was defined in terms of working time per week. Although it could be envisaged to modify the definition of parameter #14 in the GP workforce projection model, the assumptions above can be applied without such change. Indeed, the assumptions in Table 24 describe a percentage change for the activity rate, between 2022 and the following years. No assumption is made on the activity rate in 2022 itself. Therefore, the percentage changes in Table 24 can be applied to the activity rate calculated for 2022, in each community. These percentage changes

^s <https://www.departementzorg.be/nl/data-inventarisatie-huisartsen>



translate changes in working time per week, stepping aside from the implicit assumption that working time is proportional to reimbursed amounts.

Whether a sharp decrease followed by a plateau (first assumption) or a linear decrease (second assumption) should be applied is left to the discretion of the working group doctors within the Planning Commission.

6.6 Alternative assumptions for the care need rate

As explained earlier, quantification for the care need rate (parameter #15) is made in two parts: need in terms of patient encounters (parameter #15a – detailed in section 6.6.1) and need in terms of other tasks (parameter #15b – detailed in section 6.6.2). Section 6.6.3 describes how the two elements are combined and suggests alternative assumptions for the care need rate.

6.6.1 Need in terms of patient encounters

In what follows, we define patient contacts as the sum of consultations, teleconsultations and visits patients have with a GP. Using data from the Permanent Sample (*Echantillon Permanent – Permanente Steekproef*, EPS), we can estimate there were around 59 million reimbursed contacts per year in Belgium on average in 2021-2023, corresponding to 5.1 contacts per inhabitant on average. More details are given in Table 25.

Table 25 – Number of GP contacts in Belgium, 2021-2023

	Annual number	Average per inhabitant
<i>Number of consultations (including teleconsultation) paid in the fee-for-service system</i>	48 317 667	4.2
<i>Number of visits (including teleconsultation) paid in the fee-for-service system</i>	8 231 640	0.7
<i>Number of patients in the lump-sum (capitation) system</i>	563 726	
<i>Number of contacts in the lump-sum (capitation) system*</i>	2 457 253	
<i>Total number of contacts</i>	59 006 560	5.1

* Assuming the average number of consultations (including teleconsultations) and the average number of visits, per age group, are the same in the fee-for-service system and in the lump-sum system. Sources: KCE calculations based on RIZIV-INAMI, EPS and Statbel.

6.6.1.1 Baseline projection

In the GP workforce projection model, the consumption rate is based on reimbursed fees for GP care observed over three years in the context of the compulsory health insurance (calculated by age and sex of the patient). Projections are made using demographic forecasts made by the Federal Planning Bureau. By default, the consumption rate is supposed constant in each segment of the population, only the composition of the population changes.

The same reasoning can be applied to the number of patient contacts. Supposing the number of GP contacts stays constant in each age group of the population (at its level of 2021-2023), the total number of contacts in Belgium is expected to reach around 68 million in 2045, corresponding to 5.4 contacts per inhabitant on average. More details are given in Table 26. This baseline projection takes into account population ageing, but not consumption changes within each age group.

Table 26 – Number of GP contacts in Belgium, baseline projection, 2025-2045

	2025	2030	2035	2040	2045
Total number of contacts	60 531 321	62 461 162	64 545 860	66 483 360	68 058 347
Average number of contacts per inhabitant	5.1	5.2	5.3	5.4	5.4
Change in the total number of contacts (compared to 2025)		+3.2%	+6.6%	+9.8%	+12.4%

* Sources: KCE calculations based on RIZIV-INAMI, EPS at the Belgian level and Statbel.

6.6.1.2 PROMES-based projection

Changes in population characteristics other than age (longer life expectancy in good health, change in multimorbidity, etc.) are not taken into account in the baseline projection. Hereafter, we develop alternative projections using the microsimulation model PROMES (PROjecting Medical Spending).

This model, developed by the Federal Planning Bureau in collaboration with NIHDI, provides a detailed analytical vision of the determinants of NIHDI healthcare expenditure evolution and makes it possible to project these in the short and medium term. Care consumption is modelled using a two-step behavioural model in which the probability of use (step 1) and the volume (step 2) are explained in function of individual demographic and socio-economic characteristics, indicators of morbidity, previous consumption and living environment. Results from the behavioural model are then reweighted so that they can be applied to future populations. Projections for exogenous variables (e.g. demography) are made on the basis of a dynamic projection model and aligned with available external data (such as demographic projections, etc.). The different components of the model are described in Table 27. More details can be found in Geerts et al. (2018), Geerts and Geurts (2024) and Geurts and Van den Bosch (2025).¹⁴⁰⁻¹⁴²

Table 27 – Components of the PROMES projection model

Component	Description
Permanent Sample	The Permanent Sample is a longitudinal administrative database containing data on healthcare services covered by the compulsory health insurance for a sample of the population made up of around 1/40 of the insured persons under 65 and 1/20 of the insured persons aged 65 and over.
Behavioural Model	The estimation of the behavioural model is carried out on the Permanent Sample (n > 300 000) for the period 2010-2023. The behavioural model, at the individual level, links consumption of care to relevant individual characteristics such as age category, sex, health status, employment status and insured status. It allows to estimate, from specific characteristics of an individual, the probability of using care and the volume of this care. In particular, for consultations and visits of doctors, the probability of using care is modelled using logistic regressions including the following exogenous characteristics (for more details, see Geerts et al., 2018 and Geurts and Van den Bosch, 2025):^{140, 142} • Demographics: age group, sex, interaction age-sex • Individual health status: general health status indicator, chronic illness/invalidity indicator, specific chronic illness indicator • Flu epidemic variable at the national level • Social status: unemployment status, long-term unemployment status, isolated/cohabiting status • Insurance status: entitlement to increased reimbursement status, global medical file, maximum billing reimbursement • Living environment: district, population density • Medical density of doctors • Co-payment (<i>remgeld / ticket modérateur</i>) and the following endogenous characteristics representing previous care: • Hospitalisation (t-1, t-2, t-3)



	• Contacts with doctors (t-1) The volume of care is then modelled using a truncated-Poisson model.
Reweightings	Results from the behavioural models are reweighted so that they can be applied to future populations. Adjustments are made, either using external data when available, or using a separate dynamic microsimulation model for the projection of exogenous variables (on a yearly basis, based on the Permanent Sample 2009-2023). This dynamic projection model simulates the ageing, year after year, of the individuals in the Permanent Sample, and the undergoing transitions between the categories of the various exogenous variables. Births and deaths are also simulated. • Demographic characteristics are projected using demographic projections made by the Federal Planning Bureau and Statbel • Individual health status characteristics are projected using the dynamic microsimulation model • Flu epidemic variable is projected using historical data from Sciensano • Social status characteristics are projected using the dynamic microsimulation model aligned with households and unemployment projections made by the Federal Planning Bureau • Insurance status characteristics are projected using the dynamic microsimulation model • Medical densities are projected using projections of supply of healthcare professionals made by the Planning Commission of medical supply.
Additional assumption	Medical density is used as an explanatory variable in the behavioural model. In addition, when results from the behavioural model are reweighted so that they can be applied to future populations, medical density is projected using projections of supply of healthcare professionals made by the Planning Commission of medical supply. To avoid any endogeneity issue (although medical density only plays a minor role in the behavioural model), in the model used in the context of this KCE report, medical density projections are maintained artificially constant from 2023 onwards.

Source: adapted from Geerts et al. (2018)¹⁴⁰ and Lefèvre and Gerkens (2021)¹⁴³.

Projections are made separately for three sub-groups: GP consultations (including teleconsultations) paid in the fee-for-service system, GP visits paid in the fee-for-service system, and lump-sum (capitation) payments.

Results from the three categories are aggregated to measure the projected number of contacts with GPs. To do so, projections for the lump-sum payments are transformed into a number of contacts in the lump-sum system, assuming the average number of consultations (including teleconsultations) and the average number of visits, in each age group, are the same (for each year in historical data and in projections) in the fee-for-service system and in the lump-sum system.

As the PROMES model is a short- and medium-term model, projection results are available for each year up to 2035. To get a view on long term results, we extrapolate the trends up to 2045. A visual analysis of the PROMES results showed that each category of contacts (consultations, visits and lump-sum payments) evolves quite linearly in most age groups. Therefore, we performed a linear extrapolation of the 2024-2035 projections for each age group and each category of contacts. Results from the three categories are aggregated using similar assumptions as above.

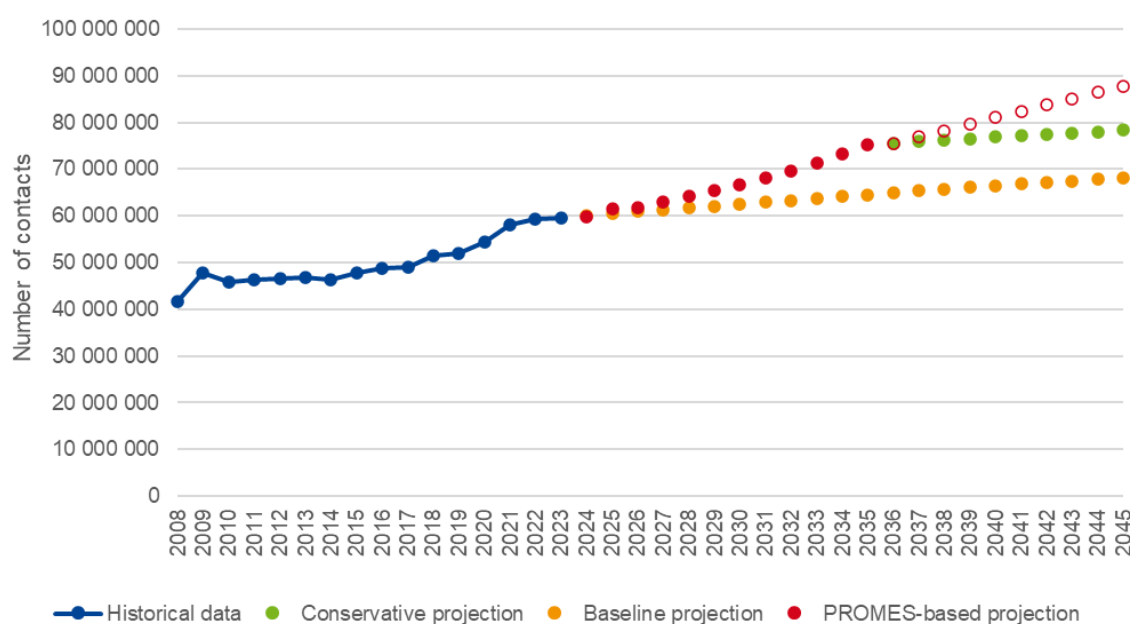
Table 28 shows the results. According to these projections, the total number of contacts in Belgium is expected to reach more than 87 million in 2045, corresponding to 7.0 contacts per inhabitant on average.

