

SUPPLEMENT

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



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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.

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In the development of this work, the authors used Microsoft Copilot 365 to improve parts of the text written by researchers, by enhancing the clarity and improving the English formulation. In addition, Microsoft Copilot was used to create the cover picture of this report. Following its use, all content was carefully reviewed and revised by the authors, who accept full responsibility for the final version of the manuscript.

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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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LIST OF ABBREVIATIONS

ABBREVIATION	DEFINITION
AMA	Australian Medical Association
ARRS	Additional Roles Reimbursement Scheme
CfWI	Centre for Workforce Intelligence
FTE	Full-time equivalent
GP	General practitioners
PCN	primary care networks

SUPPLEMENT

1 OTHER GP WORKFORCE PROJECTION MODELS

1.1 Introduction

Indicators	Belgium	United Kingdom	The Netherlands	Australia
% of GDP for Health expenditure ⁽¹⁾	11.0	11.1	10.0	10.3
GP/1 000 habitants ⁽²⁾	1.24	0.80	0.94	1.26
Governance	Shared responsibility between centrale and decentralised levels	Centralised ¹	Centralised for health care, benefits package and budget Municipalities for mental health care Individual provider and payer level for planning for health services ²	Shared responsibility between centrale and decentralised levels ³
Insurance	Mandatory public health insurance	Universal public insurance	Mandatory private insurance ²	Universal public insurance (Medicare) ³ 55% private insurance for general treatment ⁴
Registration in GP practice	Free choose of the GP but registration is encouraged	Mandatory ⁵	Free choose of the GP but registration is encouraged ²	Free choose of the GP ⁶ but registration is encouraged by the creation of My Medicare in 2023 ⁷
Access to specialist (gatekeeping)	No	Yes ⁸	Yes ²	Referral is not mandatory but needed for cost coverage by Medicare ⁹
Practice type*	35% solo practice and 63% of group practice	General Medical Services (70% - GMS) contract with NHS, Personal Medical Services (26%) contract with GMS and Alternative Provider Medical Services (4%) contract with	82.5% in group practices and 17.5% in solo practices in 2022 ²	GPs work mainly in group practice (82%) or solo practice (2%) ¹⁰



		private companies ¹		
Multidisciplinary practice (MDP)	29,4% of GP work in MDP ¹¹	PCNs [§] can employ 17 roles within the multidisciplinary team (from pharmacist to nurses or social worker, etc.) ¹²	Physician associates/assistants and nurse practitioners were introduced in 2001 ¹³ and multidisciplinary teams are encouraged	57% of the GP work in MDP. 88% of MDP include nurses, 51% mental health professionals, 38% dietitians, 35% physiotherapists, 33% social workers, 32% pharmacists ¹⁴
GP payment system	Fee-for-service based on nomenclature (95%) or Capitation or mix fee-for-service and capitation (pilot project New Deal)	Capitation + Quality and Outcomes Framework payments + other payments ¹	Mainly capitation + fee-for-services + payments for specific services + Pay-for-performance ²	Fee-for-service based on Medicare Benefits Schedule ¹⁵
% of Out-of-Pocket expenditure⁽³⁾¹⁶	21.5	14.6	12.0	15.8

Sources: OECD Data Explorer (2024), ⁽²⁾ OECD Data Explorer (2023) ⁽³⁾ World Bank Legend: GDP=Gross Domestic Product Legend: * England [§] Primary care networks (PCNs) encompass GP practices working together with community, mental health, social care, pharmacy, hospital and voluntary services in their local areas in groups of practices

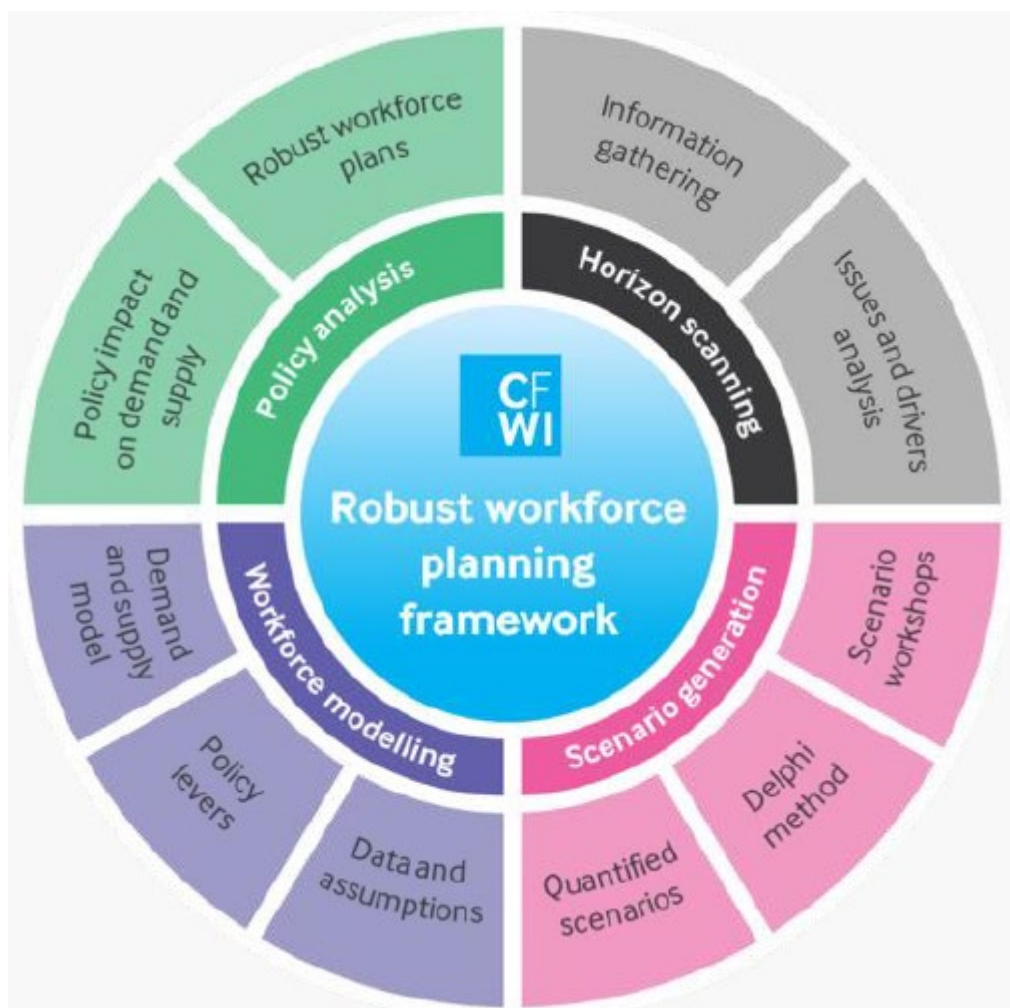
1.2 England

1.2.1 Context

Until March 2016, the Centre for Workforce Intelligence (CfWI) advised the UK government on health and social care workforce planning. At that time, the CfWI employed a methodology similar to that used in this report, namely a scenario-based approach followed by the quantification of GP workforce requirements under the different futures described in the scenarios. In brief, the CfWI developed a workforce planning framework in four-step including horizon scanning, scenario generation, workforce modelling and policy analysis (see Figure 1 and Figure 2). The final step was not performed in our research.

The CfWI used driver-based scenario approach to create the scenarios to be used in the projection model.¹⁷ Driver-based scenarios considered what might happen in the future.

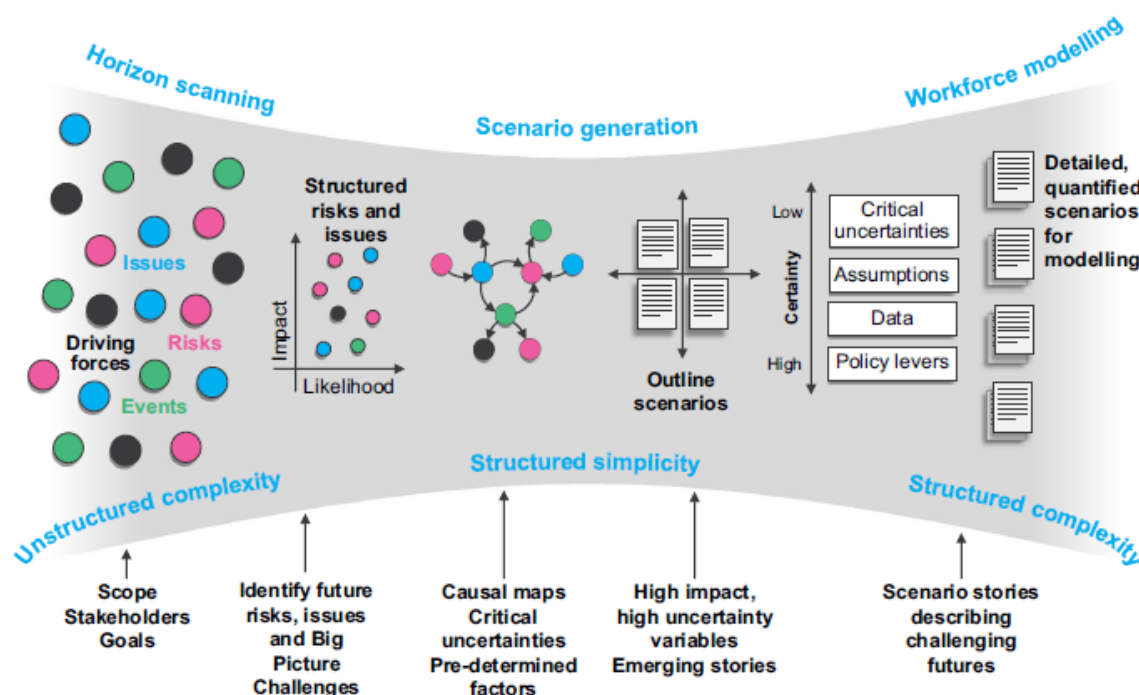
Figure 1 – Robust workforce planning framework, UK, 2014



Source: CfWI¹⁷



Figure 2 – Detailed robust workforce planning framework, UK, 2014



Source: Willis et al.¹⁸

Since then, the functions of the CfWI have been transferred to the Department of Health and Social Care, which is responsible for the overall political and strategic oversight of medical workforce planning), as well as to other institutions. These include Health Education England (responsible for the planning and delivery of medical education and training) and NHS England (responsible for modelling workforce supply and demand within the framework of operational GP workforce planning).

We have identified two recent workforce models: one developed by the Health Foundation's REAL Centre¹⁹ on behalf of Health Education England, and a second developed by NHS England.²⁰

1.2.2 Model of the Health Education England

The Health Foundation's REAL Centre supported the Health Education England in developing scenario-based workforce modelling approach to estimate the future supply and demand for General Practitioners (GPs) in England up to 2030/31.¹⁹

FOCAL QUESTION

Would current trends in workforce supply sufficient to meet projected demand without creating unrealistic or unsustainable workforce?

The projection model for GPs focused on the qualified permanent FTE GP numbers.

SCENARIOS

Three scenarios were considered:

1. In the **'current policy' scenario**, general practice workforce supply increases in line with historical growth rates and accounting for the NHS Long Term Plan commitments up to 2023/24 and the Additional Roles Reimbursement Scheme (ARRS) and primary care networks (PCN) policy initiatives.

2. The **'optimistic' scenario** envisages sustained additional policy action leading to more rapid growth in workforce supply relative to the 'current policy' scenario and further policy intervention being able to 'lock in' and fully realise the benefits of current policy.
3. The **'pessimistic' scenario** highlights key risks to future increases in general practice workforce supply, some of which are likely to have been exacerbated by the pandemic. It accounts for the possibility of NHS Long Term Plan commitments not being fully met and the PCN and ARRS initiatives failing to realise their potential, with no further policy measures put in place aimed at boosting staff supply beyond 2023/24.

Table 1 summarizes the assumptions used in the different scenarios.

Table 1 – Scenarios and assumptions for the projections of future GP workforce supply

Variable / staff group	Current policy scenario	Optimistic scenario	Pessimistic scenario
Number of newly qualified GPs joining the workforce (Recent trend: Increasing)	Increases from 1,800 to 2,600 a year (2021/22–2030/31)	Increases from 1,800 to 2,800 a year (2021/22–2030/31)	Increases from 1,800 to 2,300 a year (2021/22–2030/31)
Other (not newly qualified) GPs joining the workforce (Lack of publicly available data)	Decreases from 260 to 250 a year (2021/22–2030/31)	Increases from 260 to 300 a year (2021/22–2030/31)	Decreases from 260 to 200 a year (2021/22–2030/31)
GP leaver rates (Recent trend: Stable)	Average leaver rates for 2018/19–2021/22 apply for both pre-retirement and retirement age GPs from 2022/23–2030/31	Declines by 1 percentage point for both pre-retirement and retirement age GPs from 2022/23–2030/31	Increases by 5 percentage points for pre-retirement age GPs and by 2 percentage points for retirement age GPs from 2022/23–2030/31
International GP recruitment (Recent trend: Stable/increasing for GP trainees)	No net change	100 additional FTE GPs trained in other countries recruited to the NHS every year from 2021/22 to 2030/31*	100 additional FTE GPs trained in other countries leave the NHS every year from 2021/22 to 2030/31*

Source: Health Foundation's REAL Centre.¹⁹

OUTPUT OF THE PROJECTION MODEL

It was estimated that there would be a shortage of GPs of 4 200 FTE GPs in England in 2021. This figure was used as starting point in all scenarios.

Under the current policy scenario, the shortfall in GPs is projected to reach 6 700 FTE GPs by 2023, equivalent to around 20% of projected demand. This is expected to and to widen further, reaching to approximately 8 800 FTE GPs by 2030, nearly a quarter (23%) of the expected demand (see Figure 3).

In the optimistic scenario, the GP shortfall is estimated at 7 700 FTE GPs in 2023, declining to 1 200 FTE GPs by 2030 (Figure 4). This trajectory reflects short-term increases in GP workload and demand associated with the training, supervision, and integration of newer direct patient care (DPC) roles within practice teams.^a At the time the model was developed, limited evidence was available on the

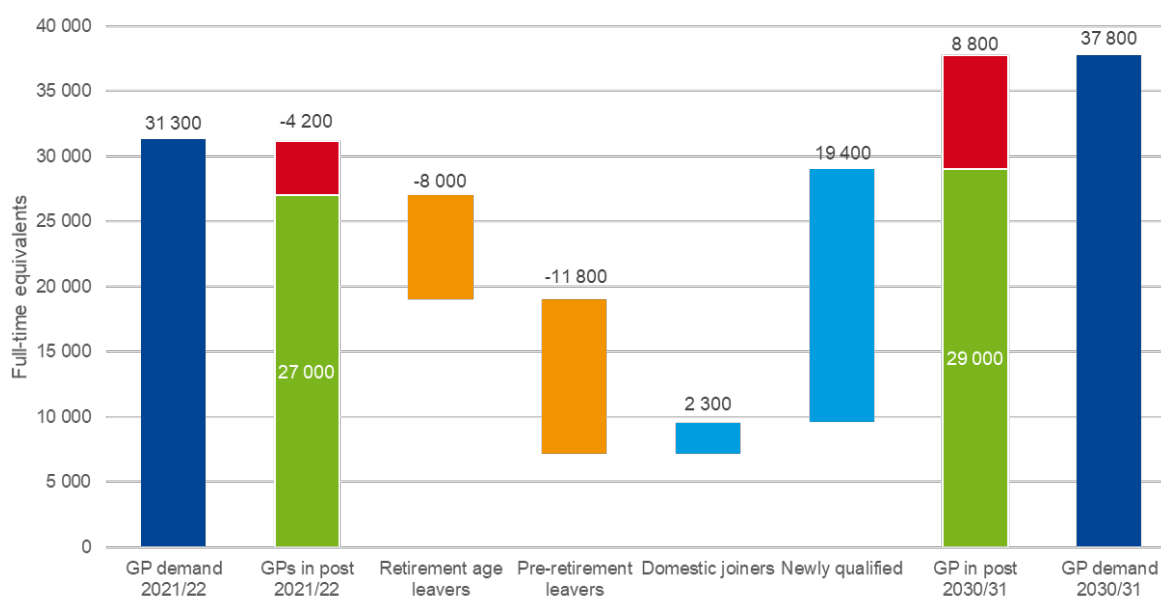
^a DPC staff: clinical pharmacists, first contact physiotherapists, paramedics, social prescribing link workers and physician associates. After 2021, new roles were devoted to DPC undertaken by pharmacy technicians, dieticians, podiatrists, occupational therapists, nursing associates, trainee nursing associates, care coordinators and health and wellbeing coaches



extent to which established DPC roles could alleviate GP workload pressures in the medium term. The projected shortfall was highly sensitive to assumptions regarding this effect. The scenario also highlighted the long lead times inherent in domestic GP training in the UK, which typically require 9–10 years to produce fully qualified GPs. Furthermore, even where supportive recruitment and retention policies are implemented, it can take a decade or more for such measures to have a meaningful impact on the existing FTE GP shortfall, particularly in the context of the growing proportion of GPs working part time.

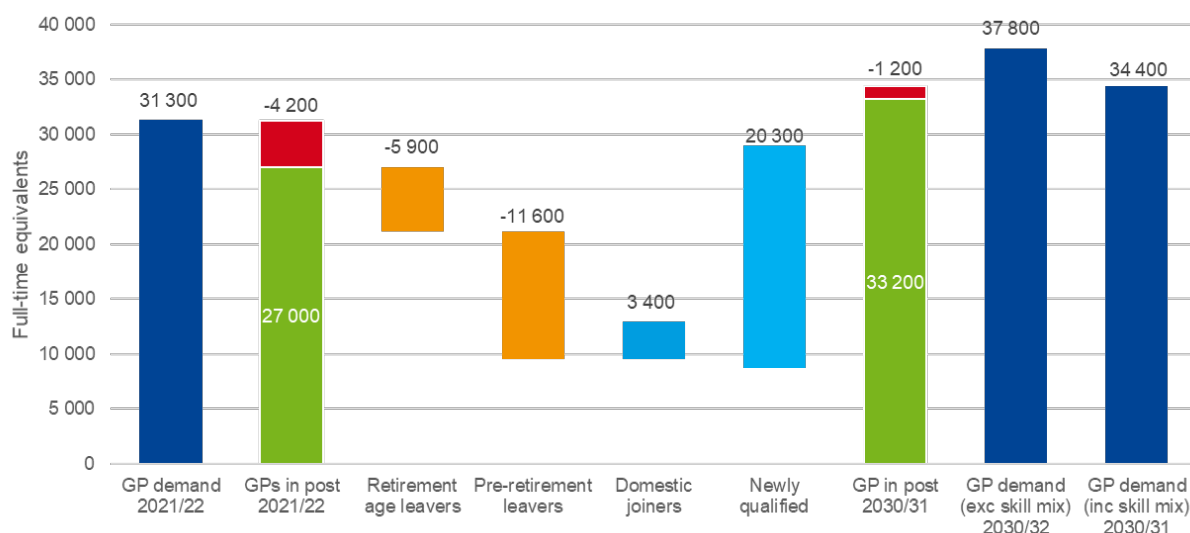
The pessimistic scenario represented a worst-case scenario, with the GP shortfall projected to rise to 9 100 FTE GPs by 2023 and to 18 900 FTE GPs by 2030, equating to almost half (48%) of projected demand (Figure 5). The near doubling of the shortfall between 2023 and 2030 underscored the risks associated with a lack of sustained policy beyond 2023, compounded by worsening GP trainee attrition, unfavourable workforce transition rates and increased departure rates. Together, these factors could lead to a prolonged and substantial in practice teams.

Figure 3 – GP demand and supply projections for England, 2021/22 – 2030/31: current policy scenario



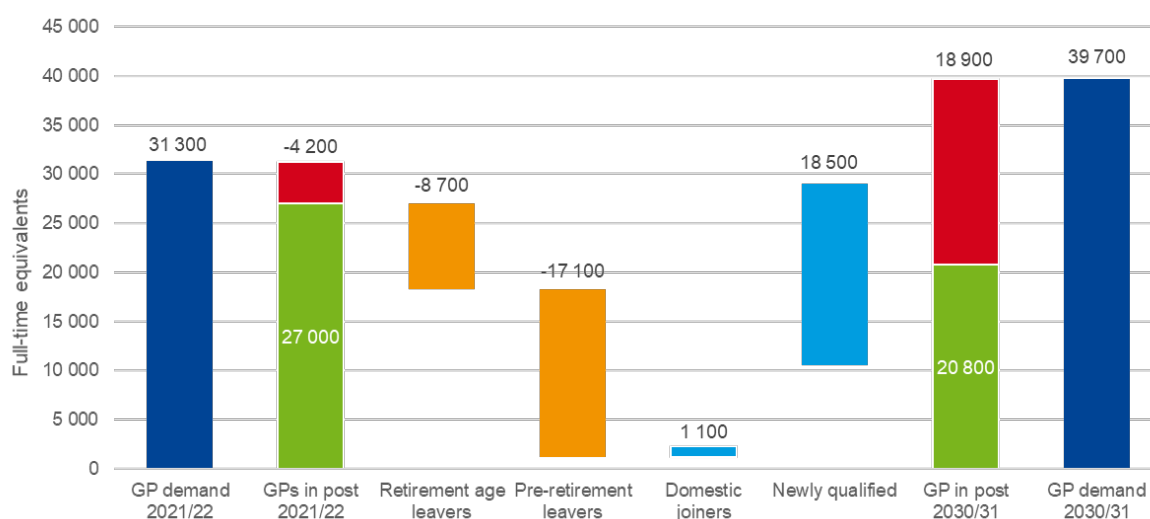
Source: Health Foundation's REAL Centre ¹⁹

Figure 4 – GP demand and supply projections for England, 2021/22 – 2030/31: optimistic scenario



Source: Health Foundation's REAL Centre ¹⁹

Figure 5 – GP demand and supply projections for England, 2021/22 – 2030/31: pessimistic scenario



Source: Health Foundation's REAL Centre ¹⁹

1.2.3 NHS Long Term Workforce Plan

The NHS employs a model to assess the balance between supply and demand for GPs. The projections presented herein extend across the short, medium and long term, i.e. five, ten and fifteen years, respectively.²⁰

CONTEXT

- The challenges faced by the NHS

Although the number of NHS staff has increased over recent years, healthcare needs have grown at a far faster pace. This rise in demand is primarily driven by population ageing and increasing levels of



morbidity, meaning that growth in healthcare needs has consistently outstripped growth in workforce full-time equivalents (FTEs).

Despite expansion in education and training pipelines since 2010 and overall workforce growth, the number of staff trained has not kept pace with rising demand for NHS services. As a result, the NHS has become heavily reliant on temporary staffing and international recruitment. In 2021, half of the doctors joining the UK workforce were international medical graduates. This sustained workforce shortfall means that NHS staff are largely focused on responding to immediate care needs, limiting the system's capacity to invest more fully in the prevention of ill health.