Table 28 – Number of GP contacts in Belgium, PROMES-based projection, 2025-2045

	2025	2030	2035	2040	2045
Total number of contacts	61 402 700	66 684 538	75 141 929	80 983 234	87 734 704
Average number of contacts per inhabitant	5.2	5.5	6.2	6.6	7.0
Evolution in the total number of contacts (compared to 2025)		+8.6%	+22.4%	+31.9%	+42.9%

Sources: 2025-2035: KCE calculations based on PROMES model estimates at the Belgian level August 2025, EPS 2009-2023 (Federal Planning Bureau); 2040-2045: KCE extrapolation based on Statbel population data.

Starting from the PROMES projections up to 2035, a more conservative approach could be to assume the number of (each category of) contacts stays constant in each age group of the population (at its level of 2035). Doing so rather than extrapolating the trends results in a total of 78 289 147 contacts in 2045, corresponding to 6.3 contacts per inhabitant on average and an increase of 28% compared to 2025. Figure 18 illustrates the results for each year, comparing the baseline projection and the PROMES-based projection with this conservative approach.

Figure 18 – Number of GP contacts in Belgium, data 2008-2023 and projections 2024-2045

Note: Baseline projection = population ageing; PROMES-based projection = behavioural model (filled red dots) + linear extrapolation (hollow red dots); conservative projection = behavioural model (filled red dots) + extrapolation constant consumption per age group (green dots). Sources: historical data: EPS; baseline projection: KCE calculations based on RIZIV-INAMI, EPS and Statbel; PROMES-based and conservative projections: KCE calculations based on PROMES model estimates at the Belgian level August 2025, EPS 2009-2023 (Federal Planning Bureau) and KCE extrapolation based on Statbel population data.

6.6.1.3 Elicitation

The PROMES-based projection takes into account many patients' characteristics but does not account for changes in the organisation of care as described in the scenarios. The elicitation panel was therefore presented with the PROMES-based projection results (and in the second round also the baseline projection) and was asked to estimate the change in the number of contacts between 2025 and 2045 in the context of each scenario. From the third round, to improve clarity, assumptions were



presented in the form of a deviation to the projections (see Figure 18). Results from the Delphi Panel are presented in Table 29.

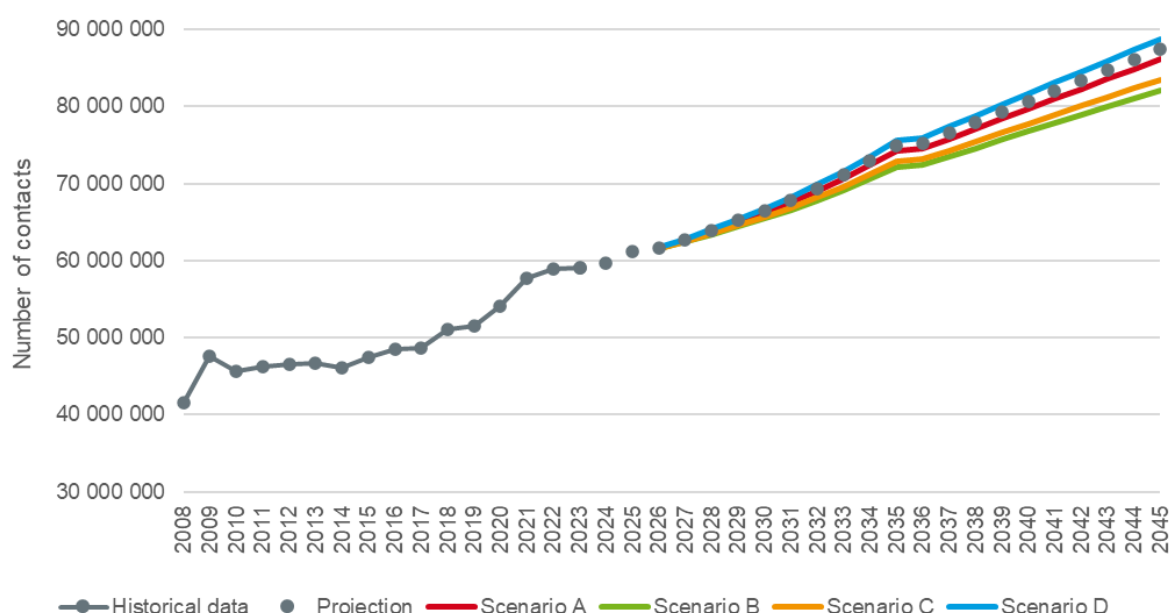
Table 29 – Number of GP contacts (variation with respect to projected increase): results from the Delphi Panel

	Elicitation	Agreement	Consensus
Scenario A	-5% with respect to projected increase	10/12 (83%)	Round 3
Scenario B	-20% with respect to projected increase	7/8 (88%)	Workshop
Scenario C	-15% with respect to projected increase	7/8 (88%)	Workshop
Scenario D	+5% with respect to projected increase	10/12 (83%)	Round 3

In all scenarios, the number of patient contacts is expected to increase by 2045, due to population growth, an ageing population and the current trend towards a higher number of consultations per patient. However, due to delegation to technology or to other professionals, the increase in the number of contacts will be reduced in scenarios A, B and C. In scenario D, a further increase is anticipated, as there is neither delegation nor technological support.

Figure 19 illustrates the impact of the suggested deviation on the projected number of contacts (PROMES-based projection) at the Belgian level while Table 30 provides more details for each region. Although there was no formal vote during the elicitation process, it was clear from the comments and discussions that projections should be separately performed for each region. Therefore, in Figure 19 and Table 30, the number of contacts in Belgium should be understood as the sum of the contacts in the three regions, modelled separately.

Figure 19 – Total number of GP contacts, deviation from PROMES-based projections in four scenarios



Note: Vertical axis truncated to improve readability. Each region is modelled separately.



Table 30 – Number of GP contacts in Wallonia, Flanders and Brussels, deviation from PROMES-based projections in four scenarios

		2025	2030	2035	2040	2045
<i>Wallonia</i>						
<i>PROMES-based projection</i>	Total number of contacts	19 340 625	20 948 393	23 630 995	25 387 928	27 375 601
	Average number of contacts per inhabitant	5.2	5.6	6.3	6.7	7.2
	Evolution in the total number of contacts (compared to 2025)		+8.3%	+22.2%	+31.3%	+41.5%
<i>Scenario A</i>	Total number of contacts	19 340 625	20 868 005	23 416 477	25 085 562	26 973 852
	Average number of contacts per inhabitant	5.2	5.6	6.2	6.6	7.1
	Evolution in the total number of contacts (compared to 2025)		+7.9%	+21.1%	+29.7%	+39.5%
<i>Scenario B</i>	Total number of contacts	19 340 625	20 626 839	22 772 921	24 178 467	25 768 606
	Average number of contacts per inhabitant	5.2	5.5	6.1	6.4	6.8
	Evolution in the total number of contacts (compared to 2025)		+6.7%	+17.7%	+25.0%	+33.2%
<i>Scenario C</i>	Total number of contacts	19 340 625	20 707 228	22 987 440	24 480 832	26 170 354
	Average number of contacts per inhabitant	5.2	5.5	6.1	6.5	6.9
	Evolution in the total number of contacts (compared to 2025)		+7.1%	+18.9%	+26.6%	+35.3%
<i>Scenario D</i>	Total number of contacts	19 340 625	21 028 781	23 845 514	25 690 293	27 777 350
	Average number of contacts per inhabitant	5.2	5.6	6.3	6.8	7.3
	Evolution in the total number of contacts (compared to 2025)		+8.7%	+23.3%	+32.8%	+43.6%
<i>Flanders</i>						
<i>PROMES-based projection</i>	Total number of contacts	37 121 456	39 978 591	44 722 745	47 865 529	51 573 542
	Average number of contacts per inhabitant	5.4	5.7	6.2	6.5	6.9
	Evolution in the total number of contacts (compared to 2025)		+7.7%	+20.5%	+28.9%	+38.9%
<i>Scenario A</i>	Total number of contacts	37 121 456	39 835 735	44 342 681	47 328 326	50 850 937
	Average number of contacts per inhabitant	5.4	5.7	6.2	6.5	6.8
	Evolution in the total number of contacts (compared to 2025)		+7.3%	+19.5%	+27.5%	+37.0%
<i>Scenario B</i>	Total number of contacts	37 121 456	39 407 164	43 202 488	45 716 715	48 683 125
	Average number of contacts per inhabitant	5.4	5.6	6.0	6.2	6.5



		2025	2030	2035	2040	2045
	Evolution in the total number of contacts (compared to 2025)		+6.2%	+16.4%	+23.2%	+31.1%
Scenario C	Total number of contacts	37 121 456	39 550 021	43 582 552	46 253 919	49 405 729
	Average number of contacts per inhabitant	5.4	5.6	6.1	6.3	6.6
	Evolution in the total number of contacts (compared to 2025)		+6.5%	+17.4%	+24.6%	+33.1%
Scenario D	Total number of contacts	37 121 456	40 121 448	45 102 810	48 402 733	52 296 146
	Average number of contacts per inhabitant	5.4	5.7	6.3	6.6	7.0
	Evolution in the total number of contacts (compared to 2025)		+8.1%	+21.5%	+30.4%	+40.9%
Brussels						
PROMES-based projection	Total number of contacts	4 734 329	5 528 719	6 508 526	7 433 334	8 434 585
	Average number of contacts per inhabitant	3.8	4.4	5.2	6.0	6.8
	Evolution in the total number of contacts (compared to 2025)		+16.8%	+37.5%	+57.0%	+78.2%
Scenario A	Total number of contacts	4 734 329	5 489 000	6 419 816	7 298 384	8 249 572
	Average number of contacts per inhabitant	3.8	4.4	5.2	5.9	6.7
	Evolution in the total number of contacts (compared to 2025)		+15.9%	+35.6%	+54.2%	+74.3%
Scenario B	Total number of contacts	4 734 329	5 369 841	6 153 686	6 893 533	7 694 533
	Average number of contacts per inhabitant	3.8	4.3	4.9	5.5	6.2
	Evolution in the total number of contacts (compared to 2025)		+13.4%	+30.0%	+45.6%	+62.5%
Scenario C	Total number of contacts	4 734 329	5 409 561	6 242 396	7 028 483	7 879 546
	Average number of contacts per inhabitant	3.8	4.3	5.0	5.7	6.4
	Evolution in the total number of contacts (compared to 2025)		+14.3%	+31.9%	+48.5%	+66.4%
Scenario D	Total number of contacts	4 734 329	5 568 439	6 597 235	7 568 284	8 619 597
	Average number of contacts per inhabitant	3.8	4.4	5.3	6.1	7.0
	Evolution in the total number of contacts (compared to 2025)		+17.6%	+39.3%	+59.9%	+82.1%
Total (Belgium)						
PROMES-based projection	Total number of contacts	61 196 410	66 455 704	74 862 266	80 686 791	87 383 727
	Average number of contacts per inhabitant	5.2	5.5	6.1	6.5	7.0
	Evolution in the total number of contacts (compared to 2025)		+8.6%	+22.3%	+31.8%	+42.8%



		2025	2030	2035	2040	2045
Scenario A	Total number of contacts	61 196 410	66 192 739	74 178 973	79 712 272	86 074 361
	Average number of contacts per inhabitant	5.2	5.5	6.1	6.5	6.9
	Evolution in the total number of contacts (compared to 2025)		+8.2%	+21.2%	+30.3%	+40.7%
Scenario B	Total number of contacts	61 196 410	65 403 845	72 129 095	76 788 715	82 146 264
	Average number of contacts per inhabitant	5.2	5.4	5.9	6.2	6.6
	Evolution in the total number of contacts (compared to 2025)		+6.9%	+17.9%	+25.5%	+34.2%
Scenario C	Total number of contacts	61 196 410	65 666 810	72 812 388	77 763 234	83 455 629
	Average number of contacts per inhabitant	5.2	5.5	6.0	6.3	6.7
	Evolution in the total number of contacts (compared to 2025)		+7.3%	+19.0%	+27.1%	+36.4%
Scenario D	Total number of contacts	61 196 410	66 718 668	75 545 559	81 661 310	88 693 093
	Average number of contacts per inhabitant	5.2	5.5	6.2	6.6	7.1
	Evolution in the total number of contacts (compared to 2025)		+9.0%	+23.4%	+33.4%	+44.9%

Note: Evolutions in the total number of contacts in scenarios A, B, C and D are obtained by modifying the evolution in the total number of contacts in the PROMES-based projection by -5%, -20%, -15%, and +5% respectively. Total number of contacts and average number of contacts in scenarios A, B, C and D are derived from these evolutions.