Finally, rapid developments in science, research, technology, digital innovation, and data will continue to shape healthcare delivery in the coming years.

- Consequence for the workforce planning

Given these challenges and the lengthy training period for new GPs, long-term and comprehensive workforce planning is proposed by NHS England.

GP DEMAND

For GPs, demand was calculated using demographic data assuming to restore the qualified GP-to-patient ratio observed in September 2015.

The expected required number of FTE staff is based on activity projections calculated from population projections, non-demographic growth assumptions and service plans.

GP SUPPLY

The supply is described by the number of substantive FTE staff employed by the NHS in March 2022 (financial year 2021/22).

The expected number of substantive FTE staff is based on projections driven by historical data on the training pipeline, transition to the NHS, retention and international recruitment, as well as agreed and funded interventions to boost or upskill supply?

SHORTFALL

For GPs, the opening shortfall is the gap between the estimated starting demand (using historical GP-to-patient ratio) and GP supply.

MODEL ASSUMPTIONS

- Productivity growth of between 1.5% and 2.0% is projected by 2036. Labour productivity measures changes in the amount of output delivered for a given level of labour input. In this context, overall labour productivity reflects a range of factors, including delivering care in more efficient settings, making better use of skill-mix opportunities, and reducing reliance on temporary staffing. Workforce modelling primarily applies activity-to-FTE ratios to assess the impact of productivity improvements on workforce demand.
- The model presents a range of estimates to quantify the potential impact of actions set out in the Long Term Workforce Plan over its 15-year time horizon. The authors highlight that these estimates are inherently subject to uncertainty.
- There is a current shortfall of general practitioners (GPs).
- The proportion of NHS staff choosing to work exclusively on bank contracts is assumed to remain stable.

DEMAND AND SUPPLY BALANCE

The projection resulted in a shortfall of 15 000 FTE qualified GPs by 2036/37. The model posits an increased number of doctors undertaking GP specialty training, as well as a concomitant increase in newly qualified GPs, as a consequence of interventions implemented in recent years. Nevertheless, further measures will be required to ensure that demand is adequately met.

TRAINING NEEDS

To meet future workforce demands, a substantial expansion of medical education and training capacity is required according to the result of the model. The authors propose to increase GP specialty training places by 50%, reaching 6,000 places by 2031/32. This targeted expansion reflects this requirement and builds on earlier investment, including the expansion of 1,500 undergraduate medical school places in 2018, whose graduates are now beginning to enter the workforce.

The phased growth in GP training is timed to ensure that a growing number of newly qualified doctors can enter primary care training. This maximises the impact of increased undergraduate capacity and supports the long-term sustainability of the GP workforce.

1.3 The Netherlands

1.3.1 Method of Planning in the Netherlands

Since 1999 the Capaciteitsorgaan in the Netherlands gives advice to the ministries of health and education^b on the number of health care professionals necessary to start education to balance supply and demand. Every three years a projection for around 80 professions is made.^{21, 22}

The projection model on which the advice is based uses around 50 parameters. Part of the parameters is based on current situation, another part on expected changes in supply, as well as some on expected changes in demand. For the future supply and demand, assumptions are made and are based on available quantitative data as well as qualitative input from experts. An important source for the quantitative data is the NIVEL general practice survey²³ and the national time use survey among general practitioners. The experts are professional associations, educational institutions, as well as health care insurance companies.

Important difference with the Belgian alternative scenarios 2016-2036 (see section 4.3 of the report) is that non-demographic trends such as task shifting and professional time reduction, are categorised under a changing demand, while in the Belgian alternative scenarios these were modelled in the supply side (in the parameter activity rate). In the Dutch model almost all trends are considered in the demand side and might increase demand (demographic changes of the patient population, shift towards ambulatory care and decrease of institutionalization for older adults, psychiatry and disabled patients, epidemiology and higher prevalence of certain diseases) or decrease demand (practice trends with more efficient practice organization, AI tools, task delegation).²²

1.3.2 Quantitative data: national time survey among general practitioners

At the request of the Capaciteitsorgaan, Nivel conducted its third time use survey at the end of 2024 (Tijdsbestedingsonderzoek).²⁴ In addition to investigating how many hours a GP works on average per week and how this time is divided among the various activities, the study also looked at differences based on working position (e.g. practice owner, salaried GPs). To this end, 884 GPs spent a week responding to messages in an online application about their daily activities. Because the participants

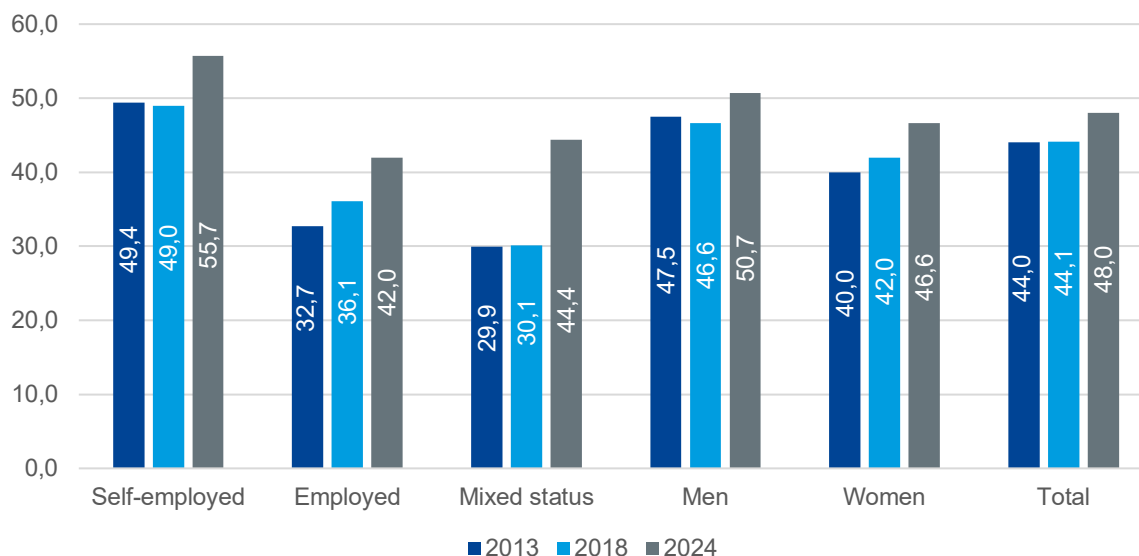
^b Ministerie voor Volksgezondheid, Welzijn en Sport (VWS) en van Onderwijs, Cultuur en Wetenschap (OCW)



were not completely representative for all Dutch GPs, all results were weighted according to gender, age and position.

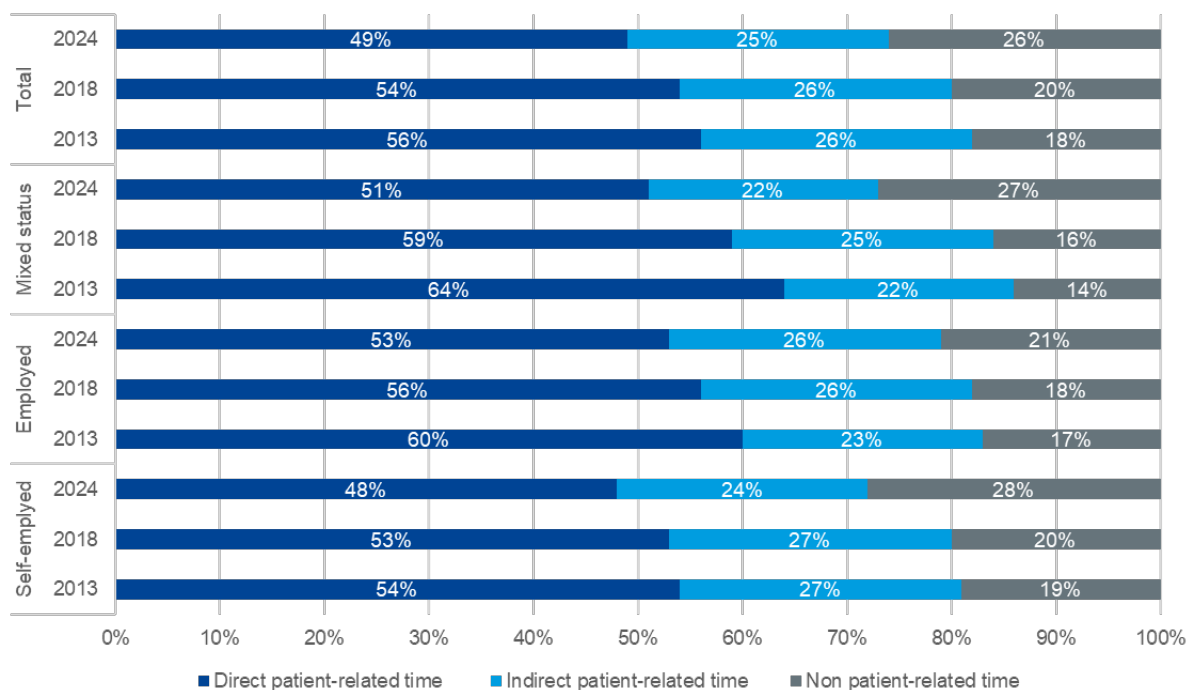
The Dutch GP spends on average 48h on GP related tasks in 2024 which is higher than the 44h in 2018 and 2013 (Figure 6).²⁴ This increase is due to the increase in non-patient related tasks (entrepreneurship, internal/external meetings, continuous education), which takes around 25% of the weekly time (Figure 7). Around half the time is for direct patient contact, and the other 25% fourth is for indirect patient contact (the patient dossier, handling referrals, contact with colleagues).

Figure 6 – Working hours per week in 2013, 2018 and 2024 by working position and gender



Source: NIVEL²⁴

Figure 7 – Repartition of GP's working time in 2013, 2018, 2024 by working position{



Source: NIVEL{Flinterman I, 2025 #291}

1.3.3 Quantitative data - NIVEL general practice survey

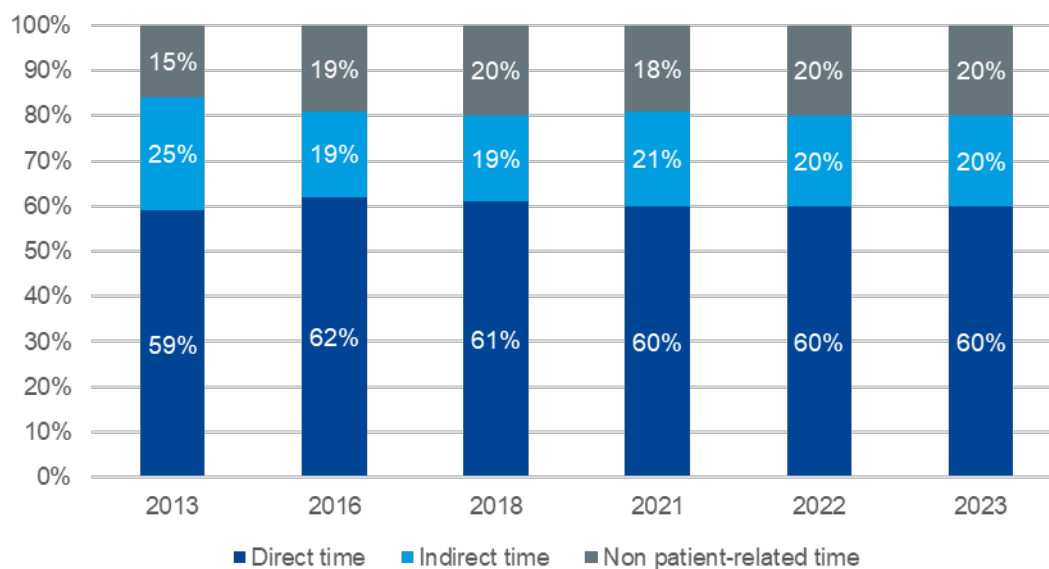
Since 2018, NIVEL monitors the general practitioners labor force via a survey send out to all general practices in the Netherlands (in 2023 this was to 4 173 practices).²³ The response rate was 10% in 2023 (15% in 2021²⁵).

The results of the 2023 survey are summarized below.²³

Around 60% of practices indicates they have a patient stop, and this number has been the same in the period 2018-2023. However, there is a large regional difference.

As shown in Figure 8, the part GPs spend time on non-patient related activities varies around 15-20% in the period 2018-2023, and the direct patient contact is around 60%.

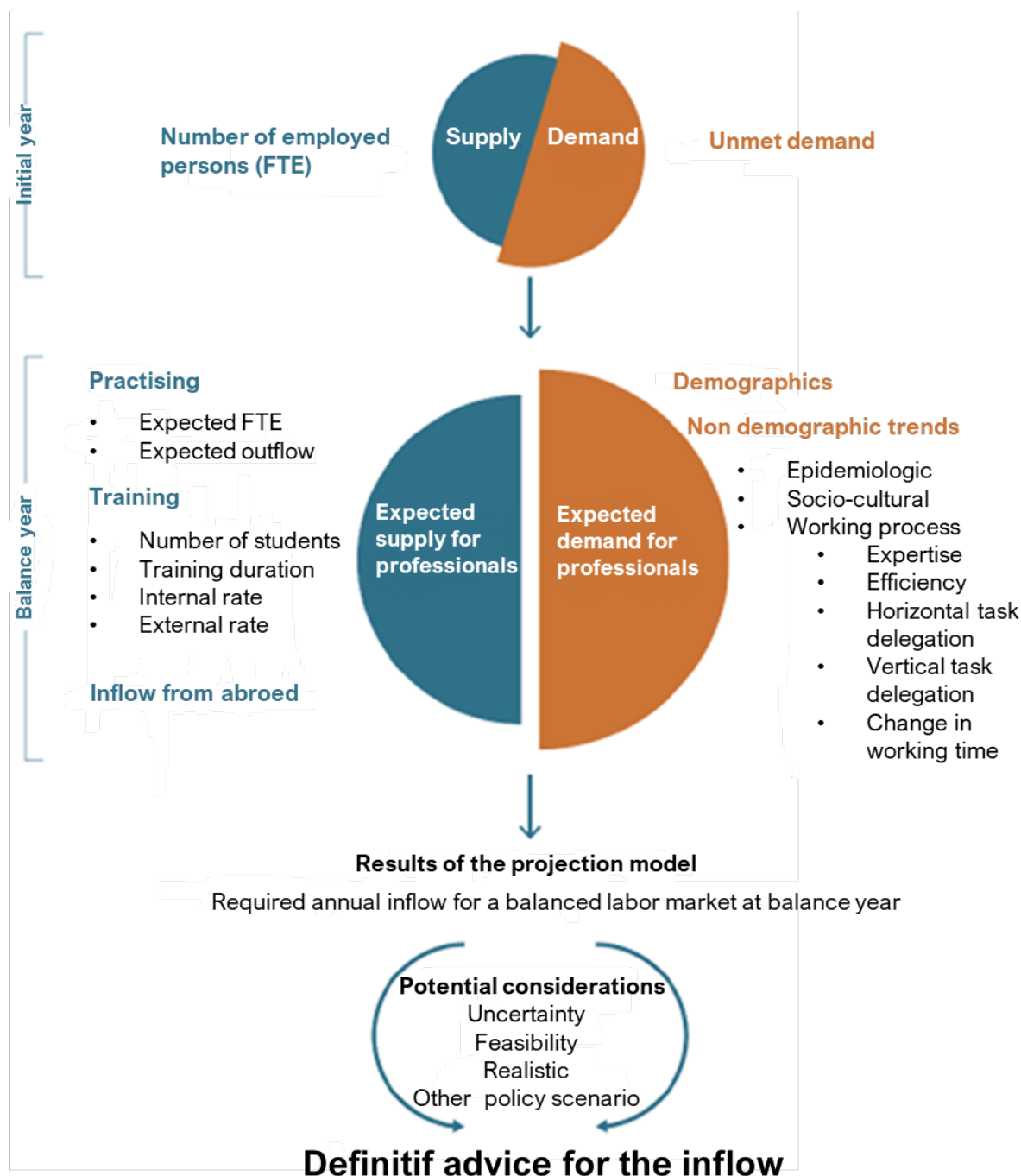
Figure 8 – NIVEL survey results on repartition of GP's working time²³



Source: NIVEL²³



Figure 9 – projection model NL Capaciteitsorgaan



Source: Capaciteitsorgaan²²

1.4 Australia

We identified three recent reports that proposed projection model for GPs in Australia.²⁶⁻²⁸ The most recent report was produced by the Department of Health and Aged Care.²⁶ This report does not employ a scenario-based approach instead, it uses option approach is to test two alternative demand projections. The remaining two initiatives were developed by the Australian Medical Association²⁸ and the other from Cornerstone Health (a for-profit primary healthcare provider) in collaboration with Deloitte.²⁷

1.4.1 GP supply and demand model by the Department of Health and Aged Care

For both supply and demand, the Department of Health and Aged Care used a micro-simulation modelling approach. This modelling technic simulates data at individual patient and provider level.

SUPPLY

- Data sources
 - MBS: the official Australian Government list of medical services (Medicare Benefits Schedule) subsidised by Medicare through a fee-for-service system
 - National Health Workforce Dataset (NHWDS) which gathers data from a Workforce Survey completed at the time of annual registration renewal for the national registration process for medical practitioners
- Supply assessment

The supply of GPs was assessed as the existing stock of GPs (defined as GPs with at least one service billed through the MBS) plus inflows, including new entries (training and migration) and re-entries, minus outflows, including permanent and temporary exits.

The GP workforce supply is calculated by summing billable, non-billable, and non-clinical time. Billable time is calculated as the product of the number of services claimed from the list of MBS items and the number of minutes attributed to each service, as measured in the Bettering the Evaluation and Care of Health (BEACH) study.

Non-billable duration for each Medicare claim was calculated by applying the average non-billable time per encounter within the BEACH data according to GP age and sex, as well as patient age. The non-billable time considered only clinical time.

Non-clinical time was estimated at a GP locality level according to the data contained in the NHWDS

DEMAND

- Data sources

A 10% synthetic sample of the Australian population in 2022 is used to estimate health care consumption by socio-economic characteristics of the population.

Australian Bureau of Statistics data are used to project the evolution of the population.

Five chronic conditions (i.e. asthma, cardiovascular disease, diabetes, mental health conditions, and overweight/obesity) are identified to estimate prevalence by age, sex, and socio-economic characteristic
- Demand assessment

GP demand is estimated in terms of numbers of services, GP FTE and services per capita, according to patients age, gender and co-morbidity profile.

Baseline demand is defined as the sum of the average service utilisation per cohort (age, gender and co-morbidity profile), applied at the individual level. The baseline demand represents the projected demand under an initial equilibrium assumption, whereby supply is assumed to meet demand.

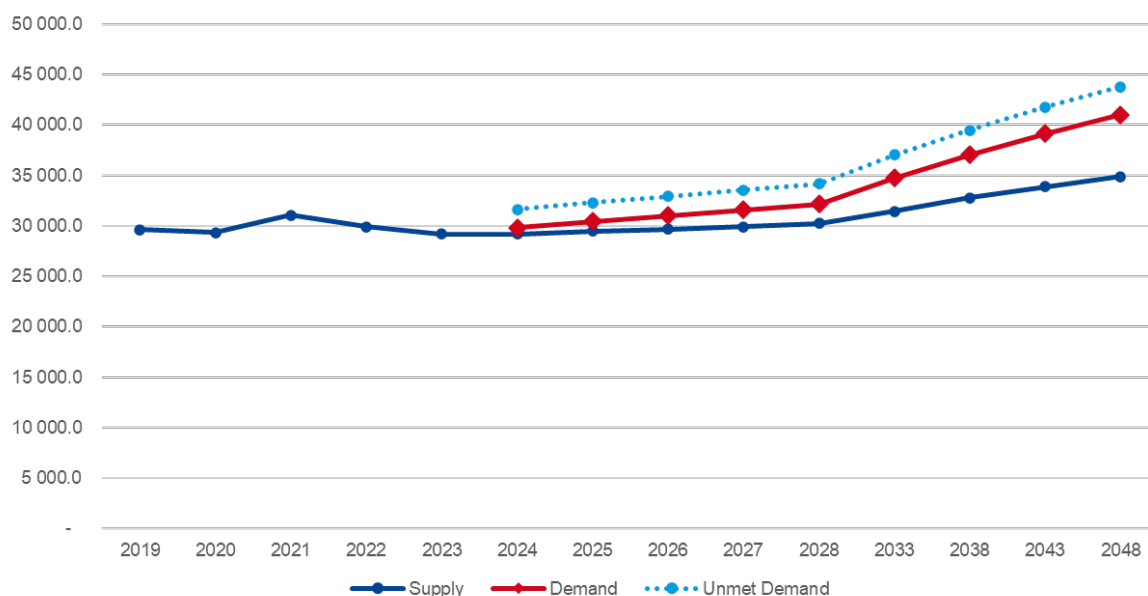
In addition, the unmet demand is calculated by the difference between expected population care requirement, and observed service utilisation.



BALANCE BETWEEN SUPPLY AND DEMAND

By 2048, a shortfall of 6 148.31 FTE GPs was estimated to meet projected the demand for care. when unmet demand is considered, the shortfall rose to 8 908.21 FTE meaning that the demand is approximately 26 % higher than the supply (see Figure 10).

Figure 10 – Projection of the supply and demand in FTE GP until 2048, Australia



Source: Department of Health and Aged care²⁶

1.4.2 GP workforce model by the Australian Medical Association

The analysis proposed in the report of the Australian Medical Association²⁸ demonstrated that the demand of GP services increased by 10 2000 FTE GPs i.e. an increase of 58.4% during a ten-years period (between 2009 and 2019) resulting in a compound annual growth rate of 4.7% (1.6% for population growth, 0.2% for ageing, 1.7% for increase in number of visits per person and 1.2% for complexity/increased duration of GP consults).

DEMAND OF GPS

- Data sources

Number of consultations: MBS description (i.e. official Australian Government list of medical services that are subsidised by Medicare). Consultations are sorted by duration:

- Level A (brief consultation) : < 6 minutes
- Level B (standard consultation): 6-19 minutes,
- Level C (long consultation): 20-39 minutes,
- Level D (prolonged consultation): 40-59 minutes,
- Level E (prolonged (very long) consultation): ≥ 60 minutes

Time by consultation type: derived from the data Bettering the Evaluation and Care of Health (BEACH) study²⁹

Population: Population growth is drawn from the ABS Australian³⁰

- Demand assessment



Demand is calculated by multiplying the number of consultations by the time of a consultation according to the type of consultation

Limitation: this measure of demand is an indicator of met need for GP services; the magnitude of unmet need cannot be estimated.