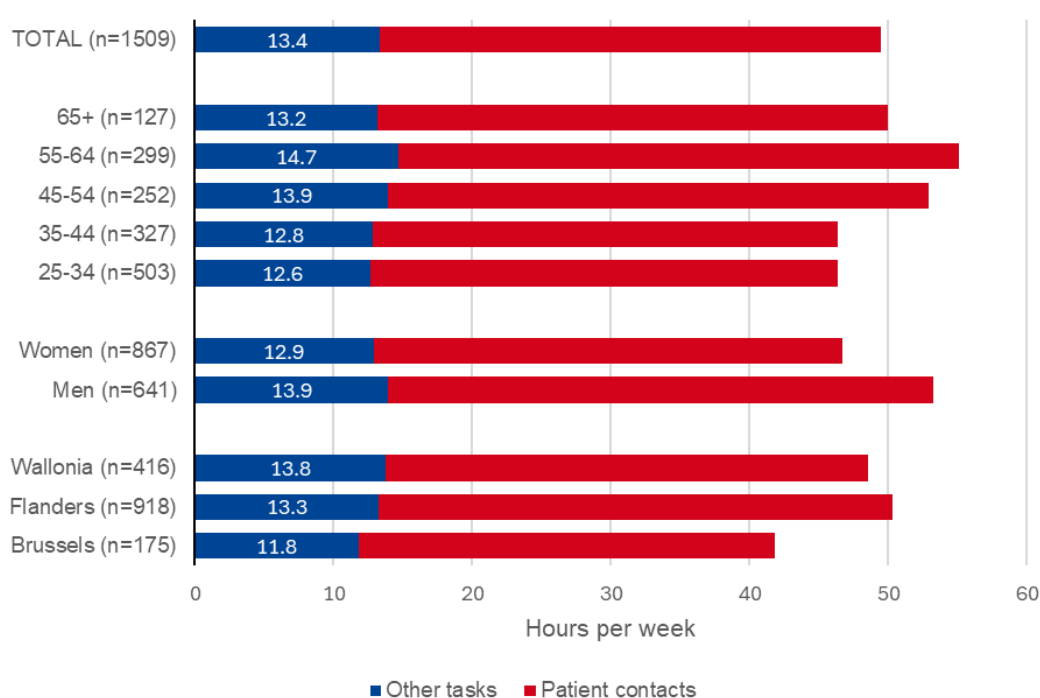
6.6.2 Need in terms of other professional tasks

Other professional tasks refer to all the tasks performed by the practising GP that do not involve direct contact (consultations, teleconsultations and visits) with patients. These tasks include administrative tasks, communication with other professionals, communication with relatives or patients (outside of consultations), reading results, on-call duties, reading medical literature, practice management, training, etc.

HISTORICAL DATA

From a survey conducted at the end of 2022, it can be estimated that respondents spent an average of 13 hours per week on these tasks.⁶⁹ There is little variation between GP's gender or age group, as shown by Figure 20.

Figure 20 – Average time spent by general practitioners on professional tasks (2022)



Source: Beersmans et al. (2023)⁶⁹

These results are consistent with another survey, carried out in 2023 and completed by more than 1 800 GPs in Belgium. In this survey respondents were asked about the time they spent on patient-related tasks excluding direct encounters.²⁸ Examples of such tasks were completing documents, sending e-mails, communicating results by phone, etc. Other tasks such as on-call duties, reading medical literature, training, etc. were not included in the definition, so that this definition of “other tasks” is narrower than the one described above. On average, respondents (n = 1 388) spent 8h45 per week on such tasks. A slight difference was observed between French-speakers (average 9h, n = 613) and Dutch-speakers (average 8h30, n = 775).



The Flemish GP data inventory^t also used a narrow definition (excluding on-call duties, teaching, research, etc.). Preliminary results indicate that Flemish GPs spent in 2025 on average 8h per week on such tasks.

In the Netherlands, the time dedicated to these “other tasks” is larger and increasing. Results from the Nivel Tijdsbestedingsonderzoek survey 2024 (see supplement) show that direct patient contacts represent around 50% of the GP working time.¹³⁹ As the average duration of a working week is around 48 hours, it means that GPs spend around 24 hours per week on tasks that are not direct patient encounters. Based on the survey, around half of it is indirectly related to patients, while the other half is not. In addition, the time dedicated to non-patient related tasks (entrepreneurship, internal/external meetings, continuous education, etc.) increased between 2018 and 2024. In 2018, it could be estimated that GPs spent on average 20 hours per week on “other tasks” (11 hours on patient-related tasks and 9 hours on non-patient related tasks).

In 2022, a report of the Australia Medical Association considered that one FTE GP corresponds to 40 hours among which 32 hours are dedicated to clinical activities (direct encounters with the patients) and 8 hours are dedicated to other tasks.¹³⁷

DELPHI PANEL

The elicitation panel was asked to estimate, for each scenario, the average time spent in 2045 by GPs on professional tasks other than consultations, teleconsultations and visits. Results from the Delphi Panel are presented in Table 31.

Table 31 – Other GP tasks: results from the Delphi Panel

	Elicitation	Agreement	Consensus
<i>Scenario A</i>	13 hours per week	15/16 (94%)	Round 3
<i>Scenario B</i>	20 hours per week	15/16 (94%)	Round 3
<i>Scenario C</i>	22 hours per week	15/16 (94%)	Round 3
<i>Scenario D</i>	15 hours per week	15/16 (94%)	Round 3
<i>Differentiation</i>	Unique national assumption	14/19 (74%)	Round 2
<i>Trend</i>	Linear	5/6 (83%)	Workshop

In scenario A, the support from technology could reduce the time dedicated to professional tasks outside patient encounters. However, technology also brings new tasks for GPs. Therefore, in scenario A, the time dedicated to “other professional tasks” is expected to stay constant. In scenarios B, collaboration and coordination tasks take up a large part of the GP’s time, and in scenario C this effect is reinforced by the lack of technological support. In scenario D, the lack of technological support increases the need for GPs to perform additional non-contact tasks.

Table 32 shows the final consensus for parameter #15b.

^t <https://www.departementzorg.be/nl/data-inventarisatie-huisartsen>

Table 32 – Other GP tasks: evolution 2025-2045

		2025	2030	2035	2040	2045
Scenario A	Hours per week	13h	13h	13h	13h	13h
	Change with respect to 2025		0%	0%	0%	0%
Scenario B	Hours per week	13h	14h45	16h30	18h15	20h
	Change with respect to 2025		+13.5%	+26.9%	+40.4%	+53.8%
Scenario C	Hours per week	13h	15h15	17h30	19h45	22h
	Change with respect to 2025		+17.3%	+34.6%	+51.9%	+69.2%
Scenario D	Hours per week	13h	13h30	14h	14h30	15h
	Change with respect to 2025		+3.8%	+7.7%	+11.5%	+15.4%

DOWNSCALING

During the elicitation exercise, it was argued that respondents may have overestimated the time spent on other tasks in 2045. Indeed, it was said that people estimated a proportion of their working time rather than an absolute number of hours. Therefore, when estimating the time spent on other tasks, they would have used a work week of 50 hours to estimate the time spent on other tasks. However, as detailed in section 6.5, the average duration of the work week is expected to decrease in the future. The number of hours spent on other tasks, as elicited in Table 31, should therefore be scaled down to take this into account. Table 33 shows the number of hours spent on other tasks (i.e. the values for parameter #15b) when the elicited values for 2045 are scaled down by 20%.

Table 33 – Other GP tasks: rescaled values (hours per week)

		2025	2030	2035	2040	2045
Scenario A	Hours per week	13.00	12.35	11.70	11.05	10.40
	Change with respect to 2025		-5.0%	-10.0%	-15.0%	-20.0%
Scenario B	Hours per week	13.00	13.75	14.50	15.25	16.00
	Change with respect to 2025		+5.8%	+11.5%	+17.3%	+23.1%
Scenario C	Hours per week	13.00	14.15	15.30	16.45	17.60
	Change with respect to 2025		+8.8%	+17.7%	+26.5%	+35.4%
Scenario D	Hours per week	13.00	12.75	12.50	12.25	12.00
	Change with respect to 2025		-1.9%	-3.8%	-5.8%	-7.7%

6.6.3 Alternative assumptions for the care need rate

In what follows, the expected changes in parameters #15a (see Table 30) and #15b (see Table 33) are combined to estimate future changes in the care need rate (parameter #15). Changes in parameter #15 are obtained as the weighted sum of changes in parameters #15a and #15b, where the weights are based on the current distribution of GPs' time, using the following equation:

$$0.74 \times C_i \times (1 + a_S) + 0.26 \times T_{iS}$$

Where:

- C_i represents the change in the number of contacts between 2025 and year i , as given in by the PROMES-based projections.
- a_S represents the adjustment factor associated with scenario S (-0.05 in scenario A, -0.20 in scenario B, -0.15 in scenario C and +0.05 in scenario D)
- $C_i \times (1 + a_S)$ represents the change in parameter #15a, between 2025 and year i , for scenario S , as given by Table 30

- T_{is} represents the change in other tasks between 2025 and year i , as given in Table 33. This corresponds to the change in parameter #15b

According to the results from a survey previously described, GPs currently spent around 74% of their time on patients encounters and 26% on other tasks.⁶⁹ These weights are used as a starting point but, as parameters #15a and #15b evolve differently, the proportion of time dedicated to encounters and to other tasks changes overtime.