- Assumption
 - An FTE GP is assumed to be 40 hours per weekly
 - An FTE GP includes 32 hours per week of clinical time. In the model, the proportion of clinical time relative to total working hours is assumed to remain constant over time, despite increasing administrative and compliance requirements.
 - No explicit constraints are placed on the number of doctors
 - Time per consultation is held constant during the projection period
- Scenarios

Scenarios were based on three growth projections based on the current growth in utilisation per person by age cohorts and using the population projection of Australian Bureau of Statistics.

 - Scenario 1: High-demand scenario

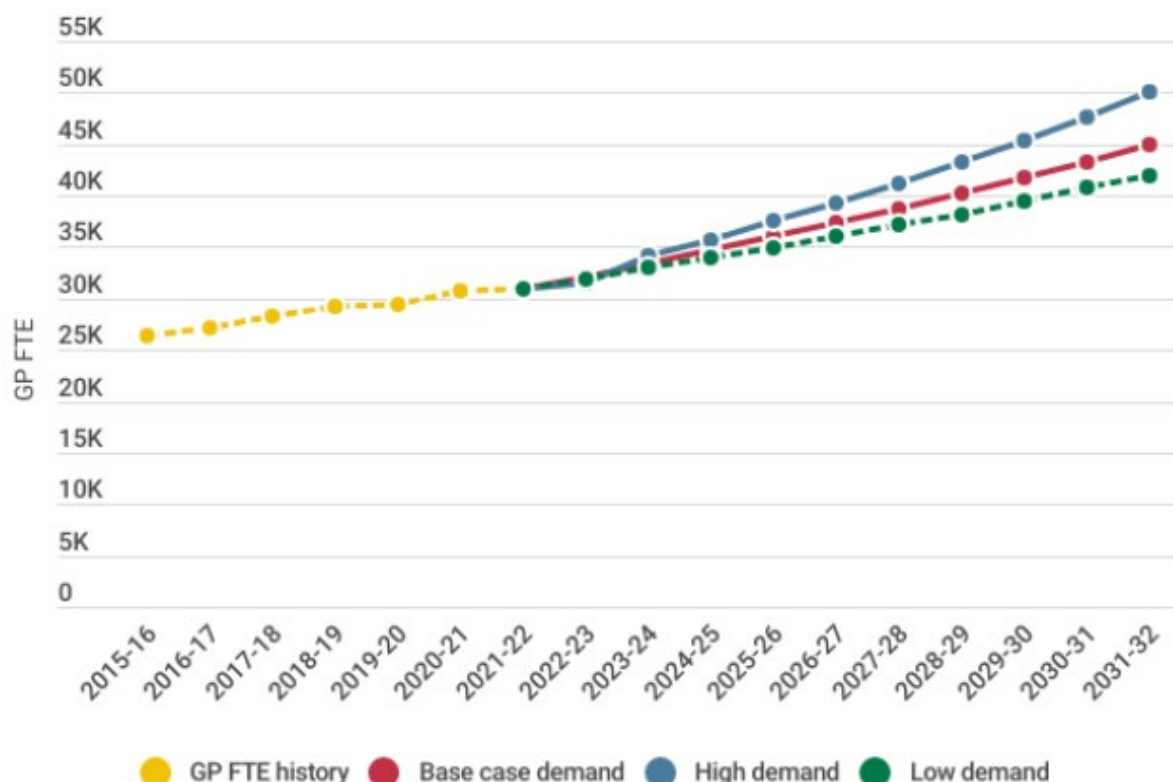
Demand of GP services was considered to continue at the rate of historical growth 2009 to 2019 for each age cohort
 - Scenario 2: Base-case demand scenario

Growth in utilisation was reduced from the historical rate of 1.7% to 1.0% and the growth in complexity including ageing reduced to 1.2% due to more effective prevention through granted investment in primary care.
 - Scenario 3: Low-demand scenario

Growth in utilisation was reduced by 1%, no growth in the average age equivalent complexity of patients was considered and growth of 0.5% was foreseen for the visit due to ageing
- Projection results



Figure 11 – Scenario modelling of historical and projected demand in GP services (FTE)



Source: AMA²⁸

SUPPLY OF GPS

- Data sources

New entrants: data from standard training (Royal Australian College of General Practitioners (RACGP) and Australian General Practice Training) and specialised program for rural and remote areas (Australian College of Rural and Remote Medicine (ACCRM) and Remote Vocational Training Scheme)

Discontinued trainees: the National Health Workforce Dataset estimated that 200 trainees discontinue training each year

Overseas inflow: RACGP and ACCRM provided data on new entrances from abroad direct in the workforce or a (around 250 in 2022)

Exit from Australian GP workforce: Productivity Commission's Report of Government Services showed that 0.5 % of GPs each year choosing to leave the primary care.

Retirements: Australian Medical Association estimated that GPs retired at the rate of 1.4 % per year for projections over the next decade

Reduction in hours worked: Declining average weekly hours worked by both male and female GPs

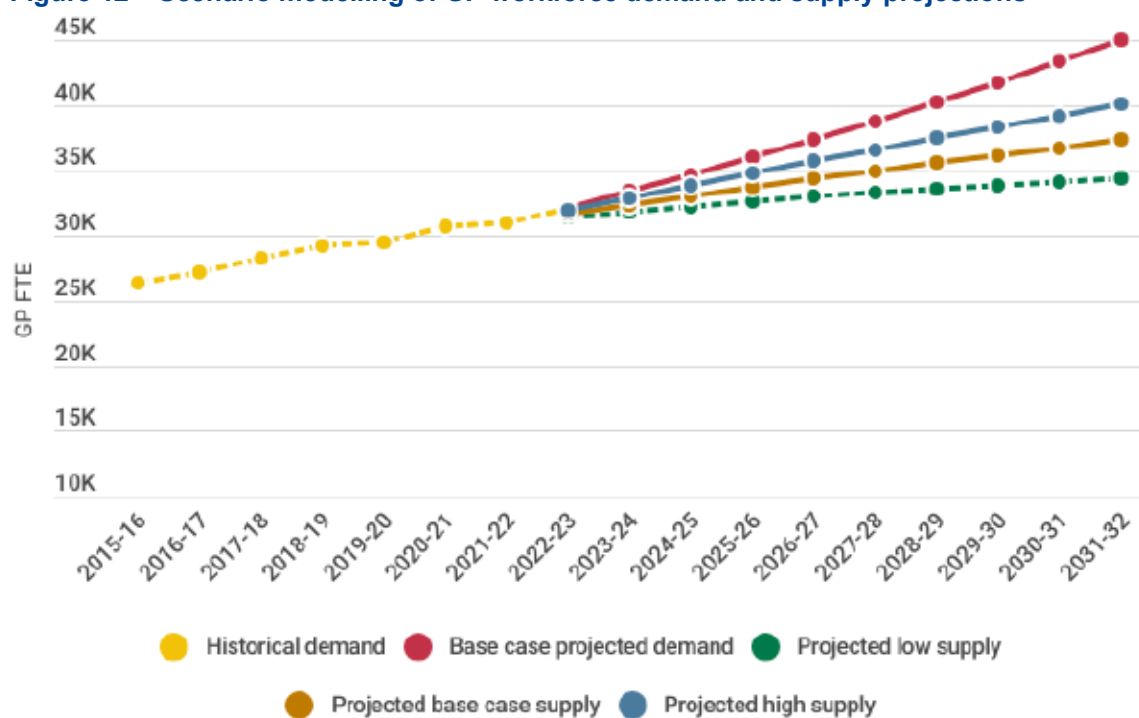
- Supply assessment

Future supply is calculated as:

(Intake from the training + intake from abroad + GP workforce – retirement – outflow from new career orientation) x average number hours worked

- Scenarios
 - Scenario 1: Base-case supply scenario
 - Vacancies in training positions follow the observed trend
 - Discontinued trainee rate remains constant
 - Continued shift towards part-time work
 - Retirement follows the current trend
 - No major policy reforms affecting GP remuneration or professional status
 - Scenario 2: High-demand scenario
 - All training positions are filled
 - Discontinued rate decreases
 - Working time: average productivity remains the same
 - Retirement rates stabilise following acceleration during the COVID-19 period
 - Increase attractiveness of general medicine
 - Scenario 3: Low-demand scenario
 - Increase in vacancies of training positions are filled
 - Higher discontinuation and career-reorientation rates
 - Working time: decrease in average productivity
 - Retirement: increase retirement rate
 - Reduced attractiveness of general medicine and ongoing under-funding
- Projection results

Figure 12 – Scenario modelling of GP workforce demand and supply projections



Source: AMA²⁸



BALANCE BETWEEN SUPPLY AND DEMAND

If demand follows the base-case scenario, a shortfall of approximately 7 600 FTEs is projected by 2031 under the base-case supply scenario. Under high- and low-supply scenarios, the projected shortfall ranges from approximately 3 100 FTE GP and 10 600 GP FTEs by 2031.

1.4.3 General Practitioner workforce report 2022 Cornerstone and Deloitte²⁷

OVERALL MODELLING ASSUMPTIONS

The modelling is based on two main assumptions: (1) demand and supply are in balanced in 2021, starting date of the projection, and (2) no major workforce or policy reforms are expected during the projection period.

DATA SOURCES

The model is based on national administrative and statistical datasets:

- National Health Workforce Dataset (NHWDS): GP workforce size, demographics, hours worked
- Australian Bureau of Statistics (ABS): population estimates and long-term demographic projections
- Medicare Benefits Scheme (MBS): GP service volumes and utilisation patterns
- Department of Veterans' Affairs (DVA): additional GP service utilisation not captured through the MBS
- Training program data (AGPT): inflows from domestic GP training pipelines
- Migration and registration data: inflows of overseas-trained doctors into the Australian GP workforce

SUPPLY OF GPS

The supply is estimated using a stock and flow model.

Supply in 2032 = Supply in 2021 + Inflows - outflows

Supply in 2021 is measured in headcount and FTE

Inflows include domestic GP training completions and immigration of GP overseas.

Outflows include retirements, deaths and workforce attrition (drop-out)

GP headcount is converted into FTEs based on age- and sex-specific participation and working-hour patterns observed in the NHWDS.

DEMAND OF GPS

Future demand is estimated by applying age- and sex-specific GP service utilisation rates to each segment of the projected population, resulting in an estimate of the total clinical hours required. This total volume of hours is subsequently converted into GP FTE demand.

SUPPLY AND DEMAND BALANCE

By 2032, a shortage of 27.8% (i.e. 11 392 GP FTE). This shortfall is driven by declining average working hours per GP, largely as a consequence of changing workforce demographics, insufficient inflows to fully replace workforce exits, and growth in demand for GP services that exceeds underlying population growth..

1.5 Previous experience in Belgium

In Belgium, a first pilot project was realised in 2016 by a consortium of 2 Belgian universities (Universiteit Antwerpen and Université Catholique de Louvain) using a method combining literature review, horizon scanning and Delphi methods.³¹

1.5.1 Method

LITERATURE REVIEW

The aim of the literature review was to determine and analyse the most relevant body of knowledge relating to areas and factors that may influence the GP need. Peer review literature and grey literature were searched. The peer reviewed papers were searched in PubMed database using the following search terms: "General Practitioners"[Mesh] AND "Belgium"[Mesh] AND ("last 10 years"[PDat]) Grey literature were searched via Google Scholar with the search terms in French and Dutch: 'huisarts' AND 'België', 'Médecine Générale' AND 'Belgique'. In addition: Belgian university network partners and at pan-EU level websites were searched search strategy: "general practitioner workforce projections [title]" and related articles. Inclusion criteria were:

- Target population: GPs
- Only related to Belgium
- Workforce planning and future of General Practice
- Published between 2005 and 2015

HORIZON SCANNING INTERVIEWS

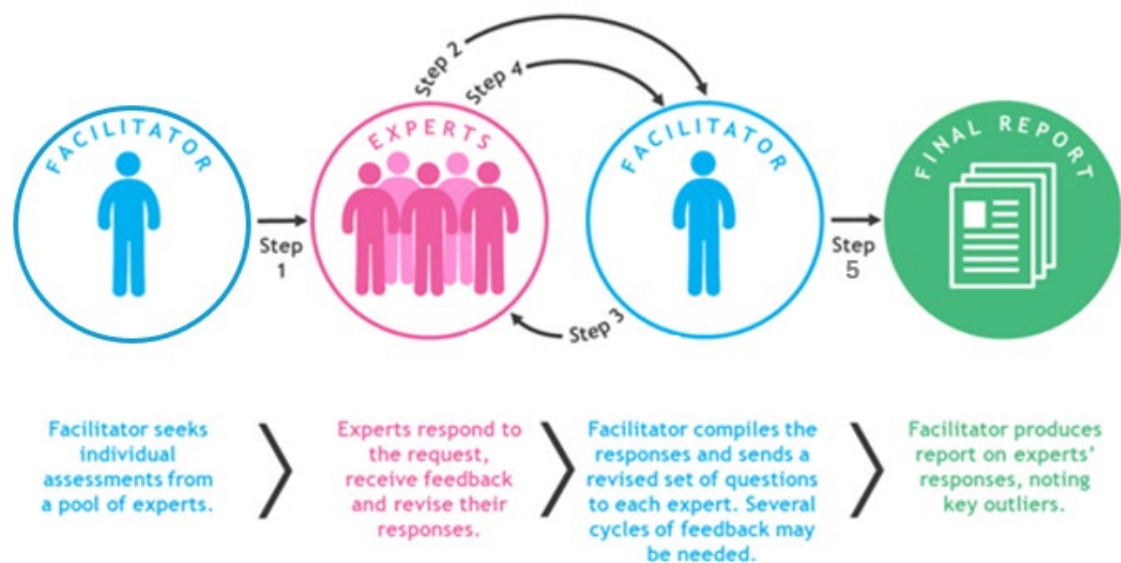
In this exercise of workforce planning and forecasting, the horizon scanning concerned asking people to think up to a certain year about the things that may change the requirements, numbers and deployment of GP in Belgium. The focal question used was: 'Thinking up to the year 2035, what are the key driving forces that will impact the general practitioner workforce in Belgium? (in terms of numbers and requirements)'. Semi-structured interviews were conducted in 16 (8 Dutch and 8 French speaking) stakeholders. The interviews were conducted in a face-to-face meeting or by telephone, lasting approximately 30 minutes (to a maximum of 1 hour). The interviews recorded the audio to assist with writing up afterwards. A thematic data analysis of the interviews was performed using the TEEPSE (Technological, Economic, Environmental, Political, Social and Ethical) framework.

DELPHI VARIABLE QUANTIFICATION

Delphi method was used in an elicitation purpose to quantify variables for workforce modelling. Using their judgement, an expert group answered to a series of questions identified during the literature review and the horizon scanning process. The Figure 13 summarises the methodological steps used in the pilot project.



Figure 13 – Summary of the Delphi process using in the Pilot project (Belgium – 2016)



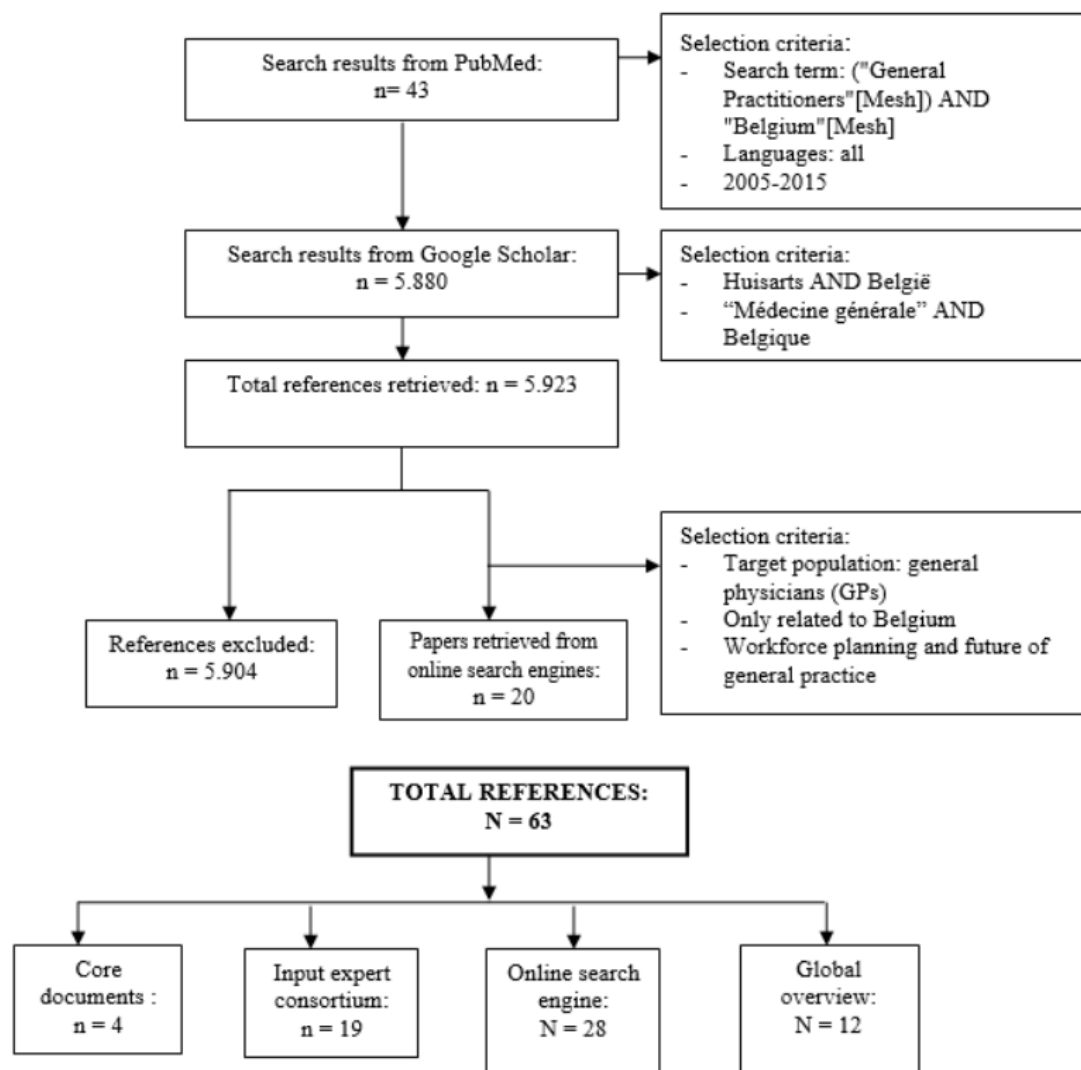
Adapted from Edwards et al 2016³¹

1.5.2 Results

1.5.2.1 Literature review

SEARCH RESULTS

As described in the below flowchart, 63 references were included in the body of evidence. They described areas and factors affecting the future need of GP.

Figure 14 – Flowchart of the literature search³¹

AREAS AND FACTORS AFFECTING THE NEED OF GP

- Patient's health care needs and demand
 - Demographic evolution
 - Changing morbidity patterns
- General Practice workforce supply in Belgium
 - Number of active GPs
 - Regional variation
 - Inflow – GP trainees, GPs and quotas, GP and quota compliance, Immigration
 - Outflow and Retirements
 - Stock of GPs – activity rate and feminisation
- Changing task profile
 - Changing needs



- Practice organisation
- Trends in GP's activity in relation to the demands
 - Evolution in the number of consultations
 - The mean consultation time
 - Patients with a regular GP
 - The Global Medical Record
- Ways to address these challenges
 - Changing skills need different education
 - An adjusted payment system
 - Integration of different professionals

HORIZON SCANNING INTERVIEWS

The analysis of the interviews following the TEEPSE framework are summarised in the tables below.

Table 2 – Summary of the interview analysis (Edwards et al 2016)³¹

Technological	Economic	Environmental	Political	Social	Ethical
High impact factors					
	A more capitation-oriented payment for integrated care delivery		Making choices for a change to horizontal integration: out of hours services	Changes in health care needs	
			Introduction of new professions and adaptation of the legal framework	Decreasing activity rate in GPs (working hours + numbers)	
			Task shifting to more multidisciplinary group practices	Task definition of GPs and other health care providers	
Medium impact factors					
Electronic sharing patient information		Regional variation in GP distribution	Vertical integration the relationship between GPs and specialists	Large outflow of older GPs	
			Distribution of GP students between the two language communities		
Low impact factors					

Social medias as a communication tool with patients		Larger practice buildings for group practices			Patients take more responsibility from own health monitoring
Technological support for patients self-monitoring					

The research team refined each factor in the following table.

Table 3 – Horizon scanning factor classification (Edwards et al 2016)³¹

Impact	
High impact	Change in health care needs. A growing number of increasingly complex disorders and an ageing population require a coordinating physician to guide the patient along his or her care path. There is a need for the introduction of new professions and an adaptation of the legal framework, in order to establish multidisciplinary primary care practices. The number of GPs is declining. At the same, the activity rate ('working hours') is expected to decrease. There is also an increasing retirement rate, especially in Brussels, while student inflow levels need to be closely monitored in the near future. Although this driver is marked as highly influential, there is a nuanced vision in both communities on the issue. In the Dutch-speaking community, experts believe the number of GPs is sufficient for the near future, but both regional distribution and task profiles are problematic. More efficiency might be a solution to these challenges. In order to respond to these evolutions, a new vision of horizontal integration is mandatory. Innovative out-of-hours services are part of this reorganisation. All these evolutions result in a need for task shifting with a renewed task definition of the GP. Health care professionals should focus more on core competences in order to be able to take care of patients with multimorbidity. Currently, GPs possibly spend too much time on minor ailments and administration, tasks which could be shifted to other professions more suited to these tasks. The growing need for an increased efficiency of the available health care offer, forces the health care system to make choices in this regard An increase of capitation based payment as part of the remuneration scheme for integrated care delivery is an indispensable part of this evolution
Medium impact	The large outflow of older GPs is a medium level factor in workforce planning. The influence is not so clear for the moment, because experts say there is a tendency within the group of GPs older than 65 to keep on working. Future estimates on this issue require continuous monitoring. This factor might be influenced by the improved organisation of out-of-hour services and practices. Although views differ on the number of GPs in both parts of the country. Dutch speaking experts state explicitly that there are enough GPs, but there is a problem because of an uneven regional distribution. They also see a positive evolution in the student population, where a growing proportion is opting to specialize in general practice French-speaking experts believe there is a shortage of GPs because of the low appeal of medical studies and the profession. Indeed there are



	larger regional differences in density and ages of GPs in the French-speaking community.
	Facing the new challenges of vertical integration the relationship between GPs and specialists needs to be reviewed. There are different opinions on this topic. Some experts advance the integration of the GP into the hospital, the location of the outof-hours care just before the emergency service, or a more pronounced gatekeeper role for the GP. How to build bridges for a patient-centred care is a subject for further discussion.
	Electronic sharing of patients' files is a facilitating factor for a better multidisciplinary collaboration. Sumehr, Vitalink and E-health are current initiatives in development, but further implementation and integration of medical records should be encouraged.
	Patients can be made more responsible for their own health , if they are educated in health management and become more able to treat minor ailments at home
	The differences in student inflow numbers and quota compliance between the two language communities is more elaborately described. Some experts talked about the unequal distribution of medical students in the French-speaking and Dutch-speaking communities and the impact it may have on workforce planning. In the long term, this seems to be a factor of lower importance, because of the measures taken by the French-speaking community and universities in 2015.
Low impact	The patient who plays a more active role in the monitoring of his/her own health through technological devices. This collected information can be shared with the GP through an online file, and allows the physician to analyse the data instead of collecting the data. This is considered as a possible timesaving measure. But it raises ethical questions regarding the accuracy of the measurement and the lack of personal contact in this medical act. Some experts have high expectations for this approach. It all depends on the usability and the scientific value of these devices.
	The possibility of using social media as a tool for communication with patients, either directly or indirectly, was identified as a low influential factor. This was rarely discussed and not considered feasible in short nor long term planning.
	Suitable buildings to install multidisciplinary practices are sometimes difficult to find and to finance. In recent literature this is an upcoming concern and some experts also mentioned it.

DELPHI VARIABLE QUANTIFICATION

The analysis of the Delphi consultation is summarised in the tables below.

Table 4 – Delphi results summary (Edwards et al 2016)³¹

<i>Evolution in demand for GPs, expressed in health care cost per capita for consultations, visits and advice in ambulatory practice</i>
"Overall, the experts expressed no great differences in demand for GPs in the female and male population. The demand for GP care in women will be slightly higher than in men. There will be no change in demands for the population under 40 years old. The median change for the French speaking community is slightly higher than the estimations of the Dutch speaking experts. For the age group of 40-65 years old there is a very limited increase for Dutch speaking experts (<5%) and it is significantly higher for the French speaking experts (10% male/15% female patients). The change is explained by preventive actions and upcoming chronic and mental conditions in this age group.

Between 65 and 80 years the demands will increase more for the French speaking experts (20%) than the Dutch speaking ones (10%). These changes are explained by increasing multimorbidity. Overall, the median change is between 15 and 20% for the age group over 80 years. Here experts stressed the increasing demand for home visits. The role of the geriatrician might influence these figures

In the second round figures of the Dutch and French speaking experts for the age groups up to 40 years old stayed the same. For the age group of 40-65 years old the Dutch speaking experts said there will be no increase while the French speaking experts found there will be a significantly higher need for both age groups. However, the difference between the female and male population disappeared (12% male/13% female). The median change for the population between 65 and 80 years was higher (+14% female/+ 17% male) for the Dutch speaking experts in the second round. For the French speaking experts, it was now +23 % for both sexes. Overall, the median change for the group above 80 years was higher, up to 25%.

Overall this was a very difficult question to answer, even for the experts. Some of them pointed out that figures would be strongly influenced by choices made about the role of certain specialists and paediatricians."

Activity rate of GPs, expressed as the median activity rate of 45-54 year old GPs

"In both parts of the country, experts believe that there will be a substantial expected change in the number of working hours per Full Time Equivalent for GPs. French speaking experts foresee a change from a median of 50 hours now, to 40 (first round) and 42 hours (second round) in 2035. Dutch speaking experts predicted a change from a median of 60 hours now to 45 (first round) and 43 hours (second round) in 2035.

Dutch speaking experts believe that there will be no change in the activity rate for female or male GPs of 30<40. The decline will be significant in the group > 65 years old. Those GPs will not all retire, but they will work less in 2035 than their colleagues of this age group today (median = -20%). French speaking experts have a slightly different opinion. For them the young GPs of 30<40 and those of 40<55, 55 -65 years will work less than now (median -10% as well as for males as females). The decline will be significant in the male group > 65 years old (median = - 20%).

There is also a shift, in less administration and more other tasks. Patient related activities will remain more or less the same (median 75%) for the Dutch speaking part. French speaking colleagues estimate that GPs now spend 20 % of their time on administration and this will shift to patient-centred and other activities."

Table 5 – Future activity rate of GPs (Edwards et al 2016)³¹

Expected change, expressed in hours	Dutch-speaking		French-speaking	
	Now	In 2035	Now	In 2035
Average	56	42	55	43
Maximum	60	48	70	50
Median	56	43	54	42
Minimum	46	35	50	40
CONSENSUS	64%	57%	78%	56%



2 NUMBER OF GPS IN BELGIUM

2.1 GP trainees

At the 31 December 2023, there were 2 257 GPs in training in Belgium. The majority of them are trained in the French community (52.81%) or are female students (66.15%). A low proportion of the GP students (3.28%) obtained their Master's degree in medicine in a university outside Belgium. Most of them (63.51%) were following their GP training in the French- community. Details on the characteristics of GP trainees are presented in Tabel 6.

Tabel 6 – GP trainees according to the community approving the internship plan, country of Maters' degree in medicine, gender, year of internship start (31/12/2023)

Community	Degree country	Gender	Number of years from the starting of the internship					Reorient*	Total
			<1	1<2	2<3	3<4	4+	2021-3	
Dutch community	Belgium	Female	259	219	199	11	5	1	694
		Male	125	109	100	5	3	2	344
	Outside Belgium	Female	4	5	6	1	0	0	16
		Male	1	4	4	0	2	0	11
			389	337	309	17	10	3	1 065
French community	Belgium	Female	186	238	267	45	22	1	759
		Male	105	97	119	28	37	0	386
	Outside Belgium	Female	8	3	6	1	6	0	24
		Male	7	6	3	1	6	0	23
			306	344	395	75	71	1	1 192
Belgium	Belgium	Female	445	457	466	56	27	2	1 453
		Male	230	206	219	33	40	2	730
	Outside Belgium	Female	12	8	12	2	6	0	40
		Male	8	10	7	1	8	0	34
			695	681	704	92	81	4	2 257

* Reorient = reorientation i.e. number of medical doctors (accredited or trainees) who are changing career paths and starting an internship as a GP – Source: Planning Unit.³²

2.2 GPs licensed to practice

In Belgium, 22 509 GPs are registered in federal databases as 'licensed to practice' (see Table 7).³² This means that they have obtained a license from the federal health authorities (see *visum/visa* described in report). Among those, 36.5% are aged 65 years or over. Half of the GPs licensed to practice are listed in the Flemish territory (49.75% in the Flemish region and 52.41% in the Dutch community). The feminisation rate is similar in Flanders (47.17%) and Wallonia (45.90%). However, there is a higher proportion of women in Brussels (51.89%). This is due to a higher proportion of female GPs being aged 65 years and over. Consequently, the proportion of women is higher in the French community (48.53%) than in the Dutch- community (45.93%).

While the Planning Unit reported 22 509 GPs licensed to practice, the NHIDI identified 18 749 GPs in its database for Belgium in 2024³³ and 18 518 in 2023.³⁴

Table 7 – Number of GPs licensed to practice and feminisation rate in Belgium and by federated entity

Age	Belgium		Flemish region		Walloon region		Brussels Capital region		Dutch community		French community	
	n	% F	n	% F	n	% F	n	% F	n	% F	n	% F
<30	1 251	68	634	68	454	68	142	68	643	68	608	68
30<35	2 681	69	1 339	68	891	71	321	69	1 355	67	1 326	70
35<40	1 767	72	956	73	480	73	195	67	1 002	72	765	72
40<45	1 146	67	544	67	349	67	134	72	566	67	580	67
45<50	1 292	66	653	68	338	62	129	65	735	68	557	62
50<55	1 675	63	826	64	486	63	173	62	902	65	773	62
55<60	1 803	55	894	56	469	52	211	60	1 031	56	772	54
60<65	2 679	41	1 300	40	736	42	358	43	1 455	39	1 224	43
65<70	3 217	32	1 558	28	1 052	36	350	44	1 601	27	1 616	37
70+	4 998	17	2 494	12	1 759	20	473	25	2 507	12	2 491	22
Total	22 509	47	11 198	46	7 014	47	2 486	52	11 797	46	10 712	49

Notes: The region is assigned based on the GP's place of residence. The total number of GPs in the regions does not correspond to the total number of GPs in Belgium because some professionals live outside Belgium or their place of residence is unknown. An individual belongs to the Dutch or French community based on the language of their diploma (Dutch or French) or, if this information is not available, based on their contact language with the administration (Dutch, French or German). Due to their low number, professionals whose contact language is German are included in the "French community" category – %F: feminisation rate – Source: Planning Unit.³²

2.3 Professionally active GPs

A licensed to practice GP is considered as a professionally active GP when he/she is registered in the data of RSVZ – INASTI or RSV – ONSS at a level of 0.1 FTE at least. A linkage with these databases is only performed by the Planning Unit.³² Therefore, NHIDI does not provide any figures about this group of GPs. As shown in Table 8, there were 16 504 professionally active GPs at the end of 2023. This means that they can work for the healthcare sector or not. The professionally active GPs were distributed as: 53.95% in Flanders, 33.20% in Wallonia and 12.33% in Brussels Capital.^c

^c The total for each all regions is not 100% because some professionals live outside Belgium or their place of residence is unknown. However, they represent less than 1% of the total.

**Table 8 – Number of professionally active GPs in Belgium and by federated entity (31/12/2023)**

Age	Belgium	Flemish region	Walloon region	Brussels Capital region	Dutch community	French community
	n	n	n	n	n	n
<30	1 105	589	401	111	592	513
30<35	2 499	1 324	856	301	1 314	1 185
35<40	1 604	943	468	189	952	652
40<45	1 013	529	343	131	528	485
45<50	1 080	634	315	122	657	423
50<55	1 425	794	463	166	802	623
55<60	1 505	847	452	204	898	607
60<65	2 215	1 195	673	336	1 241	974
65<70	2 002	1 037	718	237	1 011	991
70+	2 056	1 012	791	238	990	1 066
Total	16 504	8 904	5 480	2 035	8 985	7 519

The region is assigned based on the GP's place of residence. The total number of GPs in the regions does not correspond to the total number of GPs in Belgium because some professionals live outside Belgium or their place of residence is unknown. An individual belongs to the Dutch or French community based on the language of their diploma (Dutch or French) or, if this information is not available, based on their contact language with the administration (Dutch, French or German). Due to their low number, professionals whose contact language is German are included in the "French community" category – Source: Planning Unit.³²

PRACTISING GPs

Number of practising GPs

The NIHDI identified 14 381 GPs professionally active for the mandatory health insurance in its database for Belgium in 2024 (14 286 in 2023). The NIHDI describes the professionally active GPs as GPs who have provided at least two services during the year under study or who work in a community health centre (*wijkgezondheidscentrum / maison médicale*).

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

- in the RSV – ONSS database with at least 0.1 FTE for an employers from the healthcare sector (i.e. hospital sector, ambulatory GP practice, other the human health activities, public centre for social welfare (OCMW/CPAS), social work with and without accommodation, and activities of temporary employment agencies)^{d 32, 35}
- in RSVZ – INASTI database and has at least € 8 839 in NIHDI-reimbursed healthcare costs in 2023. The working group physicians of the Federal Planning Commission determined this

^d Are considered as sectors outside of the healthcare: education, public sector, and other categories such industrial activities, transport sector, etc.

threshold as 5% of the median amount of NIHDI-reimbursed healthcare costs for physicians exclusively working as self-employed and belonging to the age category 45-54y (i.e. € 176 773).^e

As in Table 9, 13 632 GPs were professionally active in the Belgian healthcare sector in 2023. Among those, 55.99% were located in Flanders, 32.50% in Wallonia and 11.24% in Brussels.^c The observed feminisation rates were 51.66% in Belgium and 44.55%, 50.63% and 53.07% respectively in Flanders, Wallonia and Brussels Capital Region. The rate of feminisation of the practising GPs is inversely proportional to age. Practising GPs younger than 55 were mostly women.

Table 9 – Number of professionally active GPs in Belgium and by federated entity (Belgium, 2023)

Age	Belgium		Flemish region		Walloon Region		Brussels Capital Region		Dutch-speaking community		French-speaking community	
	n	% F	n	% F	n	% F	n	% F	n	% F	n	% F
<30	990	67	549	66	350	68	88	65	553	67	437	68
30<35	2 369	68	1 283	68	808	70	264	67	1 275	67	1 094	70
35<40	1 510	72	907	73	435	72	165	65	913	72	597	72
40<45	927	66	497	66	316	65	112	70	491	67	436	65
45<50	971	64	591	66	279	58	97	64	609	67	362	58
50<55	1 236	61	720	63	382	58	133	62	721	64	515	58
55<60	1 202	51	706	54	349	44	147	52	737	54	465	46
60<65	1 741	36	968	36	530	35	240	40	987	35	754	37
65<70	1 498	22	802	17	528	25	163	34	781	17	717	28
70+	1 188	10	610	5	453	14	123	17	591	4	597	15
Total	13 632	52	7 633	45	4 430	51	1 532	53	7 658	52	5 974	51

The region is assigned based on the GP's place of residence. The total number of GPs in the regions does not correspond to the total number of GPs in Belgium because some professionals live outside Belgium or their place of residence is unknown. An individual belongs to the Dutch or French community based on the language of their diploma (Dutch or French) or, if this information is not available, based on their contact language with the administration (Dutch, French or German). Due to their low number, professionals whose contact language is German are included in the "French community" category – %F: feminisation rate – Source: Planning Unit.³²

Among the 13 632 GPs who are professionally active, 2 188 GPs were registered as salaried in 2023 (48.61% in Flanders, 22.48% in Wallonia and 25.76% in Brussels)^c. The vast majority worked (70.29 %) in the healthcare sector (73.66% in Flanders, 73.6% in Wallonia and 62.44% in Brussels), and more specifically in the ambulatory GP practice (n=821). Other professionally active GPs were employed, either full-time or part-time, outside of the healthcare sector such including education (n=310), public sectors (n=185) or other non-health sectors (n=239). More details about this workforce are provided below.

^e The annual NIHDI-reimbursed healthcare cost for each provider does not represent the GP's net income, but this represents the revenues generated by activities relating to the care of patients covered by the compulsory health insurance.



Because they used a slightly different definition of practising GPs, the number of practising GPs is 4.80% higher in the NIHDI estimation than that of the Planning Unit.

NUMBER OF FULL TIME EQUIVALENTS

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 proxy 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 amount^e to the median reimbursement amount^e for providers aged 45 to 54. For GPs working in community health centres, as they are financed through lump-sum payments, FTEs cannot be calculated based on reimbursement amounts. In the absence of the absence of activity registration or link with RSVZ – INASTI database, each GP was assumed to correspond to 0.82 FTE. Based on these definitions, it was estimated that there were 9 615 FTEs in Belgium in 2023. Among those 18% were aged of more than 65 years and 49% were women. The GP density was 8.35 FTE per 10 000 insured people in Belgium. It is an increase of +5.75% in comparison with 2013.³⁴ The detailed data by province is provided in Table 10.

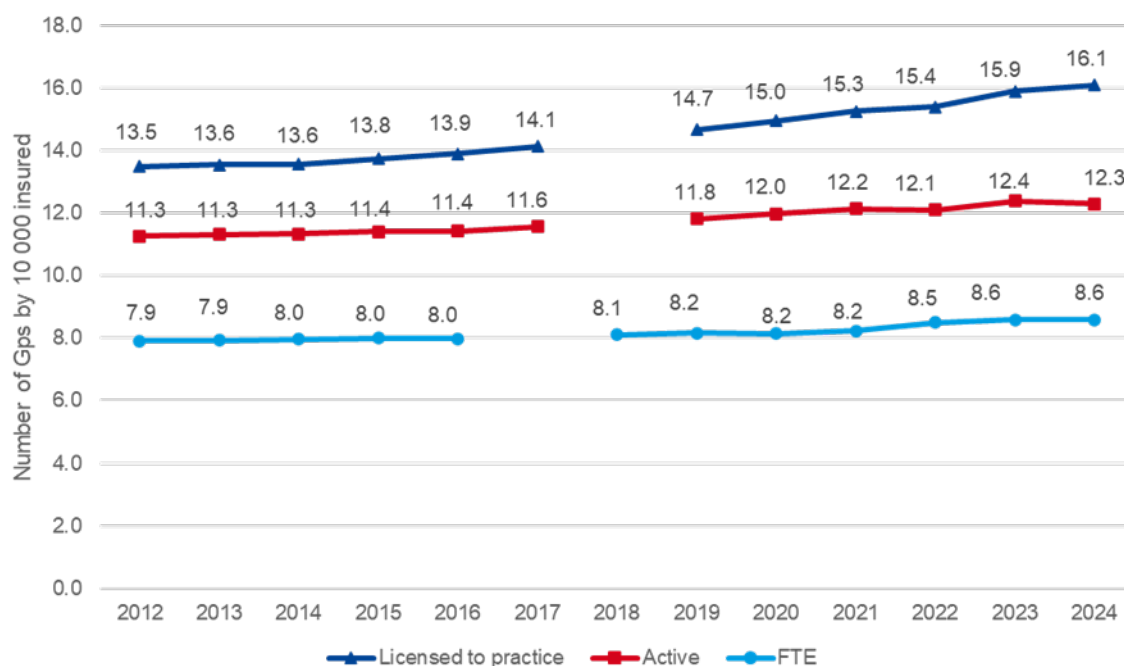
Table 10 – Full Time Equivalent by province (NIHDI, 2023 and 2024)

Province	FTE		Density		% 65+		%F	
	2023	2024	2023	2024	2023	2024	2023	2024
West-Vlaanderen	1 034.1	1060.4	8.42	8.54	20%	18%	42%	44%
Oost-Vlaanderen	1 341.5	1410.8	8.49	8.54	16%	17%	50%	52%
Antwerpen	1 483.6	1 544.4	7.76	7.96	15%	16%	53%	55%
Limburg	821.9	840.1	9.37	9.51	17%	18%	47%	48%
Vlaams-Brabant	915.6	957.5	7.79	8.05	18%	18%	51%	53%
Brussels	915.6	967.1	8.11	8.31	17%	18%	52%	53%
Brabant Wallon	337.2	362.0	8.26	8.78	15%	15%	58%	59%
Hainaut	1 073.8	1 124.6	7.99	8.26	21%	20%	46%	49%
Namur	456.2	475.8	9.04	9.32	16%	15%	48%	51%
Liège	984.1	1 036.8	8.90	9.27	20%	20%	46%	47%
Luxembourg	235.1	241.8	10.34	10.50	17%	16%	51%	54%
Total	9 614.5	10 021.4	8.35	8.60	18%	18%	49%	51%

Density: number of FTE by 10 000 insured persons; %65+: proportion of GPs aged of more than 65y; %F: feminisation rate – Source: NIHDI 2023 and 2024^{33, 34}

Figure 15 shows the evolution of the number of GPs per 10 000 insured inhabitants in Belgium for the period 2012-2024. For GPs licensed to practice, the number increased from 13.5 GPs to 16.1 GPs per 10 000 insured inhabitants (+19%). The increase for active GPs is smaller: from 11.3 to 12.3 GPs per 10 000 insured (+8%). Expressed in FTEs, the increase from 7.9 FTEs to 8.6 FTEs per 10 000 insured inhabitants amounts to an increase of about 9%.

Figure 15 – Number of GPs per 10 000 insured in Belgium, 2012-2024



Source: NIHDI 2022, 2023, 2024^{33, 34, 36}

In Belgium, the average number of patients per FTE was 1 052 in 2023 i.e. an increase of +2.06% in comparison with 2018. When assessing the GPs' workload by numbers of contacts per FTE, it was observed that on average, one FTE had 6 767 patient contacts in 2023 i.e. an increase of 18.41% in comparison with 2018.³³ Detailed figures by province are presented in Table 11. The number of contacts and patients per FTE varied in function of age, gender and language of the GP (see Table 12).

Table 11 – Workload of the GP based on the fee for service activities by province (NIHDI, 2023)

Province	Contacts per FTE	Patients per FTE
West-Vlaanderen	7 282	1 065
Oost-Vlaanderen	7 066	1 081
Antwerpen	7 028	1 132
Limburg	7 203	992
Vlaams-Brabant	6 501	1 048
Brussels	5 964	1 174
Brabant Wallon	5 948	1 110
Hainaut	6 582	1 099
Namur	6 611	1 036
Liège	6 714	1 047
Luxembourg	6 714	903
Total	6 767	1 065

Source: NIHDI 2023³⁴



Table 12 – Workload of the GP based on the fee for service activities by GP's age, gender and language (NIHDI, 2022)

	Contacts per FTE	Patients per FTE
Age category		
<35	4 122	645
35-44	6 962	1 083
45-54	7 828	1 233
55-64	8 010	1 249
65+	7 296	1 112
Gender		
Female	6 006	966
Male	7 449	1 130
Language		
French	6 353	1 047
Dutch	7 029	1 055

Source: NIHDI 2024³³

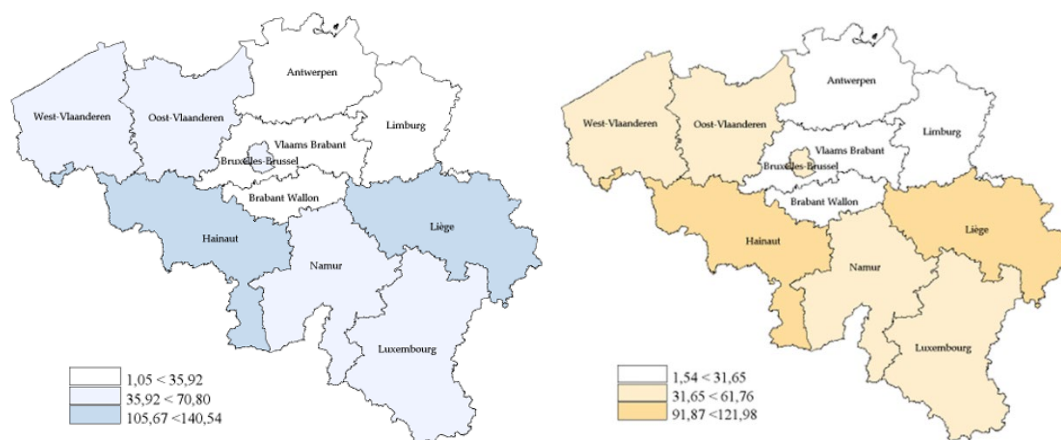
As part of the work of the Planning Unit, estimation of the FTE practising GPs is also needed. The Planning Unit uses data from RSV – ONSS to evaluate (in FTE) the workforce of salaried GPs. For self-employed GPs, the Planning Unit uses a similar technic as NIHDI to estimate the number of FTE. The method 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 physicians aged 45 to 54 years, with no salaried activity (i.e. the age group for which self-employed activity reaches its maximum level).³⁵ For 2023, the Planning Unit estimated a total of 12 373 FTEs for Belgium i.e. a density of 10.52 FTE/10 000 inhabitants (see Table 13 and Figure 16 for details at province level). This estimation is 28.68% higher than the one performed by NIHDI (for the density, the estimation is 25.99% higher than NIHDI estimation). The difference between the two estimations may partially stem from the way salaried were included in the calculation. The NIHDI estimations only included salaried GPs from community health centres (*wijkgezondheidscentra/maison médicales*, see section 3.5 of the report) assuming they worked 0.82 FTE while the Planning Unit used the working time reported in the RSV – ONSS databases and included a broader activity sector than only community health centres (see definition in the report). Differences between the NIHDI and Planning Unit's estimations are also observed at the province level leading to different interpretations when comparisons are performed at the local level.