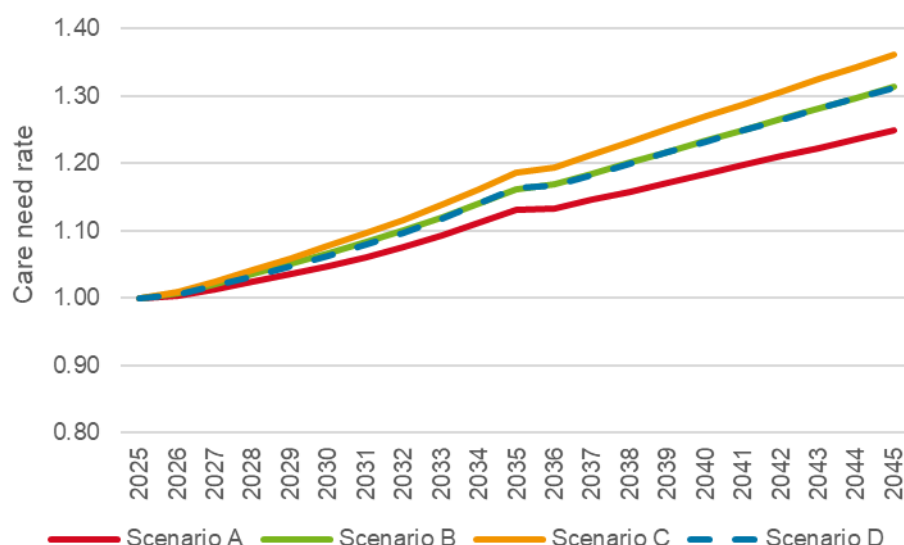
As the evolution of parameter #15a is estimated separately for the three regions, the estimations for parameter #15 are also made separately for each region, as illustrated in Table 34. Table 34 also presents the aggregated results at the Belgian level.

In the GP workforce projection model, parameter #15 is differentiated by community. Whether a unique national parameter should be used, or whether a distinction should be made by community (using a weighted sum of regional impacts) is left to the discretion of the working group doctors within the Planning Commission.

Table 34 – Alternative assumptions for parameter #15 (care need rate)

Scenario	2030	2035	2040	2045
<i>Change in care need rate compared to 2025 level</i>				
<i>Flanders</i>				
<i>Scenario A</i>	+4.1%	+11.8%	+16.4%	+22.2%
<i>Scenario B</i>	+6.1%	+15.1%	+21.6%	+29.0%
<i>Scenario C</i>	+7.1%	+17.5%	+25.1%	+33.7%
<i>Scenario D</i>	+5.5%	+14.9%	+21.0%	+28.3%
<i>Wallonia</i>				
<i>Scenario A</i>	+4.5%	+13.0%	+18.1%	+24.0%
<i>Scenario B</i>	+6.4%	+16.1%	+23.0%	+30.6%
<i>Scenario C</i>	+7.5%	+18.6%	+26.6%	+35.3%
<i>Scenario D</i>	+6.0%	+16.2%	+22.8%	+30.3%
<i>Brussels</i>				
<i>Scenario A</i>	+10.5%	+23.7%	+36.2%	+49.7%
<i>Scenario B</i>	+11.4%	+25.2%	+38.2%	+52.3%
<i>Scenario C</i>	+12.9%	+28.2%	+42.8%	+58.4%
<i>Scenario D</i>	+12.5%	+28.1%	+42.8%	+58.7%
<i>Belgium</i>				
<i>Scenario A</i>	+4.7%	+13.1%	+18.5%	+24.9%
<i>Scenario B</i>	+6.6%	+16.2%	+23.4%	+31.3%
<i>Scenario C</i>	+7.7%	+18.6%	+26.9%	+36.1%
<i>Scenario D</i>	+6.2%	+16.4%	+23.2%	+31.2%

Figure 21 illustrates the evolution of parameter #15 in the four scenarios, for each year, at the aggregated (Belgian) level, when its level of 2025 is normalised at 1.

Figure 21 – Care need rate in four scenarios, evolution 2025-2045 at the Belgian level

Note: care need rate in 2025 is normalised to 1.

Between 2025 and 2045, at the national level, the care need rate would increase by a percentage ranging between 25% and 36%. While the evolution differs in each scenario, the differences are not large. Indeed, changes in the number of contacts and changes in other tasks tend to compensate each other.

Scenario A is the one with the smallest increase and scenario C the one with the largest increase. Future care need rates are close to one another in scenarios B and D, but for different reasons. In scenario D, the increase in need is driven by an increase in the number of contacts and administrative tasks, due to the lack of support of technology. In scenario B, the increase is driven by an important increase in the time dedicated to other tasks, that is not offset by the decrease in the number of contacts due to task delegation, nor by the support of technology.

It may seem surprising that the care need rate is not fundamentally lower in scenarios B and C, where task delegation is important. This comes from the fact that the elicitation panel did not expect much gain from task delegation in terms of number of contacts with GPs. However, they expect scenarios B and C to have a strong impact on the increase in other GP tasks (i.e. other than direct patient contact). This illustrates a disconnection between the global perception regarding the evolution of a parameter and the perception of evolution for each of its component.

6.6.4 Sensitivity analysis

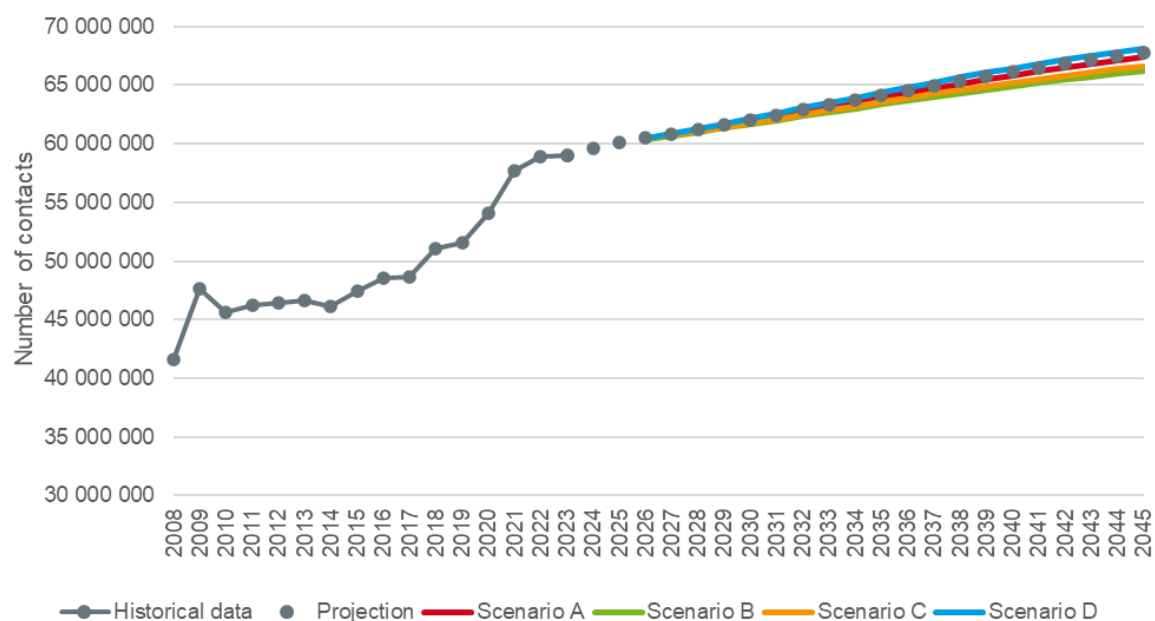
BASELINE VS PROMES-BASED PROJECTIONS

As explained above, the impact of the four scenarios on the number of contacts was elicited in terms of deviations to the projected trend. In section 6.6.3, we assumed these deviations apply to the PROMES-based projection described in section 6.6.1.2. However, some members of the elicitation panel questioned the plausibility of the PROMES-based projections. To them, such large increases seem unrealistic. In what follows we detail the evolution of the care need rate in each scenario, where deviations in parameter #15a are applied to the baseline projections described in section 6.6.1.1.

Figure 22 and Table 35 present results for parameter #15a where the deviations are applied to the baseline projections rather than to the PROMES-based projections.



Figure 22 – Total number of GP contacts, deviation from baseline projections in four scenarios



Note: Vertical axis truncated to improve readability. Each region is modelled separately.

Table 35 – Number of GP contacts, deviation from baseline projections in four scenarios

		2025	2030	2035	2040	2045
Baseline projection	Total number of contacts	60 087 278	62 047 080	64 169 217	66 144 318	67 765 857
	Average number of contacts per inhabitant	5.1	5.2	5.3	5.4	5.4
	Evolution in the total number of contacts (compared to 2025)		+3.3%	+6.8%	+10.1%	+12.8%
Scenario A	Total number of contacts	60 087 278	61 949 090	63 965 120	65 841 466	67 381 928
	Average number of contacts per inhabitant	5.1	5.2	5.2	5.3	5.4
	Evolution in the total number of contacts (compared to 2025)		+3.1%	+6.5%	+9.6%	+12.1%
Scenario B	Total number of contacts	60 087 278	61 655 120	63 352 829	64 932 910	66 230 141
	Average number of contacts per inhabitant	5.1	5.1	5.2	5.3	5.3
	Evolution in the total number of contacts (compared to 2025)		+2.6%	+5.4%	+8.1%	+10.2%
Scenario C	Total number of contacts	60 087 278	61 753 110	63 556 926	65 235 762	66 614 070
	Average number of contacts per inhabitant	5.1	5.1	5.2	5.3	5.3
	Evolution in the total number of contacts (compared to 2025)		+2.8%	+5.8%	+8.6%	+10.9%
Scenario D	Total number of contacts	60 087 278	62 145 071	64 373 314	66 447 170	68 149 786
	Average number of contacts per inhabitant	5.1	5.2	5.3	5.4	5.5
	Evolution in the total number of contacts (compared to 2025)		+3.4%	+7.1%	+10.6%	+13.4%

Note: Evolutions in the total number of contacts in scenarios A, B, C and D are obtained by modifying the evolution in the total number of contacts in the baseline projection by -5%, -20%, -15%, and +5% respectively. Total number of contacts and average number of contacts in scenarios A, B, C and D are derived from these evolutions.