Table 13 – Number of FTE for GPs active in the health sector whatever the professional status* (Belgium, 31/12/2023)

	Belgium	Regions			Communities	
		Flemish region	Walloon region	Brussels Capital region	Dutch community	French community
N**	13 632	7 633	4 430	1 532	7 658	5 974
Density N [§]	11.59	11.19	12.00	12.26	10.83	12.73
FTE [°]	12 373	7 574	3 696	1 077	7 630	4 743
Density FTE [#]	10.52	11.10	10.01	8.62	10.79	10.11

* Professional status: employed and self-employed GPs; ** Number of GPs working in the health sector whatever the professional status; § (N**/ population at 01/01/2024)*10 000; °Number of FTE of GPs working in the health sector whatever the professional status; # (FTE°/ population at 01/01/2024)*10 000, Note: 37 GPs did not have a assigned region because their address of residence is abroad or unknown – Source: Planning Unit.³²

Figure 16 – Number of GP working (left) and number of FTE (right) in the health sector by 10 000 inhabitants in the province where they worked (Belgium, 31/12/2023)



Source: Planning Unit³²

3 LITERATURE REVIEW

3.1 Search strategy

Table 14 – Search strategy used for the thematic sheets

Date: 12/03/2025		
Pubmed		
#1	General practitioners	
#2	Workload	
#3	Workforce	
#4	Forecasting	
#5	#1 AND (#2 or #3)	1485
#6	#1 AND #3 AND #4	102
#7	#5 AND #6 restricted to the last 10 years	1481

3.2 Inclusion and exclusion criteria

Only studies related to GPs and from Europe, North America, Australia and New Zealand were kept; studies on other health professions, as well as Asian and African studies were excluded. Also, while we were specifically interested in studies developing forecasting models and those showing an association with the GP workforce, other studies focusing on factors that could influence the GP workforce were included. Table 15 summarises the inclusion and the exclusion criteria.

Table 15 – Inclusion and exclusion criteria

Criteria	Inclusion	Exclusion
Geographic area	Europe North America Australia New Zealand	Asia Africa
Profession	GP	Other health profession
Design	All design	Editorial, letter

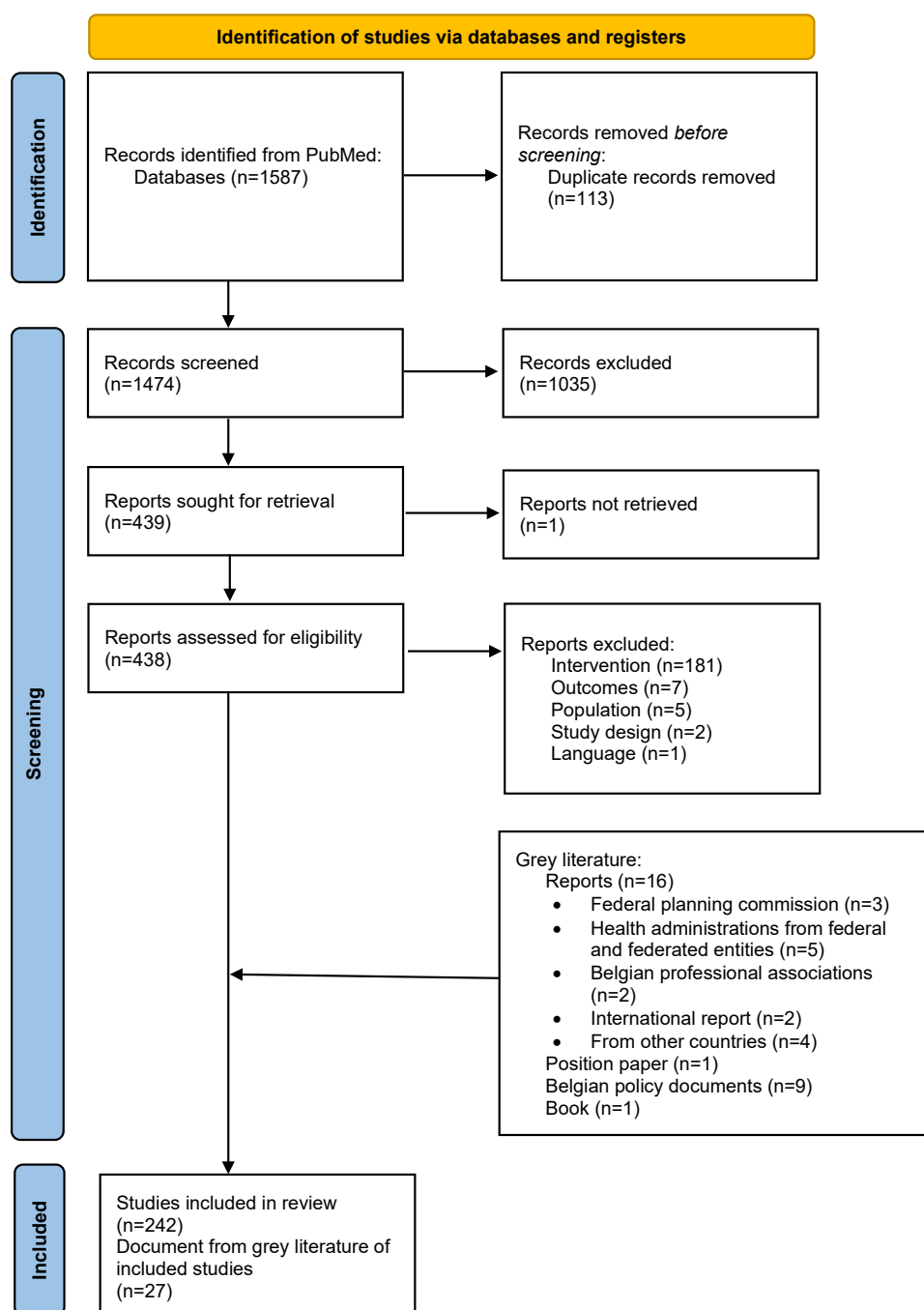


Outcome	All factors affecting the GP workforce included or not in a forecasting study	No impact on GP workforce
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3.3 Search results

The literature search was performed in March 2025 using the following key words: GP, workload, workforce and forecasting (see section 3.1). The literature search resulted in 1474 hits, which were screened based on title and abstract by two KCE experts using Covidence and several criteria (see section 3.2). The selection process is presented in Figure 17.

Figure 17 – PRISMA chart



After a first screening, 439 studies were selected and assessed for eligibility, of which 197 were excluded (wrong intervention (n=181); wrong outcomes (n=7); wrong patient population (n=5); wrong study design (n=2); language (n=1); no access to full text (n=1)). This resulted in 242 full-text studies included for analysis. The team proceeded to a careful read of the studies to extract the factors that could have a potential impact on the GP workforce.

This process resulted in 407 potential factors, of which 35 were further excluded. Finally, 372 elements were clustered in 13 thematic sheets (see section 4).

4 THEMATIC SHEETS

Table 16 – Drop out

Drop out
Definition / Scope 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 health care activities • Emigration of recent GP graduates
Input from (grey) literature In the scientific literature, many factors have been associated with GPs' retention, retirement, or intention to leave the practice: • The ageing of the GPs workforce, which has been described worldwide^{37, 38}, is important to take into account when planning the future GP's workforce.^{39, 40} In addition, GP's age as well as career length are important predictors of career intentions.⁴¹⁻⁴³ A rise in GP's workload due to ageing workforce has also been reported.⁴⁴ However, in Belgium there seem to be a rejuvenation of the profession (see below). • A survey among German GPs suggested that marital status has an influence: those who were single at the time of the survey were more likely to want to work beyond the statutory retirement age, whereas GPs who were married or living with a partner were more likely to retire early.⁴⁵ • Also, part-time employment has been associated with turnover intentions (i.e. "leave direct care" or "leave medicine") among women and men in Australia, and women GPs (particularly below < 40y or with young children) were more likely to engage unplanned turnover.⁴⁶ • The consequences of job dissatisfaction among GPs are diverse and leaving the profession e.g. (early) retirement is one of them. Indeed, in qualitative studies, job dissatisfaction is often cited by the GPs as an aspect that most influenced their intention to leave practice.^{43, 47} Other important issues, also linked with overall GP's job satisfaction, were reported in the literature, such as the number of working hours^{37, 43, 47, 48}, work intensity⁴⁸, administrative burden and time spent on 'non-important' tasks^{37, 47, 49}, out-of-practice and after-hours care,⁵⁰ integration of new technologies⁴⁰, etc. All these aspects of the practice can generate high levels of workload and job dissatisfaction, but also stress⁴⁰, self-reported low level of morale⁴² and burnout.⁵¹ • Poor psychosocial work conditions of the GPs (due to increasing patients' demands, reduced autonomy of the GPs, etc.) were also associated with falling retention and early retirement.⁵² • Malpractice litigation can be challenging not only for the complainants but also for the healthcare workers. Research showed that malpractice litigation and fear of litigation could be important factors when considering retirement.⁴¹ • Similarly, exposure to workplace aggressions were positively associated with intentions to leave the practice.⁵³ • On the contrary, certain factors seem to improve GP's retention: better work-life balance^{37, 40}, more flexible working conditions⁴⁷, better education of the public⁴³, practicing in a clinic with a greater number of GPs⁴¹, etc. Next to this, studies suggested that the flow of GPs moving to other countries, while small, should be monitored and factored into GP workforce planning.⁵⁴ Indeed, an increasing number of recent GPs considering emigration has been reported in Ireland and in Spain^{55, 56} with similar reasons as for retirement intention (see above). Also, in addition to exacerbating the workforce crisis in primary care in their country of origin, migration of GPs can increase the inequities in access to care. For instance in Hungary, the migration of GPs led to a decrease of 8.4% (95% CI 5.86 to 10.99) of the number GPs in the most deprived areas.⁵⁷ GP leaver rates (retirement and pre-retirement) are considered in GP workforce projections in England.^{19, 58}
Belgian context



In the Belgian supply projection model⁵⁹, the following parameters are already taken into account:

- **Survival**
The survival rate is used to estimate the losses due to mortality. It is applied to the number of 'licensed to practice' GPs. The survival rate used differs according to age and sex, but not to nationality (Belgian/non-Belgian). At this stage of the model, all individuals aged 75 and over are removed in order to limit the modelled population to the working age population.
- **Participation**
The participation rate is applied to the 'licensed to practice' GPs. This rate divides the stock of 'licensed to practice' GPs in three categories: (1) practicing GPs i.e. professionally active GPs (2) non-active GPs with a residence in Belgium (3) non-active GPs with a residence in a foreign country.
- **Sector repartition**
The sector repartition rate is applied to the practicing GPs. This rate divides the stock of practicing GPs into four categories, according to the different sectors in which they are active : (1) those working in healthcare on an exclusively self-employed basis (2) healthcare workers combining self-employed and salaried status (3) those working in healthcare as employees only (4) those working outside healthcare.

So in conclusion, the Belgian forecasting model already takes into account

- Mortality
- Retirement based on age (at 75y)
- The quantity of licenced GPs not working as active GP based on historic data

In addition, the following information might be important to consider when studying the impact of drop-out on the Belgian GP's workforce.

A report on GP's activity from 2023 indicates that nationally, 82% of GPs were continuing their practice, while 8% were retiring soon, 4% wanted to pursue another career, and 6% were still unsure about their future.⁶⁰ The proportion of GPs retiring in the near future is higher among male compared to female GPs (15% vs 3%), and slightly higher in Brussels (11%), compared to Flanders and Wallonia (both 8%). Moreover, as older GPs are more likely to work in solo practice, about 17% of GPs in solo practice declared their upcoming retirement, which is considerably more than in other types of workplaces.

Several Belgian reports showed a rejuvenation of the profession. In Brussels for instance, the proportion of GPs aged less than 45 years old increased from 40% in 2018 to 54% in 2023.⁶¹ In Wallonia, the mean GP's age decreased from 52.9 y in 2016 to 48.5 in 2022, and the ratio between GPs aged less than 35 y to GPs aged more than 55 y increased each year.⁶² Still, despite this rejuvenation, the proportion of GPs aged 65 y or more, likely to retire in a near future, has increased slightly since 2016. In Wallonia as in Brussels, GPs declared considering postponing their retirement because they have not found a replacement. Also in Flanders, the number of GPs who wish to stop their practice within 5 years is not neglectable.⁶³ At a national level, data confirm the increasing contribution of younger practitioners to the overall activity, together with an increasing number of older GPs (% of 65+ activity of total FTE increased from 10% in 2013 to 18% in 2023).³⁴ On the other hand, in the 35-60 age group, the number of GPs has significantly decreased (especially in men).⁶⁴ Thus, despite a rejuvenation of the profession, an **increasing number of GPs retiring** is expected.³¹ The inflow from new graduate GPs and the increase in legal retirement age⁶⁴, among others, will not be enough to compensate the aging of GPs in Belgium. It is estimated that one and a half young GPs are currently needed to replace a GP who retires (New Deal for General Medicine).

Lastly, there is an increasing need for physicians in healthcare and prevention systems (OA, PSE, ONE, occupational medicine, etc.).⁶⁵

Factor	Observed	Direction T
<i>Survival rate</i>	Trend	Increasing
<i>Participation rate</i>	Trend	Stable
<i>Sector repartition rate</i>	Trend	Uncertain
<i>Level of impact of age of GPs workforce on drop out</i>	Uncertainty	
<i>Career length</i>	Trend	Increasing
<i>Level of impact of marital status on drop out</i>	Uncertainty	
<i>Level of impact of part-time employment on drop out</i>	Uncertainty	
<i>Level of impact of gender on drop out</i>	Uncertainty	

<i>Level of impact of job satisfaction on drop out</i>	Uncertainty	
<i>Number of working hours</i>	Trend	Decreasing
<i>Level of impact of work intensity on drop out</i>	Uncertainty	
<i>Level of impact of administrative burden on drop out</i>	Uncertainty	
<i>Level of impact of psychosocial work conditions on drop out</i>	Uncertainty	
<i>Level of impact of GP's autonomy on drop out</i>	Uncertainty	
<i>Level of impact of malpractice litigations on drop out</i>	Uncertainty	
<i>Level of impact of workplace aggressions on drop out</i>	Uncertainty	
<i>Level of impact of education of the public on drop out</i>	Uncertainty	
<i>Level of impact of type of practice on drop out</i>	Uncertainty	

Tabel 17 – Co-location of GP practices and emergency services

Co-location of GP practices and emergency services
Definition / Scope
This approach aims to reduce low acuity use of the emergency department, i.e. to reduce the use of emergency department 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. Internationally, experiments with such model exist in several countries. Denmark and the Netherlands made a decisively shift towards such a model.⁶⁶
Input from (grey) literature
Scientific literature focuses on the impact of the approach on the use of emergency services (see Crawford et al. (2017) for a systematic review).⁶⁷⁻⁶⁹ Little is known about the impact on GP workforce. Nevertheless, Bengner et al. (2022) explored the impact of GP centres in or alongside emergency departments in England on GPs, including turnover, absence, satisfaction, well-being and attitudes.⁷⁰ The system was perceived to have the potential to worsen primary care staffing issues. In a context of GP shortage, the approach may draw GP away from primary care, which could increase waiting times. Working in such primary care centre was judged attractive for GPs who were seeking portfolio careers and wished to expand their practice, knowledge and skills. A debate was identified on whether working in such environment could increase GP satisfactions. Also, these centres can serve as a pre-retirement option for GPs willing to progressively reduce their responsibilities. They can also improve training and help build confidence for younger GPs. On the other hand, Edwards et al. (2020) reported difficulties in recruiting GPs for primary care services in or alongside emergency departments in England and Wales.⁷¹ In Belgium, Schoenmakers et al. (2021) collected physicians' view about the co-location approach. Most GPs were in favour of the approach.⁷² They also expected an improvement of the adequacy of referral and a decrease in workload and waiting times. However, only one third of the GPs believed that they were sufficiently skilled to work in a co-location. There was also a concern that GPs' input and expertise would be overruled in a hospital setting. Morton et al. (2016) investigated interprofessional team (GP and nurses) within GP-led urgent care centres co-located with emergency departments in London.⁷³ They identify eight key facilitators for interprofessional collaboration: designation of appropriate leaders, perception of fair workload, education on roles/skill sets and development of these, shared professional understanding, interdisciplinary working, collaboration with emergency department, clinical guidelines and social interactions.
Belgian context
In 2016, the KCE suggested to bring out-of-hours GP centres and emergency services together in "organised duty centres" (ODC) consisting of a 24/7 GP out-of-hours duty service and an emergency department with one unique central access point and a triage area with a clinically trained triage team.⁶⁶ Since then the number of out-of-hours GP centres has increased significantly. They are often located close to the hospital, and in some cases with shared triage. However, proper ODCs were not yet implemented. Despite the rollout of out-of-hours GP centres, the number of emergency contacts has continued to increase.⁷⁴ In a planned reform, individual out-of-hours GP centres will be expected to start working together in "functional partnerships", accompanied with a new financing framework (more details in fiche out-of-hours). This reform was initially planned for 1 January 2025, but has been postponed to 1 January 2026.^{75, 76} Recently, part of the legislation⁷⁷ behind the reform has been declared null and void by the Council of State.⁷⁸



Factor	Observed	Direction T
<i>Level of impact of organised duty centres co-located with ED on GP workload</i>	Uncertainty	
<i>Level of impact of organised duty centres co-located with ED on attractiveness</i>	Uncertainty	
<i>Level of impact of organised duty centres co-located with ED on drop-out</i>	Uncertainty	
<i>Level of deployment of organised duty centres co-located with ED</i>	Uncertainty	

Tabel 18 – Inflow in the workforce

<i>Inflow in the workforce</i>
Definition / Scope
The variable inflow 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.
Input from (grey) literature
Influx of GPs coming from abroad According to the 2023 OECD report “Health at a Glance”, several countries, including Australia, Canada, Ireland, Israel, New Zealand, Switzerland, the United Kingdom and the United States, have relied on international recruitment of doctors.⁷⁹ - In Australia, international GP recruitment (recruitment of GPs with a primary medical qualification from outside the country) seems to be a good solution to alleviate current GP shortage in the country, and in some regions in particular there is a lot of concern regarding the geographic distribution. - During the last decades, international and national programs were conducted to address the lack of GP workforce in rural regions in Australia (i.e. including a requirement that newly arrived overseas-trained doctors (OTDs) work up to 10 years in underserved communities to access reimbursement for clinical services through Australia's universal health insurance scheme).⁸⁰ As a result, the proportion of OTDs among rural GPs and other medical specialists increased since 1970.⁸¹ In 2020, they were twice as likely as local graduates to work in a rural area.⁸² However, concerns are now made regarding the ability to supply enough locally trained GPs in rural areas and to minimise the reliance on OTDs.⁸¹ According to the authors, this is important to achieve an equitable global workforce distribution. - Other countries also reported an increase in international recruitment. In England for instance, the proportion of GP trainees who obtained their primary medical qualification outside Europe increased from 16% in December 2017 to 36% in December 2021.⁸³ The General Medical Council also reported that in the last years the migration of these non-European GPs to the UK has increased more rapidly than general migration.⁸⁴ Interestingly, those GPs were active longer compared to GPs who obtained their qualification in Europe. While non-European Economic Area (EEA) GPs must obtain a Certificate of Eligibility for General Practice Registration (CEGPR), which could be a barrier to recruiting GPs from non-EEA countries, GP training in EEA countries is recognised by the General Medical Council (GMC) as equivalent to UK training. A rigorous comparison of GP training between countries supports overseas GP recruitment to alleviate current GP shortage in UK.⁸⁵ International GP recruitment is considered in GP workforce projections in England.^{19, 58} No assessment regarding the impact of international recruitment on quality of care was retrieved in this literature search. - In Ireland, Irish-trained GPs abroad represent a potential cohort of GPs who could be encouraged to return to practice in Ireland. This is part of Ireland's strategy for addressing the GP workforce crisis. As global demand for GPs increases, countries will inevitably compete with each other to attract and retain GPs.⁵⁴ Other elements from the literature which could impact the inflow from training: - Several countries promoted the opening of medical schools to address the shortage of medical personnel. Brazil and Spain have registered a significant increase in the number of physicians following the opening of medical schools: between 1998 and 2017, the density of physicians per 1 000 inhabitants increased by 28% in Spain and 51% in Brazil. In that period, Spain and Brazil increased the supply of annual undergraduate places by 60% and 137%, respectively.⁸⁶ - Another important aspect is retaining workforce training capacity. In Australia for instance, the teaching and supervisory capacity of the GP workforce is threatened for two main reasons: the increasing number of medical students, and imminent retirement of the 'baby boomer' GP cohort.⁸⁷ Thus, engaging newly qualified GPs is essential. Catzikiris et al showed that Australian medical graduation, working in a regional or remote area and undertaking nursing home visits, home visits or after-hours work were significantly associated with undertaking in-practice clinical teaching and supervision. This information could help to develop strategies to maintain the GP workforce training capacity.

Belgian context

In the Belgian supply projection model⁵⁹, the following indicators are already taken into account:

- The **inflow from abroad** represents the number of individuals who have obtained their degree in general medicine from abroad. The anticipated distribution of new doctors who have obtained their GP diploma abroad is determined by gender and nationality. The distribution is derived from the data contained within the Federal Database of Healthcare Professionals (Cadastre), from the last three years available. This inflow is then added to the number of doctors newly trained in Belgium in each community, thus providing a total 'licensed to practice' inflow.
- The **inflow from training** :
 - **Bachelor - Number of new inscriptions**
 - **Bachelor - Number of graduates**
The number of graduates in bachelor is calculated by multiplying the number of new inscriptions by the bachelor graduation rate
 - **Master - Number of new inscriptions**
The number of new inscriptions in master is calculated by multiplying the number of graduates by the master inscription rate
 - **Master - Number of graduates**
The number of graduates in master is calculated by multiplying the number of graduates by the master graduation rate
 - **Total Number of interns in general medicine**
The total number of interns in general medicine is calculated by multiplying the total number of interns in general medicine by speciality rate.
Speciality rate:
Speciality rate is the ratio between number of people starting training in general medicine and the total number of people starting a specialisation in the same year. The rate is calculated separately for each community.
 - **Completed internships**
The number of completed internships in general medicine is calculated by multiplying total number of interns in general medicine by the internship completion rate
Completion rate:
This is the ratio between the number of people completing their training in general medicine to the number starting out in general medicine 2 years earlier. The rate is calculated separately for each community.
 - **Inflow of professionals from training**
Inflow professionals from training is calculated by multiplying completed internships by the registration rate. The inflow of professionals from training is calculated by gender.
Registration rate:
The registration rate is calculated by dividing the number of individuals registered in the federal cadastre of the Ministry of Health and the number of the number of doctors who have completed their specialisation in general medicine. The rate is calculated separately for each community.