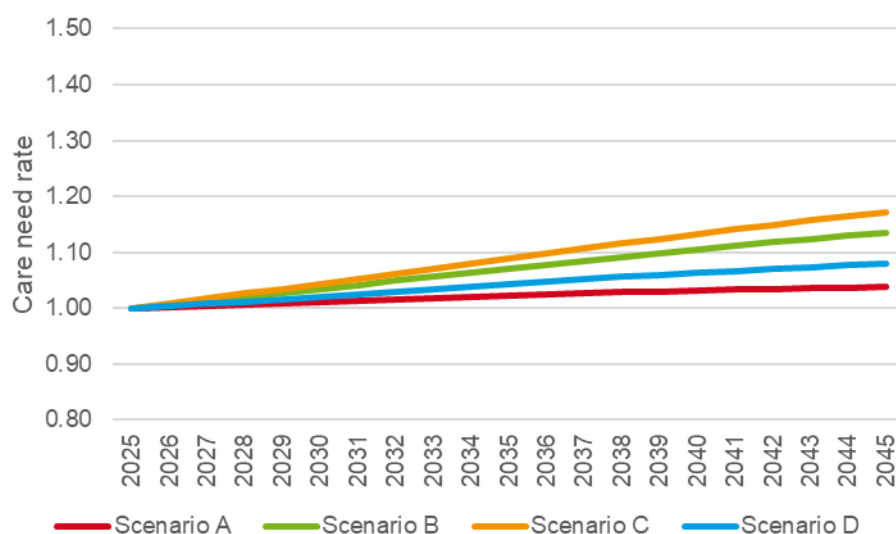
Table 36 presents the resulting alternative assumption for parameter #15. Between 2025 and 2045, at the national level, the care need rate would increase by a percentage ranging between 4% and 17%, which is much less than when the PROMES-based projections are used as starting point. Also, more differences appear between scenarios. In particular, scenarios B and C show larger future care need rates than the other scenarios. This is due a disproportionate effect of the evolution of time dedicated to other tasks compared to the evolution of the number of contacts. Indeed, in this sensibility analysis, the number of contacts only slightly increases, while the time dedicated to other tasks largely increases in both scenarios B and C.

Table 36 – Alternative assumptions for parameter #15 (care need rate) (sensibility analysis – baseline projections as starting point)

Scenario	2030	2035	2040	2045
<i>Change in care need rate compared to 2025 level</i>				
<i>Wallonia</i>				
<i>Scenario A</i>	+0.5%	+1.3%	+1.8%	+1.6%
<i>Scenario B</i>	+3.0%	+6.3%	+9.3%	+11.7%
<i>Scenario C</i>	+3.9%	+8.1%	+12.0%	+15.3%
<i>Scenario D</i>	+1.5%	+3.3%	+4.8%	+5.5%
<i>Flanders</i>				
<i>Scenario A</i>	+1.4%	+3.0%	+4.5%	+5.6%
<i>Scenario B</i>	+3.8%	+7.7%	+11.5%	+15.1%
<i>Scenario C</i>	+4.7%	+9.6%	+14.4%	+18.9%
<i>Scenario D</i>	+2.5%	+5.2%	+7.7%	+9.9%
<i>Brussels</i>				
<i>Scenario A</i>	-0.6%	-1.3%	-1.9%	-2.7%
<i>Scenario B</i>	+2.1%	+4.1%	+6.2%	+8.1%
<i>Scenario C</i>	+3.0%	+5.8%	+8.7%	+11.4%
<i>Scenario D</i>	+0.3%	+0.4%	+0.7%	+0.7%
<i>Belgium</i>				
<i>Scenario A</i>	+1.0%	+2.2%	+3.2%	+3.8%
<i>Scenario B</i>	+3.4%	+7.0%	+10.5%	+13.6%
<i>Scenario C</i>	+4.4%	+8.9%	+13.2%	+17.2%
<i>Scenario D</i>	+2.0%	+4.3%	+6.3%	+7.9%

Figure 23 illustrates the evolution of parameter #15 in the four scenarios, for each year, at the Belgian level, when using the baseline projections as starting point.

Figure 23 – Care need rate in four scenarios, evolution 2025-2045 at the Belgian level (sensitivity analysis – baseline projections as starting point)

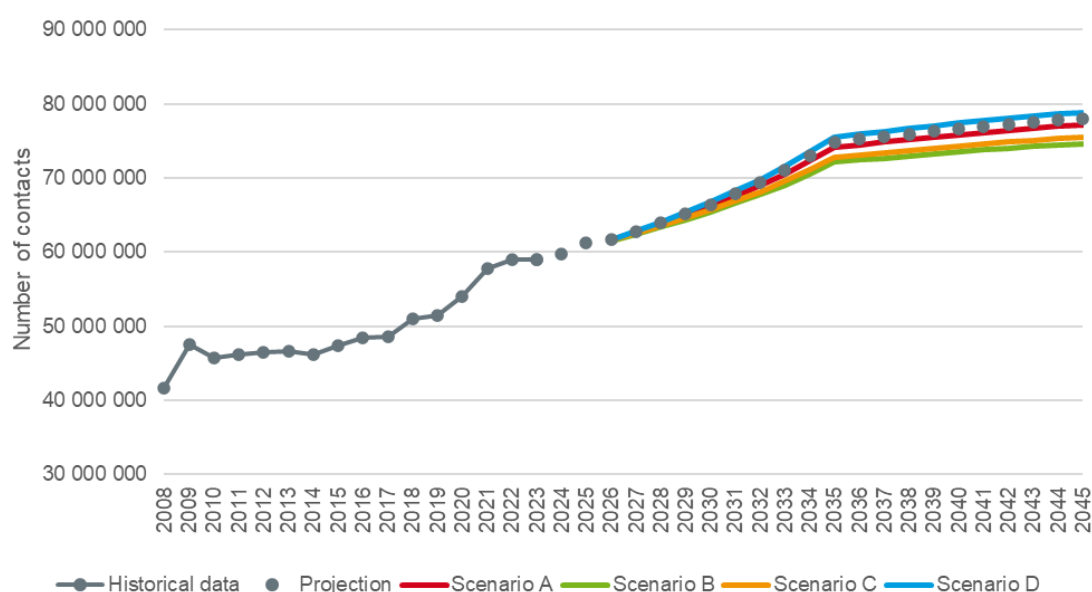


Note: care need rate in 2025 is normalised to 1.

CONSERVATIVE VS PROMES-BASED PROJECTIONS

As explained above, a more conservative approach may exist for forecasting the number of contacts, between the baseline and the PROMES-based projections. This conservative approach relies on PROMES projections up to 2035, but after that needs are supposed constant in each age group. Given the uncertainty concerning the distant future, this assumption may be judged more plausible than a linear extrapolation of PROMES projection results. Figure 24 and Table 37 present results for parameter #15a when the deviations are applied to this conservative projection rather than to the PROMES-based projection.

Figure 24 – Total number of GP contacts, deviation from conservative projections in four scenarios



Note: Vertical axis truncated to improve readability. Each region is modelled separately.



Table 37 – Number of GP contacts, deviation from conservative projections in four scenarios

		2025	2030	2035	2040	2045
Conservative projection	Total number of contacts	61 196 410	66 455 704	74 862 266	76 631 503	78 041 196
	Average number of contacts per inhabitant	5.2	5.5	6.1	6.2	6.2
	Evolution in the total number of contacts (compared to 2025)		+8.6%	+22.3%	+25.2%	+27.5%
Scenario A	Total number of contacts	61 196 410	66 192 739	74 178 973	75 859 749	77 198 957
	Average number of contacts per inhabitant	5.2	5.5	6.1	6.1	6.2
	Evolution in the total number of contacts (compared to 2025)		+8.2%	+21.2%	+24.0%	+26.1%
Scenario B	Total number of contacts	61 196 410	65 403 845	72 129 095	73 544 485	74 672 239
	Average number of contacts per inhabitant	5.2	5.4	5.9	6.0	6.0
	Evolution in the total number of contacts (compared to 2025)		+6.9%	+17.9%	+20.2%	+22.0%
Scenario C	Total number of contacts	61 196 410	65 666 810	72 812 388	74 316 239	75 514 478
	Average number of contacts per inhabitant	5.2	5.5	6.0	6.0	6.0
	Evolution in the total number of contacts (compared to 2025)		+7.3%	+19.0%	+21.4%	+23.4%
Scenario D	Total number of contacts	61 196 410	66 718 668	75 545 559	77 403 258	78 883 435
	Average number of contacts per inhabitant	5.2	5.5	6.2	6.3	6.3
	Evolution in the total number of contacts (compared to 2025)		+9.0%	+23.4%	+26.5%	+28.9%

Note: Evolutions in the total number of contacts in scenarios A, B, C and D are obtained by modifying the evolution in the total number of contacts in the conservative projection by -5%, -20%, -15%, and +5% respectively. Total number of contacts and average number of contacts in scenarios A, B, C and D are derived from these evolutions.

Table 38 presents the resulting alternative assumption for parameter #15. Between 2025 and 2045, at the national level, the care need rate would increase by a percentage ranging between 14% and 27%, depending on the scenario. Up to 2035, these results are similar to those presented in section 6.6.3, as the PROMES projections are used in both cases. Between 2035 and 2045 however, the expected increase in the care need rate is smaller when based on an extrapolation assuming constant needs per age group, rather than on a linear extrapolation. The interpretation concerning the comparison between scenarios remains unchanged.

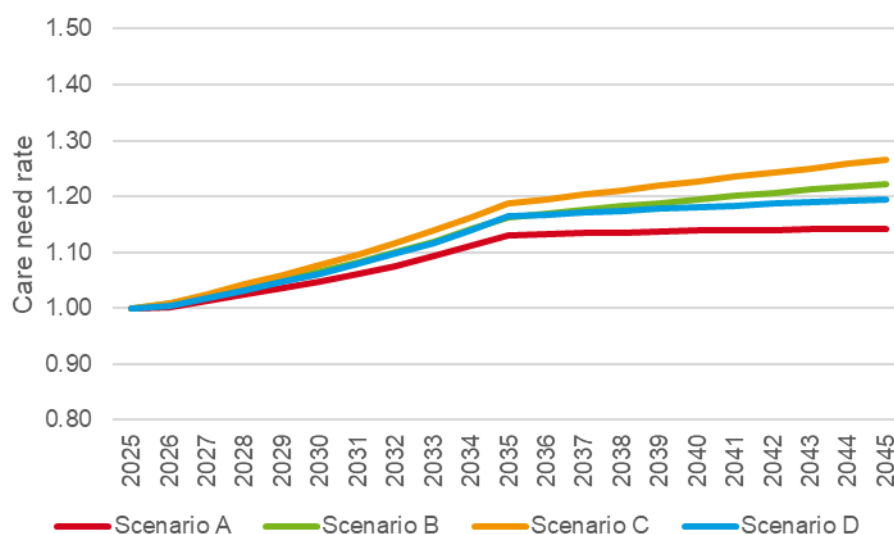
Table 38 – Alternative assumptions for parameter #15 (care need rate) (sensitivity analysis – conservative projections as starting point)

Scenario	2030	2035	2040	2045
<i>Change in care need rate compared to 2025 level</i>				
<i>Wallonia</i>				
<i>Scenario A</i>	+4.5%	+13.0%	+13.4%	+13.1%
<i>Scenario B</i>	+6.4%	+16.1%	+19.0%	+21.4%
<i>Scenario C</i>	+7.5%	+18.6%	+22.4%	+25.6%
<i>Scenario D</i>	+6.0%	+16.2%	+17.6%	+18.2%
<i>Flanders</i>				
<i>Scenario A</i>	+4.1%	+11.8%	+12.9%	+13.7%
<i>Scenario B</i>	+6.1%	+15.1%	+18.7%	+21.9%
<i>Scenario C</i>	+7.1%	+17.5%	+22.0%	+26.1%
<i>Scenario D</i>	+5.5%	+14.9%	+17.1%	+18.9%
<i>Brussels</i>				
<i>Scenario A</i>	+10.5%	+23.7%	+22.8%	+21.7%
<i>Scenario B</i>	+11.4%	+25.2%	+27.0%	+28.6%
<i>Scenario C</i>	+12.9%	+28.2%	+30.8%	+33.2%
<i>Scenario D</i>	+12.5%	+28.1%	+28.0%	+27.7%
<i>Belgium</i>				
<i>Scenario A</i>	+4.7%	+13.1%	+13.8%	+14.2%
<i>Scenario B</i>	+6.6%	+16.2%	+19.4%	+22.3%
<i>Scenario C</i>	+7.7%	+18.6%	+22.8%	+26.5%
<i>Scenario D</i>	+6.2%	+16.4%	+18.1%	+19.4%

Figure 25 illustrates the evolution of parameter #15 in the four scenarios, for each year, at the Belgian level, when the conservative projections are used as starting point.