Other elements to better understand the Belgian context:

- In Belgium, the number of foreign doctors has doubled in 11 years.⁷⁹ There are now around 10 000 doctors (corresponding to 14% of all doctors), whereas in the early 2000s, only about 4% of Belgian doctors were trained abroad. While most doctors are from France and the Netherlands (1 620 and 1 590, respectively), Romania is just behind with 1 558 doctors, followed by other Eastern and Southern European countries, as well as the African continent. When looking at GPs specifically, the number of GPs licenced to practice in Belgium but with a diploma from another country were 342, 368 and 383 in 2022, 2023 and 2024 respectively, which corresponds to 2% of the total licenced GP population (1.7% with a diploma in another EU country and 0.3% with a diploma outside the EU).⁸⁰ For the OECD, this phenomenon reflects the internationalisation of medical education and a growing market for medical degrees and cannot be completely avoided, but concerns are made that countries must not become dependent on migration to meet their needs. It was also emphasised that this phenomenon could exacerbate shortages in countries of origin.⁷⁹
- In addition, despite the obligation to obtain the equivalence for the diploma, concerns were made that standards might not be the same. Until the last state reform in 2012-2014, the equivalence of basic medical degrees for doctors from outside the EU was rarely granted (they generally had to repeat part or all of the curriculum). This equivalence is no longer to be applied for at the federal level, but from one of the Communities. The procedure has thus been greatly simplified. Once the equivalence certificate is obtained, the doctor only needs to submit an application for authorisation to practice the profession to the Minister of Public Health: he or she then receives by royal decree the authorisation to practice medicine in Belgium.⁸⁹
- Despite this, the Government of the Wallonia-Brussels Federation has planned to study the possibility of increase the recognition of non-European diplomas in the healthcare professions.⁶⁵



Factor	Observed	Direction T
<i>Number of GPs trained abroad</i>	Trend	Increasing
<i>Bachelor – inscription rate</i>	Trend	Stable
<i>Bachelor – graduation rate</i>	Trend	Stable
<i>Master – inscription rate</i>	Trend	Stable
<i>Master – graduation rate</i>	Trend	Stable
<i>Speciality rate</i>	Trend	Increasing
<i>Stage completion rate</i>	Trend	Stable
<i>Inflow of professionals from training</i>	Trend	Uncertain
<i>Feminisation rate</i>	Trend	Increasing

Tabel 19 Indirect clinical activities

<i>Indirect clinical activities</i>
Definition / Scope
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 clinical general practice. It is the time GPs spend on work away from direct patient care. Among others, non-clinical activities include education-related activities, management, administration, etc.⁹⁰ In the context of this report, indirect 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.⁹¹
Input from (grey) literature
How much time does it represent? • A study based on the data from the Commonwealth Fund International Health Policy Survey of Primary Care Physicians conducted in 2015, calculated the GP's weekly workload in hours and the percentage of time spent on face-to-face contact with patients. Results showed that GPs worked on average 43h a week. The average time spent on face-to-face contact with patients was 30.5h/week (35h when including emails and telephone contact). So, when looking at the percentage of their estimated weekly working hours, GPs spent from 58.1% (in Sweden) to 82.2% (in Australia) of their working time on face-to-face contact with patients and from 6.5% (in Australia) to 15.7% (in Sweden) of their working time on other than face-to-face contact with patient (email, telephone), which means that doctors spent a non negligible time on other non-medical activities (between 15 and 25% of their working time, depending on the countries).⁹² What is it exactly? • What constitutes these indirect clinical activities (i.e. activities other than interactions with patients) is poorly understood and often unrecognised and undervalued by patients, policy makers, and clinicians themselves. Barnard et al conducted ethnographic observations, in-depth interviews and reflexive workshops to better describe this phenomenon. They showed that 'hidden work' involves diverse clinical practices, such as interpreting test results, crafting referrals, and accepting interruptions from clinical colleagues.⁹³ • A study among Australian young GPs showed that 33% undertook other regular medical work, mainly in medical education.⁹⁴ • Administrative tasks (e.g. accounting, medical record keeping, agenda management, establishing prescriptions, medical certificates or medical reports) represent an important part of the burden for GPs. However, Beer et al noted that many of these administrative tasks may be included in the time spent on face-to-face contact.⁹² Who is most concerned? • An Australian study showed that doctors who worked more hours on non-clinical activities were more likely to be male, younger, had lower life satisfaction and generally spent fewer hours on clinical work. Longer management and administration hours had an impact on their job satisfaction, but time spent in education-related activities didn't. GPs reported fewer hours of non-clinical work than specialists.⁹⁰ • Another Australian study, including young GPs, showed that providing indirect clinical activities was associated with having a spouse/partner unemployed, having worked part-time, providing ≥2 of home visits,

nursing home visits and after-hours care, and currently working in an area of lower socio-economic status. Those having children, and female GPs were less likely to provide other medical work.⁹⁴

What consequences?

- Brown et al pointed out that the amount of non-billable work is likely to increase with population ageing and increasing feminisation of the GP workforce. The lack of reimbursement for much of this work threaten the economic viability and job satisfaction of GPs.⁹⁵
- Also, increase in bureaucracy is often cited as part of the increasing GPs workload problem, with a significant impact on GP's wellbeing and job satisfaction.⁹⁶⁻⁹⁹ Growing administrative burdens are among the challenges faced by GPs, and can even influence their will to leave the practice.³⁷
- Other tasks such as poor usability of clinical information systems¹⁰⁰, offering patients full online access to their health records¹⁰¹, using electronic reminders¹⁰², are part of this non-medical work and may also increase the overall GP's workload. While digitalisation is supposed to simplify administration (e.g. e-attest, e-prescription), it will not replace professionals nor decrease their workload. Consistently, scientific literature suggests that video-consultations are likely to increase GP's workload.¹⁰³
- In contrast, some eHealth technologies have been shown to alleviate the administrative burden (e.g. UK digital platform to support communication and organisation in the general practice¹⁰⁴; pre-bookable review appointment system¹⁰⁵).

Belgian context

In 2015, a study was conducted to describe professional activities of graduates of the Advanced Master of General Medicine of the Belgian French-speaking universities (from 1999 to 2013).¹⁰⁶

At the time of the survey, 78.5% of graduates worked in General Medicine. They worked on average 45.8h a week; while 39.8h were for consultations and home visits, the residual time concerned other professional activities (e.g. administrative tasks).

GPs exercised various other activities (91.5% exercised at least one and 56.7% at least two): out-of-hours medical care (which was the most common), consultations for mother and child health at the Office of Birth and Childhood, consultations in family planning centres, coordination in nursing homes, health promotion at school, hospital activities, sampling in laboratories, nutrition consultations, sport medicine consultations, consultations in addiction centres and occupational health. Also, some GPs (8.7%) had non-medical activities such as political and medical **administration** activities, **teaching**, **research**, organisation of continuing **medical education**.¹⁰⁶

A survey conducted by Domus Medica in 2020 confirms the increasing pressure due to administration (and among others, writing certificates) among Dutch-speaking GPs (for more than 30% of them), in addition to the increasing number of teleconsultations, telephones and emails (indicated by approximately 70% of GPs). Many indicated that they often find the administration useless. In 2030, it is expected that the GP himself will be considerably less involved in administrative activities, with a simplification, uniformization and digitalisation of the administrative actions that need to be done.¹⁰⁷

A survey conducted in 2022 among Belgian GPs identified that the time spent on the indirect medical tasks was almost similar across the three regions, corresponding to between 11% and 13% of the GP's working time.⁶⁰ Although the time allocation (in percentage of time worked) towards the different underlying tasks was different between regions, the differences were small. The most time-consuming task was the management of the medical file (between 3.1% and 4.5% of the time worked), followed by appointment management (between 1.5% and 2.8%). Consistently, a study from the « Observatoire de la Sante et du Social de Bruxelles-Capitale » showed that GPs spend an average of 30.5h/working week on consultations, 5.1h on home visits (including travel), 5.8h on other medical tasks, and 3.3h on non-medical tasks.¹⁰⁸ As age increases, doctors spend a greater proportion of their time on non-medical tasks as well as on home visits.

In Belgian policy documents, several planned actions have been identified that aimed to reduce the administrative burden of GPs (for example though unified disability certificate¹⁰⁹ or more funding of secretariat).

Factor	Observed	Direction T
<i>Time spent on indirect clinical activities (time spent on medical education; time spent on administrative tasks; etc)</i>	Trend	Increasing



Table 20 – Out-of-hours GP services

Out-of-hours GP services
Definition / Scope
Out-of-hours services are services provided during evenings, nights, weekends and bank holidays.
Input from (grey) literature
Factors influencing out-of-hours work: gender, age and rurality Pham and McRae (2015) examined the factors influencing the provision of after-hours care by GPs in Australia.¹¹⁰ Their findings indicate that female, older, and urban GPs are less likely to work beyond regular hours. Additionally, employee GPs are less likely to engage in after-hours work compared to GPs who are principals or partners in a practice. Conversely, when principals and partners do participate in after-hours work, they tend to work more hours than their employee counterparts. Similarly, GPs in solo practice who provide after-hours care generally take on a heavier workload than those in non-solo practices. Similarly, Rebnord et al. (2020) found a small gender difference in out-of-hours work in Norway, although gender differences are minimal during daytime.¹¹¹ In their study, male GPs and those from rural areas have the heaviest out-of-hours workload. Also, those working out-of-hours do not work less during daytime. Also in Norway, Morgan et al. (2022) showed that GPs in rural practices are significantly more likely to participate in their practice's after-hours roster than urban GPs.¹¹² Looking at financial incentives in Australia, Broadway et al. (2017) highlighted that GPs are slightly more likely to provide out-of-hours care if their hourly earnings in that setting increase. However, an increase in earnings in weekday-daytime practice reduce the probability of providing out-of-hours care, particularly for men.¹¹³ Fowler Davis et al. (2018) also states that financial imperatives are key drivers for involvement out-of-hours programmes.¹¹⁴
Belgian context
Organisation of out-of-hours services In Belgium, GPs are legally required to provide continuous care for their patients around the clock. Historically, GPs were always on call for their patients. However, the vision of a GP available 24/7 does not corresponds to current GPs' expectations.⁴⁰ Over time, local GP organisations, known as "GP circles" began to manage out-of-hours services through rotation systems, within a specific geographic area. Following the 6th State reform, the responsibility for organising and funding GP circles was transferred to the federated entities. In 2003, RIZIV – INAMI began financing larger GP cooperatives to manage out-of-hours services called "organised duty centres" (ODC). However, because all ODCs were initiated bottom-up without a clear national guidance, their distribution across Belgium lacked a coherent pattern and there was significant variability in their operations.⁶⁶ In 2012, the FPS Public Health started the progressive deployment of a unique telephone number (1733) with triage function to guide patients to the most appropriate level of care during out-of-hours periods. The objective is to deploy this triage function everywhere in Belgium. However, it has been difficult to recruit adequate triage staff, especially in Flanders. Also, GPs are opposed to the mandatory opening of ODCs without prior patient triage.¹¹⁵ In their vision document "huisarts 2030", Domus Medica provides a number of guidelines to inspire fundamental policy decisions in the coming years including "support for on-call services, with an accelerated rollout of the 1733 triage system and on-call service compensation".¹⁰⁷ In a planned reform, individual ODC will be expected to start working together in "functional partnerships", accompanied with a new financing framework. A functional partnership must include at least three ODCs and cover a minimum of 300 000 inhabitants, with no more than one ODC per 100 000 inhabitants. One of these ODCs must be located at a hospital (see fiche emergency). Exceptions are foreseen. This reform was initially planned for 1 January 2025, but has been postponed to 1 January 2026.^{75, 76} Recently, part of the legislation⁷⁷ behind the reform has been declared null and void by the Council of State.⁷⁸
Financing of out-of-hours services In the fee-for-service system, higher fees exist for out-of-hours consultations and visits and during the weekends or bank holidays. In addition to the normal and out-of-hours fees, a supplementary fee can be charged by a GP for an evening consultation when the GP is on call. When participating in an organised on-call system (via a rotation system or ODC), GPs are entitled to an "availability fee" (fixed amount per hour) during which the GP is effectively on call.¹¹⁶ In 2024, a working group has been set-up within RIZIV-INAMI to propose a reform of this system.¹¹⁷ Regarding ODCs, they are financed through global budgets. The total budget dedicated to ODCs has significantly increased overtime from € 23 million in 2019 to over € 70 million projected for 2025.¹¹⁸ Currently, individual ODC budgets are based on each ODC's application containing a detailed overview of expenses. In the future, the budget will be allocated per functional partnerships rather than per individual ODC.
Impact of out-of-hours services on GP workforce Concentrating out-of-hours services in ODCs is expected to bring several benefits: reduced workload due to fewer on-call days per GP, improved safety (e.g. driver for home visits), and decreased administrative burden.¹¹⁹ This should increase the attractiveness for the GP profession. According to stakeholders, these

benefits have indeed been realised.⁶⁶ The development of ODCs has led to an increase in the number of GPs participating in organised on-call services, across both younger and older age groups. Additionally, stakeholders claimed that the presence of an ODC is a decisive factor for young GPs when choosing their practice location.

In 2023, it was estimated that GPs in Brussels spent less time for out-of-hours services than GPs in other regions.⁶⁰ In Brussels GPs spent 2.8% of their working time for evening, night and week-end services, while the proportion was 6.9% in Flanders and 5.2% in Wallonia.

Factor	Observed	Direction T
<i>Level of impact of gender on out-of-hours work</i>	Uncertainty	
<i>Level of impact of age on out-of-hours work</i>	Uncertainty	
<i>Level of impact of rural/urban setting on out-of-hours work</i>	Uncertainty	
<i>Level of impact of practice type on out-of-hours work</i>	Uncertainty	
<i>Level of impact of financial incentives on out-of-hours work</i>	Uncertainty	
<i>Number of organised duty centres</i>	Trend	Increasing
<i>Level of impact of organised duty centres on out-of-hours work</i>	Uncertainty	
<i>Level of impact of organised duty centres on administrative burden</i>	Uncertainty	
<i>Level of deployment of 1733 triage</i>	Trend	Increasing
<i>Level of impact of 1733 triage on out-of-hours work</i>	Uncertainty	
<i>Level of deployment of functional partnerships</i>	Uncertainty	
<i>Level of impact of functional partnerships on out-of-hours work</i>	Uncertainty	
<i>Level of impact of out-of-hours work on attractiveness of general medicine</i>	Uncertainty	
<i>Proportion of time spent in out-of-hours work</i>	Uncertainty	

**Tabel 21 – Changing patient population****Changing patient population****Definition / Scope**

The characteristics of the patient population changes and results in changing patient demands impacting the way of working of the GP.

This variable 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**.

Changing patient population includes several factors such as:

- Aging population with a larger proportion of older patients,
- Change in the proportion of acute pathologies compared to mental illnesses and chronic somatic diseases (e.g. multimorbidity increasing the complexity care, chronic diseases imply more long-term care and follow-up)
- more chronic diseases and need for long-term care/follow-up
- more mental health issues
- Social inequality (precarious situations, poverty)
- Cultural diversity
- Climate change and environment (e.g. more environmental risk factors and risk of infectious diseases such as COVID19)
- Societal evolutions - Changing patient expectations (e.g. more need to justify actions, more questions of patients)

The changing population and disease patterns result in a new context for GPs, which will also influence the skills and tasks of GPs in the future (see technical sheet on new skills and tasks for the GPs).

Input from (grey) literature

A substantial corpus of literature underscores the ageing of the population, a factor which is incorporated into several forecasting models (The Netherlands-Capaciteitsplan; UK REAL Centre 2022).^{19, 21} It is not solely the age that impacts the GP demand, but it is the association with multimorbidity, chronic diseases and frailty.¹²⁰ On the other hand there is also the prospect of people living longer in better health.¹²¹

In addition to age and the resulting increase in multiple chronic conditions, the Dutch Capaciteitsplan 2024-2027 considers other 'epidemiological' factors including inequalities due to socio-economic status, an increase in mental health issues and more infectious diseases due to increased travel, as well as pathogen resistance.²¹ These factors are also mentioned in three other documents. Firstly, the EU Joint action in 2016 stated that the distribution of health conditions might change: more vector-borne diseases, more acknowledgement of diseases, more multimorbidity, more obesity, climate change and the impact on geographies of disease and heat events.³⁹ Secondly, previous horizon scanning studies focussing on Belgium, also identified the impact of a growing number of increasingly complex disorders and mental health.^{31, 122} Finally, the book '*imaginer les soins primaires de demain*' published in 2025 also highlights the impact of the environment and the need to evaluate risk factors (air pollution, sound, heat waves, insects as vectors for new diseases e.g. thick encephalitis).⁴⁰

Chronic diseases

A UK retrospective study showed that patient demand increased, particularly in terms of chronic conditions.¹²³ As shown in a Norwegian study, the cancer patients consulted their GP more often compared to Norwegian patients in general.¹²⁴

Mental health

Mental health problems increase in general,⁴⁰ but also during crises such as the COVID19 crisis where a Dutch study showed an increase in mental health care consultations.¹²⁵ In addition, health crisis such as COVID19 can result in new illnesses (e.g. long COVI), poor patient self-management and unhealthy behaviour, but also postpone care, which adds to future patient needs.¹²⁶

Consultations for psychosocial problems request longer consultation time and more frequent consultations, which impacts GP's burden.¹²⁷

Societal evolutions

A Norwegian qualitative study formulated the changing population as changes in society: e.g. lack of family support often resulted in an increased number of doctor visits. But also, the patient's expectations for available healthcare services and treatment options increases.⁹⁷

Another study on insights from end-of-career GPs indicated that they have the impression to be under greater pressure to justify themselves and frequently face questioning from their patients. This shift was partly attributed to a better education of the patients. The internet enabled them easy access to medical information. This positively affected the cooperation between doctor and patient but simultaneously introduced new

challenges. Doctors had to adapt to patients and their preconceived diagnoses and expectations.³⁷ Assertive patients, and *shared decision making* renders the consultation and communication more intense.²¹

All the elements described above may result in an increasing number of items managed per GP consult, which has been shown to increase consultation duration but also decrease GP satisfaction.¹²⁸

A study in the UK also suggested that an increase in patients' needs is to be expected. The results revealed that the number of consultations among frequent attenders (i.e. patients with a number of consultations above the 90th centile) and the proportion of consultations attributed to them increased between 2000 and 2019.¹²⁹ In addition, these patients contributed to increased GPs workload.

The increased in consultation demand in England was previously assessed in a study analysing the consumption of care between 2007 and 2017. The study shows that the annual consultation rate per person increased by 10.51% in 7 years. It was particularly the case for GP telephone consultation rate that doubled during the observation period.¹³⁰

Belgian context

Social status and consumption of GP consultations

The RIZIV-INAMI analysed that in 2022 an insured patient had on average 5.03 contacts per year with a GP (which was 16% higher than in 2018 where the average was 4.32 contacts). Patients with a lower socio-economic status (BIM patients) have on average more GP contacts compared to standard patients (6.69 versus 4.7 contacts).³³

Chronic diseases

Chronic patients (i.e. with a Global Medical File chronic) have on average 11.5 contacts per year. Similarly 80+ patients also have more contacts compared to younger age groups (11.7 contacts versus 8.3 in 70-79 versus 6.9 in 60-69).³³

An important finding from the 2023 health survey is that multimorbidity (two or more chronic diseases) has risen to around 45% in the age category of 25-64 year, which shows that also an important part of the middle age category deals with multiple chronic illnesses.¹³¹

Mental health problems

A master thesis from 2014 identified why Flemish GPs consider psychosocial consults as more demanding, and proposed some solutions such as easier referral to psychologists, and more education on this subject.¹³² Federal government strengthened the primary psychological care since 2021 (financial accessibility), but no analysis is available yet on the impact on GP workload.

Societal factors

A 2025 Brussels report specified that the context in Brussels is particular: big difference between neighbourhoods, in general a younger population, very high population density, a lot of movement (which includes changing neighbourhood and GP), more poverty (33% of the Brussels population has the BIM status), cultural differences. This can result in more complex consultations.¹⁰⁸

Factor	Observed	Direction T
<i>Number of contacts with a GP per patient per year</i>	Trend	Increasing
<i>Number of patients with multimorbidity</i>	Trend	Increasing
<i>Number of patients with chronic conditions</i>	Trend	Increasing
<i>Number of patients with mental health problems</i>	Trend	Increasing
<i>Number of patients with infectious diseases</i>	Trend	Increasing
<i>Number of patients with low socio-economic status</i>	Uncertainty	
<i>Level of impact of multimorbidity on the number of GP contacts</i>	Uncertainty	
<i>Level of impact of chronic conditions on the number of GP contacts</i>	Uncertainty	
<i>Level of impact of mental health problems on the number of GP contacts (and consultation duration)</i>	Uncertainty	
<i>Level of impact of infectious diseases on the number of GP contacts</i>	Uncertainty	
<i>Level of impact of socio-economic status on the number of GP contacts</i>	Uncertainty	
<i>Level of impact of cultural diversity on GP contacts (frequency and duration)</i>	Uncertainty	
<i>Level of impact of the ageing population on the prevalence of multimorbidity</i>	Uncertainty	



Level of impact of the ageing population on the prevalence of chronic diseases	Uncertainty	
Level of impact of environment and pollution on the emergence of new diseases	Uncertainty	
Level of impact of patient expectations on GPs contacts (frequency and duration)	Uncertainty	
Number of complex consultations	Trend	Increasing
Level of impact of the complicity of the consultation on duration of the consultation	Uncertainty	

Table 22 – Shifts in types and organisations of GP practice

Shifts in types and organisations of GP practice
Definition / Scope GP practice types can be classified as follows: • 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, etc.) who provide care within the same facility. These practices imply a certain degree of task delegation from GPs to other professionals (see also fiche delegation). • Multi-practice collaboration involve 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. In a group/multidisciplinary practice setting, triage can be implemented to manage patient flow and ensure that urgent cases are addressed promptly. Input from (grey) literature Future primary care is expected to be integrated, population-based, territorial organised, multi-professional, to include interprofessional collaboration and to rely on new models of care (such as multidisciplinary group practices).⁴⁰ Internationally, a shift is observed towards larger GP practices and more multidisciplinary teams, such as in England for instance.¹⁹ This shift is accompanied by a reduction in the number of full-time equivalent qualified GPs per 1000 patients.¹³³ Impact on demand The expansion of multidisciplinary teams can help to free up substantial GP time, i.e. a decrease in GP demand.^{19, 134} On the other hand, an inadequate integration and poor supervision of new roles could lead to increased workload pressures, i.e. increased GP demand.¹⁹ Impact on workforce Larger-scale practices or multi-practice collaboration can positively impact workforce satisfaction through reduction of administrative duties for clinical staff,^{135, 136} enhanced training,^{135, 137} and inter-staff support.¹³⁵ Indeed, larger practices or networks are expected to recruit additional staff who can alleviate the workload on GPs, enhance job satisfaction, and consequently improve GP recruitment and retention rates.¹³⁸ On the other hand, negative impacts of larger-scale practices or multi-practice collaborations have been reported through staff's feelings of being undervalued.¹³⁵ Also retention difficulties with high staff turnover have been reported.^{135, 136} Decreased flexibility in shift patterns can also lower GPs' work-life balance.¹³⁶ Impact on system Larger GP practices or multi-practice collaborations are believed to be able to forge closer connections to a range of local community resources and services.¹³⁸ Indeed, population-based approaches (i.e. provide comprehensive and continuous medical care to patients within a defined area) rely on team-based practices.^{19, 137} Increasing practices scale, enhancing collaboration and networks might provide the opportunity to give a stronger voice to primary care within the broader system organisation.¹³⁸ Facilitators and barriers Over time, there is an increasing preference for group practices over solo practices. This trend is influenced by factors such as age (i.e. generation) and gender (with women showing a preference for larger practices). Key elements driving this preference include work-life balance considerations, particularly the ability to work flexible hours.¹³⁹ An important aspect of group practices, and especially multidisciplinary group practices, is the financing arrangement between team members. When extra funding are provided by public authorities to hire

non-medical staff, this is seen as a facilitator for building multidisciplinary teams.¹⁴⁰ However, if task delegation brings competition between providers, participating in multidisciplinary practices may lead to financial losses for GPs.¹⁴⁰

Granting GPs **autonomy** and involving them in decision-making could enhance the chances of successfully forming large-scale practice collaborations.¹³⁵ To effectively lead multidisciplinary practices, GPs need to understand each other's roles so that patients are directed to the appropriate practitioner at the right time. This requires further GP **education**.¹⁴¹ Other elements crucial for effective team collaboration include having reserved time for **meetings** and the ability to manage workload for meetings.¹⁴²

Triage

In a study on 147 GP practices in England, Newbould et al. (2017) found a significant decrease in the number and duration of face-to-face consultations following the introduction of telephone triage.¹⁴³ However, the total time spent consulting increased. Importantly, these average **workload** impacts hide large variation between practices, with some practices experiencing a substantial reduction in workload and others a large increase. In another study in England (42 practices), Holt et al. (2016) found that telephone triage results in reduced number of GP consultations while increasing the overall (triage and consultation) contact time.¹⁴⁴

In England as well, Saunders and Gkousis (2022) found no evidence that **inequalities** in access to care are exacerbated by the roll-out of telephone triage. Telephone triage could be seen as a way to address disparities for general practices facing high levels of demand and a low workforce, for example in areas of high socioeconomic deprivation.¹⁴⁵ Schers and Assendelft (2018), on the other hand, argued that the system does not bring sufficient advantages and that alternative ways should be explored to handle growing GPs' **workload**.¹⁴⁶

When implementing such system, practices reported challenges in particular when they did not have the capacity to meet the increase in **demand** for telephone contacts.¹⁴⁷ The triage function is also reported to be **stressful** for the person answering the calls.¹⁴⁷ For the patients, the perceived benefits of online triage, including its convenience and user-friendliness, vary depending on the context.¹⁴⁸

Belgian context

In Belgium, GP practice types can be categorised into solo practices, group practices, GP networks, community health centres with capitation payments and the more recent new deal practices:

- **Solo** practices are operated by a single GP (mainly paid on a fee-for-service basis).
- **Group** practices consist of at least two GPs (mainly paid on a fee-for-service basis) working in the same premises.
- **GP networks** consist of at least two GPs (mainly paid on a fee-for-service basis) on different locations.
- **Community health centres** with capitation payments (*maisons médicales* in French, *wijkgezondheidscentra* or *medische huizen* in Dutch) are practices where GPs receive a risk-adjusted capitation payment per registered patient.
- **New Deal** practices are part of a new model that was launched on April 2024. The adhesion to the new model is possible for all types of existing practices (solo, group, community health centres, as well as for GPs working in a network). In this new model, GPs are paid by a combination of fee-for-service, risk-adjusted capitation, and premia.

In Belgium, registration with a GP is not mandatory, although 83% of citizens were registered (via the global medical record) in 2021.¹⁴⁹ In community health centres and new deal practices however, registration is mandatory.

All types of GP practices can be **multidisciplinary**: GPs can work together with nurses, physiotherapists and other providers. In a recent (2022-2023) survey on 1 852 GPs in Belgium, 41% worked in a monodisciplinary group practice, 23% 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.¹¹ Also, all types of GP practice can employ administrative staff, but this is less common in solo practices than in other types of practices.¹¹

In 2022, there were 41% of GPs (in FTEs) working in solo practices in Belgium, 41% working in group practices, 10% in GP networks and 8% in community health centres.¹⁴⁹ Overtime, the share of GPs working in solo practices has significantly decreased (it represented 63% in 2012) while the share of group practices has increased (27% in 2012). In 2012, the share of GPs working in a GP network was 6% and the share of GPs working in a community health centre with capitation payments was 4%.¹⁴⁹

The distribution varies significantly across regions.¹⁴⁹ In 2022 in Flanders, 61% of GPs worked in group practices, compared to only 25% in Wallonia and 19% in Brussels. Conversely, solo practices are more common in Wallonia, where 65% of GPs worked in such practice, compared to 50% in Brussels and 34% in Flanders. Additionally, a larger proportion of GPs in Brussels (29%) work in community health centres with capitation payments than in Wallonia (9%) and Flanders (5%).



No official data are available yet for participation in the New Deal model, but it seems limited so far. At the launch in April 2024, only 43 practices joined the system (31 in Flanders, 9 in Wallonia and 3 in Brussels), corresponding to 134 GPs.¹⁵⁰ In November 2024, it was estimated that 5% of GPs in Flanders joined the model.¹⁵¹ Nevertheless, the New Deal model is considered in many policy and stakeholder documents as an important element to take into account in the future.^{107, 152}

In Belgium, younger and female GPs are less likely to work in solo practices.¹²¹

In previous work of the Planning Unit, it was hypothesised that the shift towards more group practices and less solo practices would lead to a decrease in the time required to provide care, as administrative tasks are centralised, on-call duties are distributed, and care is organised more efficiently, among others.¹²¹

It should be noted that the shifts towards more multidisciplinary group practices and towards more capitation-oriented payment systems were already identified in a previous horizon scanning exercise.³¹ In many Belgian policy documents, the increase of multidisciplinary practices is seen as either a future reality or an objective to achieve.^{109, 152, 153}

Factor	Observed	Direction T
<i>Proportion of multi-practice collaborations</i>	Trend	Increasing
<i>Proportion of multidisciplinary practices</i>	Trend	Increasing
<i>Proportion of group practices</i>	Trend	Increasing
<i>Practice size (number of GPs)</i>	Trend	Increasing
<i>Proportion of community health centres with capitation payments</i>	Trend	Increasing
<i>Proportion of new deal practices</i>	Uncertainty	
<i>Proportion of practices employing administrative staff</i>	Trend	Increasing
<i>Level of impact of multidisciplinary practice on GP workload</i>	Uncertainty	
<i>Level of impact of multidisciplinary practice on administrative tasks for GPs</i>	Uncertainty	
<i>Level of impact of multidisciplinary practice on training</i>	Uncertainty	
<i>Level of impact of multidisciplinary practice on GP's satisfaction</i>	Uncertainty	
<i>Level of impact of practice size on population-based approach</i>	Uncertainty	
<i>Level of impact of practice size on collaborations between healthcare professionals</i>	Uncertainty	
<i>Level of impact of practice size on the voice given to primary care within the broader system organisation</i>	Uncertainty	
<i>Level of impact of age on preferences for group practices</i>	Uncertainty	
<i>Level of impact of gender on preferences for group practices</i>	Uncertainty	
<i>Level of impact of financial incentives on preferences for multidisciplinary practices</i>	Uncertainty	
<i>Level of impact of GP autonomy on preferences for multidisciplinary practices</i>	Uncertainty	
<i>Level of impact of GP education regarding other professions on preference for multidisciplinary practices</i>	Uncertainty	
<i>Proportion of time for meetings in multidisciplinary practices</i>	Uncertainty	
<i>Proportion of practices using triage</i>	Trend	Increasing
<i>Level of impact of triage on GP workload</i>	Uncertainty	
<i>Level of impact of triage on demand for GPs</i>	Uncertainty	
<i>Level of impact of triage on GP's well-being</i>	Uncertainty	

Tabel 23 – New skill mix and tasks

New skill mix and tasks
Definition / Scope The changing context of society, patient population, organization of health systems and health care, requires health care 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 focus 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 COVID19) 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. Use of digital tools and technologies is not specifically addressed in this variable. A distinct variable has been created to describe this specific aspect. Input from (grey) literature As an output of the joint action <i>Health Workforce Planning and forecasting</i>, the Centre for Workforce Intelligence (UK) identified skills and competences needed for the future (but not specific for GP)³⁹: 1. Prevention: improvements are expected in the understanding of the risk factors and how behavioural and lifestyle factors can be influenced specifically for individuals. 2. Coaching and enabling: when people come into contact with health workers for conditions that involve levels of self-management, there is an expected increase in the focus on joint planning around the person's treatment goals. 3. An awareness of genetic determinants and detailed genetic assessment and treatment skills will be important for the workforces involved in assessment, diagnosis and treatment. 4. Multi and inter-disciplinary team working It also highlights the need for competences around technology (see separate variable fiche). The NL Capaciteitsplan also identified the need for GP competences around <i>shared decision making</i> together with the patient.²¹ The GP has more and more his role as coach, and communication becomes more intense and time-consuming. Multidisciplinary working also requires more time and skill in coordination and communication. Because there is not always the possibility to refer patients to specialist care, GPs also have to deliver care for psychological problems.²¹ A qualitative study indicated that there is a growing role for GPs as mediators – explaining and educating their patients – as the specialists often had limited time for comprehensive information.³⁷ Moreover, patient nowadays are better informed and assertive, which enhances the patient-centred decision making.³⁷ Although the importance of increased involvement and a focus on prevention is repeatedly emphasized, the question remains as to how this is actually implemented in practice.^{40, 122}, and how this impacts the GP's work/skills. In the Netherlands a discussion is taken place on what are the tasks for the GP in terms of prevention. Often the focus of GPs is on secondary prevention in patients that already have symptoms. Primary prevention including lifestyle advice is less prominent in the GP practice.^{154, 155} The environment also requires GPs to have knowledge on environmental risk factors.⁴⁰ The KCE Covid report stated that health crises can result in new illnesses (long-covid) and worsen mental health, which requires from the GP to be knowledgeable and capable in guiding the patient.¹²⁶ More genetic information makes predictive and preventive medicine possible.^{122, 156} Genomic medicine, comes with the need to upskill healthcare professionals. On the other hand, more direct-to-consumer testing might also increase the workload of the GPs as they need to explain and contextualise the result.¹⁵⁷ Belgian context



The Belgian pilot study on forecasting also identified the need for an adapted skill mix: empowering patients, use of digital tools.³¹

The Flemish institute for Healthy Living (Vlaams Instituut Gezond Leven) states that the GP has a role in primary prevention, signalling and discussing lifestyle. Consequently, the GP needs to be aware of possible risk factors (next to lifestyle also environmental risk factors, genetic risk factors)

The interdisciplinary thinktank from the KULeuven published in 2023 a position paper on the health and care professions of the future, discussing new competences, and how to acquire them, via different curricula (but not always very specific for the GP).¹²²

Policy measures for the future include more cooperation between primary care and mental health, and the introduction of case management and care coordination (Flemish Policy plan 2024-2029).¹⁵³ The GP will need to have a more active role in the activation of people with long-term inactivity (fit note), and will also be first line for addiction care and prescription of HIV medication.¹⁵⁸ The Walloon region focused on more active role for the GP in prevention.⁶⁵

Education on these topics is available via continuous learning programs, LOK meetings, conferences (it is voluntary).

Factor	Observed	Direction T
<i>Level of impact of new skills on GPs workload</i>	Trend	Increasing
<i>Level of impact of prevention on skill mix</i>	Uncertainty	
<i>Level of impact of patient empowerment on skill mix</i>	Uncertainty	
<i>Level of impact of care coordination on skill mix</i>	Uncertainty	
<i>Level of impact of multi and inter-disciplinary team working on skill mix</i>	Uncertainty	
<i>Level of impact of increasing mental health care on skill mix</i>	Uncertainty	
<i>Level of impact of genomic medicine on skill mix</i>	Uncertainty	
<i>Level of impact of acute crisis on skill mix</i>	Uncertainty	
<i>Level of impact of skill-mix on GP workload</i>	Uncertainty	

Table 24 – Technological and digital tools

Technological and digital tools
Definition / Scope Technological and digital solutions are finding their place in the medical landscape. The pace of implementation and use differs. Factors are • E-consults (video, emails) and teleconsultations. Importantly, some, like in the Netherlands, do not consider telephone contact as a form of e-consult. • 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) More data comes available (e.g. indicators, population management), which requires data analysis skills
Input from (grey) literature The Netherlands monitors the e-health use and concluded in 2024 that there is not much growth in use of digital tools among health care professionals and patients. Most used are the patient portal where the patient can consult his own lab results and the possibility to schedule an e-consult with the physician.¹⁵⁹ <u>Patient consultation</u> New ways of communicating with the patient often replacing a face-to-face consultation: Teleconsultation, video consultation or e-consults. This leads to less face-to-face consultation time, eliminating travel time and reducing spread of diseases, but might enhance overdiagnosis or overtreatment.¹⁶⁰ The impact of teleconsultation on workload showed that a GP has more contacts.¹⁶¹ The platform on which the communication happens must be safe. Use of social media as a communication tool has been cited as a possible future.³¹ <u>Tools for interprofessional communication</u> Ways of communicating with other health care professionals facilitating the multidisciplinary work. Electronic sharing of patients' files is a facilitating factor for a better multidisciplinary collaboration.³¹ Observational studies showed that digital interdisciplinary consultation between a GP and a specialist lead to less referrals and a higher satisfaction among professionals and patients.¹⁶² <u>Remote health monitoring</u> Telemedicine is expected to shift care from hospitals and clinics to homes and mobile devices.¹²² Of importance is the way health professionals (e.g. GPs) will use mobile health (mHealth) technology, and whether they are capable in processing, interpreting all the data coming from wearables and health monitoring.¹²² A 2021 study among Swedish GPs showed that a possible barrier for using telemedicine is losing the personal contact between patient and provider. Every tool must be evaluated regarding clinical usefulness, patient safety and effect on workload.¹⁶³ A study on the use of apps for Type 2 Diabetes Self-Management showed GPs were concerned about changes in workload, their role in self-management, and the nature of consultations.¹⁶⁴ <u>Clinical decision support</u> A scoping review in 2023 showed that it was unclear whether the use of electronic clinical decision support tools have an impact on workload and workflow of GPs.¹⁶⁵ Another systematic review concluded AI enhances care delivery efficiency, but concerns arise due to knowledge and experience gaps.¹⁶⁶ There are different tools available, going from direct link between electronic patient dossier to available treatment guidelines, artificial-intelligence-based symptom checkers, and cancer risk assessment tools. For example: A study showed artificial-intelligence-based symptom checkers can optimize medical-history taking for the benefit of both general practitioners and patients, with potential enhancements in complex diagnostic tasks rather than routine diagnoses.¹⁶⁷ An observation study in the UK showed that cancer risk score during consultation did not increase the overall workload, despite a small increase in time observed in individual consultations.¹⁶⁸



Belgian context

In 2019, IMEC performed a ehealth monitor analysis also for GPs (n=742), but this is somewhat outdated.¹⁶⁹ There is an interfederal ehealth plan, now the fifth version 2025-2027. In addition to further optimisation of available services (patient access via overview portal), this plan has the objective for a Belgian integrated patient dossier (BIHR). This must result in less administration and more person, goal-oriented care.¹⁵⁸

In Belgium, teleconsultation in the general practice increased substantially (more than 5.5 milj of teleconsults facturations in 2023). A tele consult can be via telephone, email, sms/ or chat, or videocall. The policy framework for remote consultation is under development as the budget has grown substantially, and some overuse was reported. Possible solutions are to cap the maximum of tele consults per patient per year.¹⁷⁰

A 2021 pilot project analysed dermatologic advice to the GP and patient remotely (with sending pictures).¹⁷¹

In Belgium, there is policy around mobile health with some applications being approved and reimbursed. For example, telemonitoring and therapy guidance in chronic heart failure. Often the approved apps want to make a more easy link with the care team remotely, to communicate some parameters.¹⁷² At the moment not clear what the implication is for GPs, as most of the tools are situated in specialist care. A paper of 2018 on the perception and implementation of mobile health in primary care (n=23 GPs) indicated that almost two-thirds were not interested in offering any type of mobile health service.¹⁷³

In addition to the private market developing tools for telemedicine, mobile health, there are also specific government developed tools. There is the Flemish platform Alivia to share and communicate health goals, care plans between (health) care givers and patients, which will be enrolled in 2025.¹⁵³ The objective is to have a smoother and safer task arrangements, planning, coordination and communication between care and assistance providers.

Factor	Observed	Direction T
<i>Level impact of new technological and digital skills on GP workload</i>	Trend	Increasing
<i>Number of e-consults and teleconsultations</i>	Trend	Increasing
<i>Level of impact of e-consultations (tele, video) on duration and frequency of consultations</i>	Uncertainty	
<i>Level of impact of e-consultations (tele, video) on GP workload</i>	Uncertainty	
<i>Level of impact of interprofessional communication on GP satisfaction</i>	Uncertainty	
<i>Level of impact of Remote Health monitoring on GP workload</i>	Uncertainty	
<i>Level of impact of Clinical Decision support tools on GP workload</i>	Uncertainty	

Table 25 – Working hours

Working hours
Definition / Scope
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 thematic sheet on indirect 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.
Input from (grey) literature
A global tendency towards a decline in GP availability over time has been observed.³⁷ In the UK, the average weekly working hours decreased from 40.5 to 38 hours between 2010 and 2021.¹⁷⁴ However, the average number of working hours vary considerably between countries. For instance, the working week is longer in Norway (55.6 hours per week)¹⁷⁵ than in the UK, where an FTE is set at 37.5 hours per week.¹⁹ This phenomenon has given rise to a reduced headcount-to-FTE ratio⁵⁸ and protracted waiting times to consult a GP.¹⁷⁶ The reduction in working hours appears to be accompanied by a decrease in the availability of GPs for face-to-face consultations or home visits, while the time spent on administrative tasks remains relatively constant.¹⁷⁷ The working time may be influenced by several factors such as: Feminisation of the profession Internationally, female GPs are working significantly fewer hours than their male peers.^{37, 56, 178} Having children affects the female GP workforce. A study showed that, in comparison with female GPs without children, those with one child were on average four times more likely to work part-time and those with two or more children were on average eight times more likely to work part-time.¹⁷⁹ In addition, women have fewer aspiration to 'leadership' activities.¹⁸⁰ Age of the GP A tendency towards part-time employment is observed among younger GPs.^{56, 178} This trend has been corroborated among GPs in training.¹³⁹ This relationship between the number of working hours and age does not significantly differ between women and men.¹⁷⁸ Social expectations In contrast to older GPs, for whom constant accessibility for their patients was an essential part of their daily routine, young doctors expect to find a better work-life balance. The growing inclination towards part-time employment and reluctance to extend working hours are observed among both male and female young doctors. However, it should be noted that not all GPs are able to meet these expectations. For instance, GPs working in rural areas encounter a substantially limited leisure time due to professional commitments.³⁷ Employment position It was demonstrated that self-employed GPs work significantly more hours per week than salaried GPs.^{19, 178} In the UK, 90% of salaried GPs worked part time in 2021, relative to 66% of GP partners. In 2017, these proportions were 87% and 61%, respectively.¹⁹
Belgian context
In addition to the impact of feminisation rate on part-time work, impact of gender on the number of patient contacts per full-time equivalent (FTE) was also demonstrated in Belgium.³³ In 2022, female GPs had 5 950 patient contacts per FTE, compared to 7 430 for male GPs. French-speaking GPs had fewer contacts per FTE than Dutch-speaking GPs (6 467 versus 6 934 respectively). Convention status also had a slight effect on activity rates.³³ While the number of active GPs increased between 2019 and 2023, the number of FTEs remained stable.³³ The forecasting model developed by the Planning Cel Unit computes an activity rate by region, age, gender, nationality and working sector. These activity rates are based on historical trends.³³ However, an alternative scenario takes into account the potential decrease in working hours due to social changes.⁶⁴ This assumption is based on a survey of 2 698 GPs in Belgium. Half of the respondents reported wanting to work between 38 and 40 hours per week, while half of the respondents worked between 50 and 60 hours per week at the time of the survey.¹⁸¹



Factor	Observed	Direction T
<i>Number of working hours</i>	Trend	Decreasing
<i>Number of patients by FTE</i>	Trend	Increased
<i>Number of children</i>	Uncertainty	
<i>Level of impact of gender on working hours</i>	Uncertainty	
<i>Level of impact of social expectations on working hours</i>	Uncertainty	
<i>Level of impact of age on working hours</i>	Trend	Increasing
<i>Level of impact of employment position on working hours</i>	Uncertainty	

Tabel 26 – Attractiveness

Attractiveness
Definition / Scope
It has been argued that the GP profession has become less attractive. ⁴⁰ Many studies have investigated what determines most the attractiveness of the profession (see below). 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.
Input from (grey) literature
In Germany¹⁸² as well as in Denmark¹⁸³, estimations on the preferred medical specialties of medical students suggest that the number of future GPs is not sufficient to meet the need for GPs and highlights the importance of the points of view of students on the profession. Indeed, literature suggests that GP position has become less attractive, especially among young generations which have different expectations than the previous generations.³⁷ Several studies investigated which aspects (mostly related to working conditions) could positively or negatively impact attractiveness of the profession, from the GP's (or future GP's) perspective. Factors influencing the attractiveness of general medicine as a profession: Workload, work-life balance, and job satisfaction The high workload commonly associated with general medicine is often highlighted in qualitative studies as having an impact on the attractiveness of the profession. In a qualitative study about intentions to pursue a career as GP among newly qualified doctors, quality of life, job satisfaction, uncertainty surrounding the future of general medicine, and the lack of respect for GPs were the most important aspects. Participants felt that general medicine could provide a good work-life balance and job stability, and these aspects were determinant on the choice of a career in general medicine.¹⁸⁴ In another qualitative study, Vohra et al identified what impacts most the complex choice of a medical specialty. Factors having a compelling effect were flexibility, work-life balance, scope of practice, connection with patients, training environment and practical opportunities, whereas factors such as prestige and peer interaction did not.¹⁸⁵ This is consistent with the results published by Marchand and Peckham which suggest that intrinsic factors (such as recognition) are more likely to influence recruitment and retention of GPs than external factors, such as income (see below).¹⁸⁶ Also, among doctors approaching the end of 3-year GP vocational training in England, the quality of general medicine experience during the training (and in particular perceptions about workload pressure) were reported as influencing personal career plans. Experience of a poor work-life balance as a trainee as well as negative perceptions about how general medicine is portrayed by politicians and the media had a negative effect on career intentions. These results suggest that factors related to training programs also play a role on the career plans of newly trained GPs.¹⁸⁷ Next to this, task delegation has been positively associated with job satisfaction among GPs in Denmark and could help improving the attractiveness of the profession.¹⁸⁸ Remuneration Next to work-like balance, improving job-conditions in terms of fair pay could make an important contribution to increasing the attractiveness of general medicine.¹⁸⁹

Atkins et al suggested that the decrease in GP income adjusted for sessions worked (see sheet working hours) and inflation over the last decade may have contributed to the current problems with recruitment and retention in England.¹⁹⁰ In another English study, increased funding also improved GPs' retention.⁴³

In Australia, Kalb et al studied the response of medical doctors to changes in compensation.¹⁹¹ The effect of increasing wage had a negative impact on average on the total labour supply, which means that the cost of giving up another hour of leisure time was very high, while the benefit from additional income was limited, especially among male GPs. These results suggest that higher remuneration is not likely to increase the supply of medical doctors. However, it could positively affect female doctors on maternity leave or doctors at risk of retirement.