Figure 25 – Care need rate in four scenarios, evolution 2025-2045 at the Belgian level (sensitivity analysis – conservative projections as starting point)



Note: care need rate in 2025 is normalised to 1.

NO RESCALING FOR TIME DEDICATED TO OTHER TASKS

In section 6.6.2, the time spent on other tasks was scaled down with respect to elicited values, assuming that respondents estimated a proportion of their (decreasing) working time rather than an absolute number of hours (see Table 33). In what follows, we detail the evolution of the care need rate in each scenario without this adjustment. Precisely, we use the values for parameter #15b given in Table 32 (i.e. the elicited values).

Table 39 presents the resulting alternative assumption for parameter #15. Between 2025 and 2045, at the national level, the care need rate would increase by a percentage ranging between 30% and 45%, which is higher than in previous estimations. The interpretation concerning the comparison between scenarios remains unchanged.

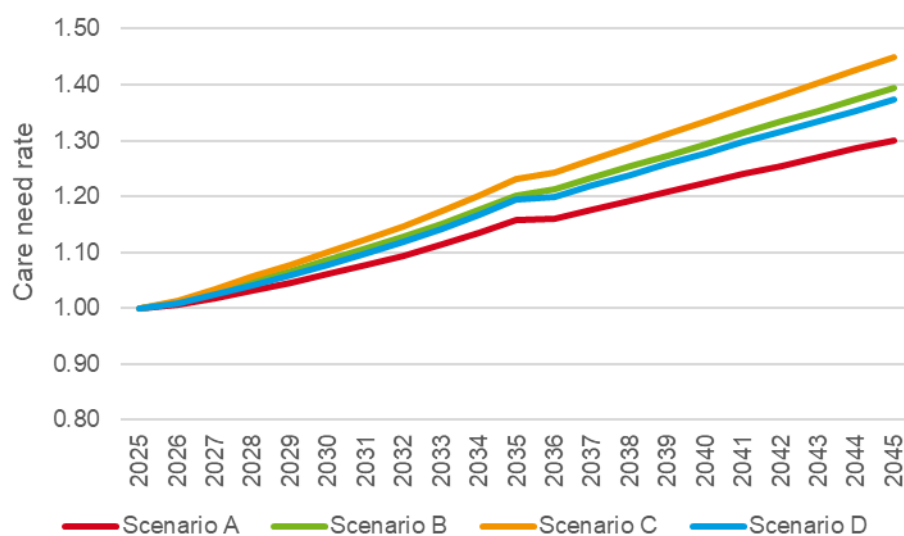
Table 39 – Alternative assumptions for parameter #15 (care need rate) (sensitivity analysis – no rescaling)

Scenario	2030	2035	2040	2045
<i>Change in care need rate compared to 2025 level</i>				
<i>Wallonia</i>				
<i>Scenario A</i>	+5.8%	+15.6%	+22.0%	+29.2%
<i>Scenario B</i>	+8.4%	+20.1%	+29.0%	+38.6%
<i>Scenario C</i>	+9.7%	+23.0%	+33.2%	+44.1%
<i>Scenario D</i>	+7.5%	+19.2%	+27.3%	+36.3%
<i>Flanders</i>				
<i>Scenario A</i>	+5.4%	+14.4%	+20.3%	+27.4%
<i>Scenario B</i>	+8.1%	+19.1%	+27.6%	+37.0%
<i>Scenario C</i>	+9.3%	+21.9%	+31.7%	+42.5%
<i>Scenario D</i>	+7.0%	+17.9%	+25.5%	+34.3%
<i>Brussels</i>				
<i>Scenario A</i>	+11.8%	+26.3%	+40.1%	+54.9%
<i>Scenario B</i>	+13.4%	+29.2%	+44.2%	+60.3%
<i>Scenario C</i>	+15.1%	+32.6%	+49.4%	+67.2%
<i>Scenario D</i>	+14.0%	+31.1%	+47.3%	+64.7%
<i>Belgium</i>				
<i>Scenario A</i>	+6.0%	+15.7%	+22.4%	+30.1%
<i>Scenario B</i>	+8.6%	+20.2%	+29.4%	+39.3%
<i>Scenario C</i>	+9.9%	+23.0%	+33.5%	+44.9%
<i>Scenario D</i>	+7.7%	+19.4%	+27.7%	+37.2%

Figure 26 illustrates the evolution of parameter #15 in the four scenarios, for each year, at the Belgian level, when its level of 2025 is normalised at 1.



Figure 26 – Care need rate in four scenarios, evolution 2025-2045 at the Belgian level (sensitivity analysis – no rescaling)



Note: care need rate in 2025 is normalised to 1.

7 DISCUSSION

7.1 Alternative assumptions for the GP workforce projection model

The scanning phase led to the identification of 13 thematic areas in the literature. Analysis of these themes enabled the scenario development panel to delineate two critical uncertainties that served as the foundational framework for scenario construction.

- Impact of technology

Although technological advancement by 2045 is widely anticipated, substantial uncertainty persists regarding its implications for the workload of GPs. The technology may be supportive and far-reaching or, at the opposite, technological evolution may be non-supportive, fragmented.

- Level of task diversification

This dimension captures the breadth of tasks undertaken by GPs, there is less diversification of tasks and less (within practice) multidisciplinary collaboration, and on the other hand, the GP role encompasses a broader range of activities, supported by extensive multidisciplinary collaboration and increased task-shifting within primary care practices.

The intersection of these two critical uncertainties resulted in the development of four distinct scenarios. **Scenario A** envisions a future in which technology is supportive and far-reaching by 2045, while clinical activities and direct patient care remain the central components of the GP role. **Scenario B** likewise assumes a supportive technological environment but is characterised by a higher degree of task diversification, greater multidisciplinary collaboration, and more substantial task-shifting. Nevertheless, direct patient care remains an important part of the GP's role. **Scenario C** aligns with scenario B in terms of task diversification and collaborative practice but differs with respect to the technological context, which is non-supportive and fragmented. Finally, **scenario D** mirrors scenario A in its emphasis on clinical activities and direct patient care but contrasts with it through the presence of a non-supportive and fragmented technological environment. These scenarios would unfold within the surrounding healthcare system, as described by contextual elements, related, notably, to the policy developments outlined in section 5.3.3.

Four parameters of the GP workforce model were identified as being affected by the future described in the scenarios. Using historical data and an elicitation process (Delphi Panel), we developed alternative assumptions for these parameters to be used in the alternative scenarios developed by the Planning Unit. These assumptions are summarised in Table 40.

The elicitation process led to an agreement on a future value for all parameters. However, for two parameters, namely the activity rate and the care need rate, several propositions are presented, the Federal Planning Commission being responsible to select the most appropriate approach. With respect to the activity rate, the elicitation panel was unable to reach a consensus regarding the nature of the parameter's trajectory during the projection period, specifically whether it will follow a linear trend throughout the period or an initially linear trend followed by the attainment of a plateau. Concerning the care need rate, that depends on the evolution of the number of contact and of other GP tasks, two alternative projection approaches are presented for the evolution of the number of contacts: one based exclusively on changes in population segments, and another that additionally incorporates the population's socio-economic and epidemiological characteristics (see section 6.6.1.2 and the sensitivity analysis in section 6.6.4).

For all assumptions, a detailed spreadsheet will be provided to the Planning Unit so that further adaptations, and updates based on more recent data, can be performed before the use in the workforce projection model. This will encompass a practical method to update the alternative assumptions when more recent data become available (for instance an update of the PROMES microsimulation model and/or recent consumption data per age and sex group).



Table 40 – Overview of the suggested alternative assumptions

Parameter		Scenario	2030	2035	2040	2045
ID	#6	Flemish community				
Label	Specialty rate	Scenario A	40%	40%	40%	40%
Definition	Number of individuals beginning their training in general medicine compared with the total number of persons beginning a training in any specialty	Scenario B	40%	40%	40%	40%
		Scenario C	35%	35%	35%	35%
		Scenario D	34%	33%	31%	30%
		French community				
	Scenario A	40%	40%	40%	40%	
	Scenario B	40%	40%	40%	40%	
	Scenario C	40%	38%	37%	35%	
	Scenario D	38%	36%	33%	30%	
ID	#13	In each community				
Label	Repartition rate (“Hors Santé” / “Niet in GZ”)	Scenario A	Similar to base scenario			
Definition	Share of non-practising GPs i.e. professionally active GPs, but not involved in direct patient care	Scenario B	Linear increase between 2025 and 2045			base*1.175
		Scenario C	Linear increase between 2025 and 2045			base*1.175
		Scenario D	Linear increase between 2025 and 2045			base*1.175
	<u>Source of data used for elicitation</u> Planning Unit, FPS Public Health					
ID	#14	In each community				
Label	Activity rate (change with respect to 2022)	Trend: linear decrease followed by a plateau				
Definition	Allows to convert headcounts into full-time equivalents	Scenario A	-16%	-20%	-20%	-20%
		Scenario B	-16%	-20%	-20%	-20%
		Scenario C	-20%	-25%	-25%	-25%
		Scenario D	-28%	-35%	-35%	-35%
	Trend: linear decrease					
	Scenario A	-7%	-11%	-16%	-20%	
	Scenario B	-7%	-11%	-16%	-20%	
	Scenario C	-9%	-14%	-20%	-25%	
	<u>Source of data used for elicitation</u> Beersmans et al. (2023) ⁶⁹					



		Scenario D	-12%	-20%	-27%	-35%
ID	#15	Flanders				
Label	Care need rate (change with respect to 2025)	Scenario A	+4%	+12%	+16%	+22%
Definition	Care need rate including patient encounters and other tasks Sources of data used for elicitation Federal Planning Bureau; Statbel; Beersmans et al. (2023) ⁶⁹	Scenario B	+6%	+15%	+22%	+29%
		Scenario C	+7%	+17%	+25%	+34%
		Scenario D	+5%	+15%	+21%	+28%
		Wallonia				
		Scenario A	+5%	+13%	+18%	+24%
		Scenario B	+6%	+16%	+23%	+31%
		Scenario C	+8%	+19%	+27%	+35%
		Scenario D	+6%	+16%	+23%	+30%
		Brussels				
		Scenario A	+10%	+24%	+36%	+50%
		Scenario B	+11%	+25%	+38%	+52%
		Scenario C	+13%	+28%	+43%	+58%
		Scenario D	+13%	+28%	+43%	+59%

Note: Figures are rounded for better readability



7.2 Plausibility of the scenarios

The scenarios were employed as an exploratory tool to identify potential parameters within the GP workforce projection model whose evolution may diverge from existing trends. The scenarios are differentiated by the impact of technology and the level of task differentiation. The latter encompasses three key aspects: type of practice, multidisciplinary, and task delegation.

In 2013, 53% of the GP workforce was delivered through solo practices. As shown in Figure 5, this share has steadily declined to 35% in 2024, while group practices have represented more than 50% of the GP workforce since 2017. Although this trend is more pronounced in Flanders and Brussels than in Wallonia, scenarios depicting futures with a strong presence of group practices appear more likely than those describing a primary care system predominantly based on solo practices.

A shift towards greater multidisciplinary also appears increasingly probable. Figure 6 shows a rising proportion of community health centres within group practices. These practices, which are financed through capitation, are inherently multidisciplinary. However, this proportion likely underestimates the actual trend toward multidisciplinary, as the available NIHD data do not allow the identification of multidisciplinary group practices that are funded on a fee-for-service basis. Task delegation is also facilitated within the context of multidisciplinary group practices. In Belgium, tasks may be delegated to a range of professionals, such as nurses, practice assistants, pharmacists, etc. (for further details, see the relevant thematic sheet in the supplement). However, it seems that Belgian GPs currently prefer to integrate nurses and receptionists into their practices rather than other healthcare professionals.³⁷ The scenarios describing a future with more multidisciplinary group practices including task delegation allowing diversification of tasks seems to be more likely.

Future technological developments mainly concern information and communication technologies (ICT) and artificial intelligence (AI). ICT can enhance patient interactions (through teleconsultations¹⁴⁴⁻¹⁴⁶, patient portals¹⁴⁷, etc.), improve medical record management,¹⁴⁸ and facilitate collaboration with other health professionals.¹⁴⁴ Design issues, technical concerns, lack of familiarity with ICT¹⁴⁹, and time constraints remain major barriers to adoption in clinical settings.¹⁵⁰ While most of these obstacles are likely to diminish over time and ICT tools are expected to continue improving, the impact of increased ICT adoption on the GP workforce remains uncertain (see the thematic sheet in the supplement). The literature shows that AI is currently emerging mainly in diagnostics, chronic disease monitoring, and administrative support.¹⁵¹ Nevertheless, studies report that GPs in the UK consider the potential of AI to be limited.¹⁵² This suggests that AI is likely to play a supportive role, rather than replacing GPs i.e. decreasing GP workforce needs. Moreover, the massive implementation of AI into GP practice should overcome several challenges regarding affordability, interoperability, regulation, quality insurance and legal framework.

Based on the elements outlined above, Scenario B appears to be the most plausible. This scenario combines supportive technologies with multidisciplinary group practices, leading to a diversification of tasks within general practice facilitated by task delegation. The description of scenario B may however appear as too extreme. The impact of technology and the level of task differentiation are presented as dichotomous elements, and scenario B is presented as fully integrating technological support and task differentiation. The most plausible future might be more nuanced.

It is worth reminding that the scope of this report was not to assess in-depth the likelihood of the presented scenarios, nor to recommend a preferred scenario.

7.3 Plausibility of the projections

The scenarios describe possible futures within the surrounding healthcare system, as outlined in section 5.3.3. These contextual elements may influence the demand for and the supply of GPs. They were taken as given in the elicitation process and were not separately evaluated. It was considered they impact all scenarios similarly. For example, the impact of hospital length of stay reduction was not separately evaluated but is partially captured in historical data. The impact of policy initiatives on

the out-of-hours structuring was not separately evaluated but the members of the elicitation panel were asked to consider that they will have been implemented in all scenarios. The same reasoning applies to all contextual elements listed in section 5.3.3.

Among the four parameters included in the elicitation process (see Table 40), two parameters (GP activity rate, parameter #14 and care need rate, parameter #15) were disaggregated into their constituent components in order to allow for a more precise elicitation exercise.

Firstly, the GP activity rate (parameter #14), which is used to convert headcounts into FTEs, was analysed on the basis of two underlying drivers of its evolution: the societal reduction in working time and the growing preference among GPs to partially reorient their careers towards non-practising activities. As the societal reduction in working time is not scenario-dependent, it was assumed to be identical across all scenarios. However, this component should be treated separately if methods other than the scenario approach were to be used to generate alternative assumptions. In addition, the elicitation panellists considered that the decrease in working time is a trend already engaged. This could be put into perspective as, for example, a rebound effect in working time is observed in the Netherlands (see supplement). This example also highlights the difference between a desired reduction of working time and the actual evolution.

Secondly, in the GP workforce projection model, future care need rate (parameter #15) is extrapolated from past amounts reimbursed by the NIHDI (used as a proxy for consumption), adjusted for demographic change. Consumption for each population segment is assumed to remain constant over the projection period. Consequently, demand only reflects the share of the workforce required for activities related to direct patient encounters. It does not directly account for other tasks that are necessary to deliver these encounters (see the thematic sheet dedicated to non-direct clinical activities in the supplement). The GP workforce projection model therefore implicitly assumes that the amount of time required to carry out other tasks is proportional to reimbursement volumes. As this assumption was considered conceptually inaccurate, this component was explored separately during the elicitation process, thereby departing from the implicit assumption. Indeed, it was expected that direct patient encounters and other tasks could evolve in opposite direction, especially in scenarios with increased task delegation.

Results show that the care need rate is not fundamentally lower in scenarios B and C, despite substantial task delegation. Indeed, although the elicitation panel expect the upward trend in patient contacts to flatten out in these scenarios, the expected effect is moderate. This can be explained by the fact that GPs tend to delegate non-clinical rather than clinical tasks.³⁷ Furthermore, the elicitation panel expect a rise in time dedicated to other tasks (including practice management) in scenarios B and C. As the elicitation process occurred separately for the two components, the elicitation panel did not have the possibility to reflect on the plausibility of the combined effect. In any case, it is worth noting that expectations on separated components might diverge from expectations on the combined effect.

With respect to the evolution in the number of contacts, a healthcare consumption projection model (PROMES) was used as it incorporates a set of socio-demographic and epidemiological variables (see section 6.6.1.2). This allows for more refined forecasts than projections relying solely on demographic trends. Nevertheless, the absence of contact registration in community health centres hampers correct estimation of care consumption for GPs working in such settings. In this report, we have assumed that the average number of contacts, for a given age group, was similar in community health centres and in fee-for-service practices. Given the increasing use of community health centres, this assumption warrants further refinement.

The primary objective of PROMES projections is to estimate the evolution of healthcare expenditures covered by the NIHDI and to analyse their determinants in the short to medium term. Consequently, projections produced by this model extend only up to 2035. Given that the focal question has a time horizon extending to 2045, projections were continued using a linear extrapolation. For this reason, projections beyond 2035 should be interpreted with caution. As no multivariate sensitivity analysis and



uncertainty quantification (e.g. bootstrap analyses) were performed due to the unavailability of the original data sets, univariable sensitivity analyses further illustrate the impact of the method used to extrapolate the PROMES projection on the projected number of patient encounters. It is therefore essential to monitor the quality of the projections by comparing them with observed data through post-hoc analyses.

This requirement for post-hoc analyses applies to all results generated by the GP workforce projection model. Such an approach has previously been implemented in the Netherlands,^{153, 154} where the goodness of fit and the accuracy of projections were assessed. This step is particularly important in a context where the fee schedule is subject to frequent changes, such as the removal of nomenclature codes related to teleconsultations, considered as patient encounters in the PROMES-based projections, or the comprehensive reform of the entire nomenclature (see section 3.9.5). For instance, the Planning Unit used results from the PROMES model to develop healthcare consumption profiles, which distribute healthcare use across age, sex, and region, and used them as an external benchmark to validate the constructed profiles derived within their model. This comparison showed that the distribution of healthcare consumption across the various population segments will not differ significantly in the future between the Planning Unit estimates and the ones based on the PROMES results.

In this report (see section 6.6.1) we departed from the assumption of constant consumption per population group. In that context, we illustrated that when the PROMES model is used to project the number of patient encounters, the projection results differ substantially compared with an approach based on constant-utilisation projections across population segments. Furthermore, all projections for parameter #15a (number of patient encounters) are based on healthcare consumption and implicitly assume that all care needs are met. However, emerging evidence suggests an imbalance between GP supply and healthcare needs (see section 3.8). Although more challenging to operationalise, the need for care constitutes a more appropriate and theoretically robust proxy for demand than observed healthcare consumption (see section 7.5.2).

7.4 Methodological strengths and limits

The scope of this report was limited to analyse the trend deviations of a set of parameters identified in four scenarios describing potential futures of general medicine. As the calculation of the GP workforce projection model results was out-of-scope, we were not in capacity to analyse the impact of the scenarios on the quota for medical training or on the regional dynamics.

In other countries such as the Netherlands, England, and Australia, workforce projections are based on trend-deviation options developed by researchers and discussed with relevant expert panels (see supplement). These trend deviations are not derived from driver-based scenario approaches. This is likely explained by the fact that the proposed options usually cover a shorter time projection period of 10 to 15 years, in contrast with our focal research question (see section 5.3.1), which adopts a 20-year projection period. It is widely recommended to limit workforce projection exercises to the short or medium term (for example, around 10 years).¹⁵⁵ Due to substantial uncertainty in the underlying parameters, long-term projections over a 20-year period cannot be derived from standard forecasting models. They thus require a high level of anticipatory capacity, which can be facilitated through the development of narrative scenarios. However, we do not recommend using parameter projections beyond 2035 without carrying out a post-hoc analysis and verifying the underlying assumptions.

The scenario approach and the elicitation process are both stakeholder-driven. However, these two methods require different types of stakeholder expertise. To describe potential futures, we selected GPs from different types of practice and with broad geographical representation, in order to ensure a broad bottom-up perspective. We assumed that this composition of the scenario development panel would enable the in-depth comprehension of the drivers reported in the literature and the identification of additional drivers. However, it is important to draw the reader's attention to the fact that these narratives were developed in the context of a national doctors' strike in Belgium. Consequently, the initial narratives were strongly dystopic and hindered their appropriation by the elicitation panel. They

therefore had to be reformulated into a neutral table format (see Table 13) to enable the elicitation exercise.

Moreover, the duration of the scenario development phase (four sessions of two hours each) and the online format of the meetings limited the development of sufficiently strong group dynamics, which are essential for effective collective anticipation. The limited time available for exchanges also made it difficult to reach consensus on the main axes of the scenario framework. Therefore, some participants experienced difficulties in projecting themselves into certain scenarios, partly due to desirability bias.

The scenarios describe possible futures based on the knowledge, values and perspectives of the members of the scenario development panel. As such, the scenarios reflect the projections of this specific panel of GPs and should not be interpreted as predictions of future developments or as desired futures. A different panel of GPs would very likely have produced different scenarios, as is typically the case in scenario-based approaches.¹⁵⁶ However, we are confident in the selection of the parameters of the GP workforce projection model that may be affected in the future.

There is no single method for constructing scenarios.^{157, 158} While these methods generally share common stages of diagnosis, development and reporting,¹⁵⁹ it would be worthwhile to consider alternative scenario development methods. The use of a driver-based scenario approach requires a level of participant availability that is difficult to reconcile with the constraints faced by already highly time-constrained doctors.

In contrast to the scenario development panel, the elicitation experts were selected based on their in-depth knowledge of the health system and their familiarity with primary care health data. The use of two distinct panels led to several misunderstandings, as participants were involved in only one part of the overall process. Although the methodological processes were explained to both panels, the lack of involvement in both the scenario development and the elicitation process prevented participants from engaging rapidly and fully in the process.

7.5 Perspectives for the next planning cycle and research

7.5.1 Elicitation panellists' considerations

Some members of the elicitation panel expressed a desire to contribute not only to the calibration of model parameters, but also to the conceptual structure of the GP workforce projection model itself. In response, a dedicated brainstorming session was organised, bringing together these panellists (see supplement), members of the Planning Unit, and representatives of the federated planning commissions. This exchange led to the identification of several key elements to be considered in the next planning cycle, as outlined below.

METHODOLOGICAL CONSIDERATIONS

Panellists raised several concerns regarding both the scenario method and the elicitation process.

First, the scenarios tend to rely more on the continuation of current emerging trends than on genuinely new or disruptive developments.

Second, participants pointed out the difficulty of assigning precise numerical values to certain parameters. To facilitate this process, background information was provided for each parameter. To further address these challenges, the elicitation panel was not asked to provide exact figures for parameters #13, #14 and #15a; instead, they were asked to indicate changes relative to projections or survey data provided as background information. The elicitation panel also highlighted that participants were not asked to indicate their level of confidence in the values they proposed, and all contributions were treated equally regardless of this confidence.

Third, differing interpretations of the elicitation process may have potentially led to positions driven more by interests rather than by genuine consensus.



These issues have also been observed in similar exercises in the Netherlands. Consequently, while Dutch panellists still contribute to selecting the methodology, the final parameter values are now selected by a research team.^u

SUPPLY-SIDE CONSIDERATIONS

Limitations in the definition of practising GPs

According to the participants, the current definition of practising GPs fails to adequately capture several categories of clinical activity.

Firstly, it excludes non-salaried clinical activities performed by self-employed GPs whose activities are funded by hospitals, institutions of the federated entities, or nursing homes. These GPs contribute meaningfully to healthcare delivery, and the associated workforce needs should therefore be explicitly assessed.

Secondly, the panellists think that the contribution of professionals holding a “000” identification number (see section 3.4) in workforce in the primary care should be integrated into the stock of practising GPs within the GP workforce projection model. The size of this group has been increasing over time,²⁷ yet it is not currently taken into account in workforce projections. Although headcount data are available, no information on the nature and intensity of their activities hampers their inclusion in the model in the short term.

Thirdly, GPs active in preventive medicine, population health, or other specialised domains such as forensic medicine are currently classified as non-practising as these GPs do not bill services to NIHDI. As a result, the GP workforce projection model, which relies exclusively on NIHDI reimbursed services, does not assess workforce needs in these areas, despite their societal value.

Assessment of FTEs

The current method for estimating FTEs is based primarily on reimbursement volumes. An alternative approach would be to define FTEs using workload-based indicators, such as the number of global medical records (GMR) managed. To implement this method, a benchmark regarding the number of GMR managed by one FTE is needed.

Another option would be to use the assessment of the workforce in hours as in the model developed by the health authorities in Australia. This model relies on time allocation per medical service as defined in the fee schedule rather than on reimbursement amounts. These time estimates are collected through a survey completed during professional accreditation renewal. During the survey, the time dedicated to other tasks is also collected. The members of the elicitation panel identify the time dedicated to other tasks as a growing component of GPs' workload, often at the expense of direct patient contact.

Unit of projection

In the current GP workforce projection model, the projection unit is the headcount of GPs. The panellists suggested to shift the unit of analysis from individual doctors to primary care practices. Practice-based projections would allow for a more explicit consideration of task delegation and skill mix needed within teams.

Implementing such an approach would require detailed data on activities, practice composition and staffing models. Currently, such data is only systematically available for community health centres, highlighting the need for broader data collection efforts across all practice types.

^u Personal communication – Capaciteitsorgan

DEMAND-SIDE CONSIDERATIONS

Healthcare consumption versus population health needs

A more elaborate demand model, distinct from the supply-side model, would allow demand to be conceptualised in terms of population health needs rather than observed healthcare consumption. Such needs could be estimated using epidemiological projections for a set of common conditions. The method would allow to consider unmet needs in addition to the expressed demand of health care (i.e. care consumption).

Impact of technology on GP supply and demand

Members of elicitation panel considered that expectations regarding the impact of new technologies, particularly AI, on GP supply and demand are likely overstated.

CUMULATIVE EFFECTS AND INTERACTION AMONG DRIVERS

In the current model, the effects of multiple drivers influencing workforce parameters are aggregated additively. This may lead to an overestimation of the number of GPs required, as potential interaction effects between drivers are not explicitly considered. A panellist illustrated these interactions by noting that increasing the number of GPs to address population and GP ageing, rising morbidity, and GPs' work-life balance expectations may lead to an overestimation of workforce needs, since additional GPs recruited to meet ageing and morbidity demands may already alleviate work-life balance pressures.

Interaction analysis and explorations of dynamics between drivers represent an important research avenue to refine workforce projections and improve their predictive value.

7.5.2 Additional considerations

Beyond the issues raised by the elicitation panellists, several additional research avenues could meaningfully enrich the current model and support the development of a more comprehensive demand module.

On the demand side, a methodological study should be undertaken to identify the most appropriate approach for estimating population health needs. This approach could draw on the conceptual elements introduced in the HEROES^v framework, which integrates demand-based and needs-based models.¹⁶⁰ The study should prioritise the use of existing data, while systematically identifying gaps that necessitate additional data collection. Importantly, it should propose a realistic protocol that explicitly accounts for the costs, data availability, and feasibility of data collection.

On the supply side, targeted research into task-delegation dynamics, the identification of needs among non-practising GPs, and the development of alternative methods for measuring FTEs^w would strengthen the robustness of workforce estimates. In addition, anticipating changes in skill mix and in primary care delivery models (e.g. integrated care, multidisciplinary approaches) could support a trans-professional workforce planning approach. Such an approach would move beyond medical planning by discipline to include a broader range of medical or non-medical health professions, thereby replacing the traditional silo-based model.

In addition, a systematic assessment of the impact of contextual factors (see section 5.3.3) on GP workforce is required in order to formulate accurate alternative assumptions for the GP workforce projection model.

^v Joint Action on HEalth woRkfOrce to meet health challEngeS

^w See examples in the supplement e.g. Australia.¹⁶¹



The implementation of post-hoc analytical cycles (see above) would facilitate the analysis of the gap between model outputs and observed supply and demand of GPs. This proposed initiative has the potential to enhance the calibration of the GP workforce projection model over time.

Incorporating a policy analysis dimension into workforce projections would allow for further refinement of the estimates. Such analyses would comprise two complementary approaches. Firstly, assessing the impact of policies on the GP workforce, in line with a “human resources for health in all policies”^x approach, would help to more accurately specify GP workforce requirements. Secondly, identifying the policies that would be necessary to achieve a medical supply aligned with population health needs could represent an added value.

Finally, as shown in section 3.8, despite existing efforts to increase the GP workforce, there are indications of a potential future imbalance between the supply of and demand for GP services. Further research is needed to objectify this potential gap at national, regional and local level. The projected increase in demand for GP services, as explored under the alternative assumptions presented in this report, does not appear to be addressable solely through an expansion of the GP workforce. Such an approach could raise concerns regarding the long-term sustainability of both the healthcare system and the broader economy, as highlighted in other KCE reports.¹⁴³ Indeed, public health expenditure in 2019 accounted for 7.9% of gross domestic product (GDP), with the majority allocated to acute care (6.4% of GDP) and a smaller share to long-term care (1.4%). Under a constant-policy scenario, projections indicate that health expenditure will rise to 9.1% of GDP by 2030, and further to 10.0% and 10.4% by 2040 and 2070, respectively. This upward trend is consistent with patterns observed in other OECD countries.¹⁶² The literature identifies several strategies to curb the growth of health expenditures, including careful reforms of provider payment systems and task delegation to nurses, while preserving care quality, health outcomes and equity.¹⁶³⁻¹⁶⁹ Reducing the demand for care through prevention and healthy ageing and increasing efficiency through new ways of delivering care (e.g. integrated care, task delegation) are other solutions proposed at the European level.¹⁶⁰ These proposed solutions warrant further investigation within the Belgian context, taking into account structural constraints such as the current shortage of nursing staff.^{170, 171}

^x A “human resources for health in all policies” approach involves systematically integrating an assessment of health workforce implications into the development and implementation of all public policies.

8 CONCLUSION

The Belgian GP workforce projection model is among the most comprehensive in Europe. However, effective health workforce planning relies on the availability of multiple interoperable data systems providing high-quality information on both the supply and demand sides.¹⁷² The Belgian GP workforce projection model is primarily based on administrative data from the health authorities and NIHDI. A strong focus on reimbursement data limits the comprehensiveness of the assessment of both GP supply and demand. Moreover, the demand component of the current Belgian model could be further elaborated to move from a consumption-based projection approach towards a needs-based approach. Like many high-income countries¹⁷³, Belgium is facing increasing pressures on healthcare demand as well as local workforce imbalances (see section 3.8). In this context, revisiting and refining the components of the model could add value by improving the accuracy of workforce projections.

In the meantime, we applied a driver-based scenario approach to identify the parameters of the GP workforce projection model that are likely to deviate from historical trends in the future. These parameters include the specialty rate (i.e. the ratio between the number of persons entering GP training and the total number entering a training in any medical specialty), the repartition rate (i.e. the share of non-practising GPs, defined as professionally active doctors who are not involved in direct patient care), the activity rate used to convert headcounts into FTEs, and the care needs rate. Estimates of deviations from historical trends were produced at both the federal level and, when relevant, the level of the federated entities. It is important to stress that these estimates should not be interpreted as forecasts; rather, they are informed by available data and by the expert judgements of the elicitation panel. As such, they are sensitive to the underlying assumptions, and other assumptions or modelling choices would inevitably lead to different results. These projections are intended to inform the Planning Commission about potential evolution of the parameters of the GP workforce projection model. Therefore, they constitute a decision-making aid tool and allow to frame the policy debate.



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