Regarding the choice of a career in general medicine for young doctors, conflicting results were found in the literature.^{184, 185}

- **Education and sociodemographic factors**

Several demographic and educational factors can also influence attractiveness of general medicine and doctors' decisions to apply for GP training. In the UK, being female, non-white or having received the secondary school diploma in the UK was positively associated with the odds of application to GP training. On the contrary, non-graduate entry (i.e. having no previous bachelor's degree), intercalation during medical school (i.e. taking a year out to study for an additional degree) and above-median academic performance during medical school had a negative impact. Lastly, differences existed between the medical and foundation school attended.¹⁹²

- **GP tutors/teachers and role modelling**

It has been showed that the quantity of exposure to general medicine teaching at medical school (i.e. number of clinical GP teaching at medical school) was associated with future choice of a career as a GP.¹⁹³ Also, the key role of GP tutors has been described in the literature as having a great influence on medical students' decision to pursue a career in GP.^{185, 194-196} They guide students on their reflections and beliefs, use role modelling to promote general medicine, and enable students to have an honest picture of the profession.¹⁹⁴ This aspect was further confirmed in a systematic review published in 2022 on the impact of role modelling on GP workforce. Role models (i.e. 'a significant person on which an individual patterns his or her behaviour in a particular social role, including adopting appropriate similar attitudes') have the potential to shape perceptions, to attract or deter individuals from pursuing careers, and support their development as professionals.¹⁹⁷ In the UK, medical students revealed during focus-group that they perceived a lack of prestige and of challenge regarding general medicine, which could have a negative influence on recruitment.¹⁹⁸ Indeed, literature suggests that there is currently a crisis in vocations for general practice due to the social devaluation of health professionals and that the education system places greater value on acute, technical and specialised medicine.⁴⁰

- **Policy**

A recent review suggested that widening participation to medicine (i.e. recruitment policy of encouraging those who are traditionally under-represented in medical school) could increase attractiveness of the profession for doctors with a disability and have a positive impact on the workforce.¹⁹⁹

Belgian context

In our country, given the aging of the workforce (among others), an increasing number of GPs retiring is expected (see sheet drop out). Also, a decrease in working hours due to social changes is expected (and is taken into account in the forecasting model developed by the Planning Cel Unit).⁶⁴ Next to this, the mental load of (Flemish) GPs has been investigated and revealed high pressure, especially among the younger generation.⁶³ In this context, it is more important than ever to improve the attractiveness of the profession.

However, when looking at the distribution between general practitioners and specialists, general medicine has been constantly decreasing since 2004 (the proportion of general medicine fell from 45.5% in 2004 to 38.5% in 2016).²⁰⁰

To counter the decline in general medicine, before 2020, minimum quotas or threshold values that must be reached were set for specialties that deserve special attention, such as general medicine.²⁰¹

To increase the number of doctors, with particular attention paid to general medicine and rural areas, the federal government has decided to increase INAMI quotas, which will result in an increase in the number of medical students.²⁰² The Communities are then responsible for the organization of the selection at the time of training and the establishment of sub-quotas by discipline.²⁰³ They are thus responsible for enforcing the quotas set by the federal authority and organize planning via Community Planning Commissions. Regarding divergences between communities, it should be noted that the French-speaking sub-quota has recently increased to 43%, and is expected to increase to 50% by 2024 (Francophone Planning Commission for Medical Supply, 2022).^{204, 205} In Flanders, the sub-quotas for specialisations in medical studies will be tightened to allow more students to choose general medicine,²⁰⁶ and additional points were awarded to all students by the examination board in the medical entrance exam to meet these quotas.²⁰⁷



Financial support for GPs (for secretarial work (impulseo), or practice nurse¹¹, interest-free loan, etc.) may have a positive impact on attractiveness. Also other initiatives are highlighted to create a more attractive profession: reduce administrative burden (reduce sickness notes for 1 day, one standard attest valid across insurances (project Kafka)²⁰⁸), better organisation of out-of-office care (see sheet Emergency). It is yet unclear how ongoing reforms (in particular the deployment of new deal practices²⁰⁹ and the nomenclature reform^{210, 211}) will impact attractiveness for the GP profession.

Factor	Observed	Direction T
<i>Level of impact of attractiveness on inflow from training (see participation rate in the model of Planning Unit) [see inflow sheet]</i>	Uncertainty	
<i>Level of impact of attractiveness on inflow from training (see specialty rate in the model of Planning Unit) [see inflow sheet]</i>	Uncertainty	
<i>Level of impact of attractiveness on retention and retirement</i>	Uncertainty	
<i>Level of impact of job satisfaction on attractiveness</i>	Uncertainty	
<i>Level of impact of workload on attractiveness</i>	Uncertainty	
<i>Level of impact of work-life balance/number of working hours on attractiveness</i>	Uncertainty	
<i>Level of impact of remuneration of GPs on attractiveness</i>	Uncertainty	

Tabel 27 – Impact of hospital and home care on general medicine

Impact of hospital and home care on general medicine
Definition / Scope
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.
Input from (grey) literature
Belgian context
Shifting hospital care to primary care In 2025, the presentation of public health policy orientation to the House of Representatives alluded to a desire to strengthen day and home hospitalisation.¹⁵² The number of day hospital stays per 100 000 inhabitants is increased by 22% between 2012 and 2021.²¹² This accounted for 50% of all surgeries in 2021.²¹³ This increasing trends is supported by the day hospital financing reform.²¹⁴ The evolution of home hospitalisation has been characterised by a transition from pilot projects to a recognised care modality covered by the health insurance for two distinct patient groups .i.e. patients requiring treatment with intravenous antibiotics, antimycotics on hand and antivirals as a part of parenteral anti-cancer treatment regimen on the other hand.²¹⁵ This shift in focus, whereby the responsibility for care is transferred from specialist to primary care providers, had been anticipated in 2023 in a report by the Healthcare Professions Supply Planning Unit. In addition to hospitalisation at home, this report also mentioned an increase in transfers of care from specialists to general practitioners and a shortening of the length of stay in traditional hospitals.⁶⁴ A 2016 pilot study on horizon scanning in general practice also emphasised the necessity for enhanced integration of general practice and second-line medicine, particularly through the reinforcement of the gatekeeping function of general practitioners.³¹ Patient empowerment The above-mentioned report from the Healthcare Professions Supply Planning Unit also reports a continuing trend towards treating patients in their own familiar surroundings for as long as feasible. This should result in additional demand for care from GPs and a greater coordinating role for GPs.⁶⁴ Patient behaviours The Observatoire de la Santé et du Social has reported that residents of Brussels are more likely to attend an emergency department without having been referred by a GP than in other regions. A number of Belgian studies have identified a series of socio-cultural, geographical and financial factors that contribute to patients' tendency to present at hospital emergency departments rather than attending general practices.⁶¹ [see emergency sheet] The socio-cultural reasons for this phenomenon stem from three distinct sources. Firstly, the unavailability of a GP or the absence of a regular GP can explain the use of emergency services by Brussels residents. Secondly, the lack of awareness among non-native populations regarding the Belgian healthcare system results in the absence of knowledge regarding the organisation of the primary care system. Thirdly, the inhabitants of Brussels are accustomed to use emergency departments for paediatric care rather than seeking

outpatient care. As a result, the proportion of newborns in Brussels who see a GP at least once a year is lower than in other regions.⁶¹

The utilisation of emergency services in the Brussels region is also driven by the high concentration of medical facilities within the immediate vicinity. This results in close geographical proximity and ease of access, due to the fact that hospital emergency departments are open 7 days a week, 24 hours a day, and provide immediate access to cutting-edge technology and specialists who can be consulted immediately.⁶¹

Finally, the affordability of care provided by emergency services appears to be of greater importance at first glance. Indeed, the financial implications of care are often more significant in emergency departments, yet the perception of these costs is not immediate.

Factor	Observed	Direction T
<i>Level of impact of shifting follow-up care (after hospital discharge) to primary care on GP workload</i>	Uncertainty	
<i>Level of impact of shifting cancer follow-up to primary care on GP workload</i>	Uncertainty	
<i>Level of impact of creating a new profile of GPs with additional skills in specific clinical areas on GP workload</i>	Uncertainty	
<i>Number of patients treated in hospital at home (HAH)</i>	Trend	Increasing
<i>Level of impact of the deployment of hospital at home on GP workload</i>	Uncertainty	
<i>Number of stays in day hospital</i>	Trend	Increasing
<i>Level of impact of number stays in day hospital on GP workload</i>	Uncertainty	
<i>Number of older patients living at home</i>	Trend	Increasing
<i>Level of impact of older patients living at home on GP workload</i>	Uncertainty	

**Tabel 28 – Task delegation**

Task delegation
Definition / Scope 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.²¹⁶ 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.²¹⁷ The redistribution of less complex, specialised medical care from hospitals to general practices²¹⁸ is an illustration of horizontal task delegation also called subsidiarity.⁶⁴ 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.²¹⁹⁻²²⁴ Input from (grey) literature 1. Horizontal task delegation In the Netherlands, there is a trend to transfer the provision of secondary care for vulnerable groups, such as older people and those with intellectual disabilities, from specialists to GPs. The Netherlands Capaciteitsplan estimated that this trend would increase the demand for GPs by 1.4%.²¹⁷ Other examples of horizontal task delegation from specialists working at hospital to GPs are provided in the technical sheet Impact of hospital and home care on general medicine. 2. Vertical task delegation 2.1. Pharmacists The involvement of pharmacists in primary care can be achieved through entrusting specific tasks to community pharmacists or by integrating clinical pharmacists directly into general practices. 2.1.1. Community pharmacists In the UK, community pharmacists usually provide services including dispensing medications and appliances, repeat dispensing, signposting (i.e. proposing referrals to health or social care providers), medication reviews^f, flu vaccinations and supplying urgent medicines. Other medication and public health services can be commissioned according to local need. These "locally commissioned services" include managing minor ailments, providing lifestyle advice, carrying out routine check-up (e.g. blood pressure checks and cholesterol tests) and offering smoking cessation services to patients with long-term conditions²²⁵ as well as diagnosing and treating ear, nose and throat (ENT) and eye conditions.²²⁶ This is part of an ongoing health policy move towards to upskill community pharmacists to provide more clinical services to patients and as a means of managing the considerable workload pressures on GPs, walk-in centres or accident and emergency departments, and out-of-hours providers.²²⁶ In Sweden, pharmacists, employed by the county council, have been tasked with the reviewing of medication for people with dementia living in special housing. The purpose is to enhance medication safety, improve efficiency of patient care, and potentially alleviate the workload of general practitioners for these patients.²²⁷ The findings from the literature indicated several key benefits associated with the task delegation to community pharmacists. These benefits encompassed a high degree of patient satisfaction²²⁶, enhanced accessibility and convenience for patients, a reduction in variability in the content and quality of services delivered by pharmacists, and the liberation of GPs' time.²²⁵ In addition, a number of shortcomings were identified such as the absence of an appropriate system for sharing relevant information; limited consultation room space, size and poor room quality in the pharmacies as well as conflicts regarding fundings between pharmacists and GPs.²²⁵ Finally, the prerequisites for improving the quality and expanding the services of community pharmacies can be found in the literature.^{228, 229} 2.1.2. General practice based pharmacists The integration of pharmacists into general practices is used to manage the lack of GPs in, at least, eleven countries (Australia, Canada, Iceland, Ireland, Malaysia, the Netherlands, New Zealand, Slovenia, UK, and US).²³⁰⁻²³² Information on training of general practice based pharmacists (GPBPs) was retrieved for UK²³³ and Slovenia.²³² In the UK, a 18-month postgraduate training provides an introduction to primary care and training in patient-facing, consultation skills as well as mentorship with a GP supervisor.²³³ In Slovenia, GPBPs must have a degree in clinical pharmacy, followed by a specific education programme, or establish their experiences through an examination.²³² The tasks of GPBPs vary largely according to the countries considered (see table

^f medication review is defined as "the process of maximising the effectiveness of a patient's pharmacotherapy by obtaining medication histories and relevant information (from the patient, their family, and/or the patient notes) and initiating, stopping, or amending medications or devices, as per the patient needs (e.g. contra-indications, interactions, and other cautions)". Karampatakis et al. 2024

below). In the UK, GPBPs appear to function to a greater extent in an autonomous manner from GPs than similar pharmacists in other countries. In the latter, the pharmacists' input consists of recommendations awaiting approval and implementation by GPs.²³¹ The available evidence does not provide a clear indication of the benefits of GPBPs, with their impact on several outcomes ranging from negative to positive, and in some cases showing no difference or no detrimental effect.^{224, 230-238}

Table – Tasks of general practice based pharmacists in 11 countries

Tasks ^{224, 231-233, 238-240}	Countries
Acute care	UK
Adherence checking ^a	Australia, UK, USA
Care coordination by liaising with various primary and secondary care settings	Australia, Ireland, New Zealand, UK
Development of formal care plans for patients	Australia, Canada, Netherlands, UK, USA
Direct prescribing duties (including cost containment and reduction)	UK, USA
Domiciliary visits / Care home visits	UK
Lifestyle advice, for example, on diet, weight management, smoking cessation, and sleep hygiene	Australia, UK, USA
Long-term condition and/or polypharmacy management	Australia, Canada, Ireland, New Zealand, UK, USA
Management/screening repeat prescriptions	Canada, Ireland, UK, USA
Medication reviews	Australia, Canada, Ireland, Netherlands, New Zealand, Slovenia, UK, USA
Medicine reconciliations ^b	Australia, Canada, Ireland, Netherlands, New Zealand UK, USA,
Participating in and/or leading multidisciplinary team meetings	Ireland, UK
Patient counselling on conditions, medications, and devices	Australia, Canada, UK, USA
Patient following up and/or monitoring of their condition or medications, including direct ordering of tests	Australia, Canada, Ireland, UK, USA
Physical assessments	UK, USA
Practice staff education, including educational sessions, support on a one-to-one basis, and student supervision	Australia, Canada, Ireland, Netherlands, New Zealand, UK, USA
Quality management tasks, such as prescribing audits (e.g. on high-risk drugs), medication use projects, incentive programmes, and synthesis of policies, protocols, bulletins etc	Australia, Canada, Ireland, Netherlands, New Zealand, UK, USA
Telephone consultations with patients, including for triage purposes	Canada, Ireland, UK, USA,
Vaccination ^c	UK

a Adherence checking relates to the process of establishing whether the patient uses medications or devices as intended (e.g. checking the patient's inhaler technique).²³¹

b Medicine reconciliation is the process of updating medication lists/records so to reflect what patients are actually taking/should be taking, by also taking into consideration various types of correspondence during transfer of care (e.g. hospital discharge letters or outpatient letters).²³¹

c No information on other countries

2.2. Registered nurses, nurse practitioners, advanced nurse practitioners and physician assistants

2.2.1 Registered Nurses



Task shifting to nurses (or 'assistants' in some countries) varies considerably between countries. A survey conducted in 31 European countries showed that task shifting from general practitioners to nurses in primary care is most prevalent in England, Sweden and New Zealand. Conversely, Luxemburg, Belgium and Italy are countries where this kind of task delegation is the least common. The study also identified an association between characteristics of the GPs and practice, and the degree of task delegation. The utilisation of electronic health records and the presence of support staff within the practice have been demonstrated to be positively associated with task shifting. Contrary to the authors' assumptions, the age of the GPs was also positively associated with task shifting and GPs' working hours have been shown to be negatively associated with task shifting.²¹⁶

2.2.2. Nurse practitioners and physician associates/assistants

- Nurse practitioners or advanced practice nurses

Since the emergence of the profession in the USA in the 1960s, nurse practitioners have been introduced in approximately 70 countries worldwide.²⁴¹ Their role is to enhance accessibility to health services, deliver cost-effective care, and provide primary services to underserved, rural and high-needs communities.²⁴¹⁻²⁴³ Nurse practitioners are registered nurses who have acquired extensive experience and have undergone further education, frequently at the master's level. Their employment is dispersed across a variety of sectors, including general practices, aged care, community nursing, mental health services, and public health.²⁴² The deployment of nurse practitioners appears to be slow in some countries such as Australia where only 8% of nurse practitioners work in general practices²⁴¹ or in New Zealand where a robust legislative, educational, and registration framework is in place.²⁴²

According to the country considered, they can prescribe medications²⁴² within their scope of their expertise,²⁴⁰ are able to work autonomously to assess, order diagnostic tests, diagnose, treat or prescribe, manage, refer²⁴² or make out-of-hours consultations.^{244, 245} Nurse practitioners can also concentrate their activity on specific population such as elderly. In this population, the provision of care can be undertaken either in the community or in residential aged care facilities. The scope of their duties encompasses both direct patient care for older persons (e.g. cognitive assessments, patient assessment and reviews, ordering and/or reviewing tests and medications, and liaising with family members) as well as indirect care (e.g. documentation and correspondence, and referrals to and coordination of care with other health professionals).^{246, 247}

- Physician associates/assistants

The physician assistant role has a 50-year history in the US, but the profession has more recently been introduced into other countries, including Canada, Australia, the Netherlands, Germany, India²⁴⁸ and Switzerland.²⁴⁹ Physician assistants are known as medical practice assistants in Germany²⁵⁰ and in Switzerland.^{249, 251} In the UK, they are designated physician associates in order to differentiate them from physician assistants who are healthcare assistants in hospital medical teams.²⁴⁸ Furthermore, there is heterogeneity not only in names, but also in terms of the training received and the roles undertaken. To illustrate, physician associates in UK are trained via a two year, full-time course for graduates, typically in the field of life sciences degrees.²⁵² In contrast, the training programme in Germany and Switzerland is a three-year vocational training programme.^{250, 251} After 3 years of practice experience, the medical practice assistants in Switzerland have the opportunity to undertake supplementary training alongside their work. This training is designed to provide them the skills necessary to treat and coach chronically ill people, in addition to support the management of medical practices. The training program leading to the qualification of specialized medical assistant includes classroom-based learning (300h) and complemented by self-study (200h).²⁴⁹ Overall, the physician assistants work under the supervision of the GP.^{248, 250, 253} In Germany, the "Agreement on the delegation of medical services to non-medical staff in ambulatory healthcare" delineates the medical tasks that can be delegated to medical practice assistants. However, it should be noted that the ultimate responsibility for these tasks remains with the GPs.²⁵⁰ In the UK, physician associates are trained to assess patients, diagnose medical conditions and initiate treatment under the supervision of a physician²⁴⁸. Nevertheless, they are not allowed to prescribe medication unlike in the US or the Netherlands.^{248, 252} In the Netherlands, physician assistants are permitted to undertake general consultations as nurse practitioners and are also authorised to make home visits proactively. They treat patients according to their experience and the practice agreements. For instance, physician assistants are active in primary healthcare for older people.²⁵⁴

- Emergency care practitioners

Emergency care practitioners are required to have a paramedic or nursing background, in addition to having completed further education in the following areas: history taking; physical examination and diagnostic tests. They could administer and supply medication under certain conditions.²²⁰

A number of studies showed that nurses, nurse practitioners and physician assistants are capable of reducing GP workload and providing safe and cost effective care.^{218, 220, 253, 255-257} Whilst physician associates are increasingly being described as a potential solution to shortage of GP²⁵⁸, the absence of regulation governing the role definition of physician associates in UK appears to give rise to safety concerns.²⁵⁹ Traditionally, GPs played a pivotal role as clinical experts for all patients. However, with the introduction of these new professionals, the role of GPs has evolved to become more coordinating and the complexity of GPs' caseloads is increasing.^{253, 254} A review including seven articles, conducted in the UK or the Netherlands, concluded that nurse practitioners, advanced nurse practitioners or emergency care practitioners provide a level of safety and

efficiency of care equivalent to that of the GPs.²²⁰ The authors also highlighted that those professionals saw patients with less urgent health problems, younger patients, and patients with less complex health problems than GPs. The findings of the reviews regarding productivity (number or duration of consultations or visits) were inconclusive.²²⁰

2.3. Extended scope physiotherapists

In UK, up to 30% of a GP's caseload are patients with musculoskeletal conditions. To reduce the GP workload, the assessment and the management of these patients is provided by extended scope physiotherapists (ESPs).^{224, 260} ESPs are physiotherapists holding advanced degrees (e.g., Masters or graded as Agenda for Change band 7 or 8a (NHS remuneration scales)) and having several years of experience working as a specialist musculoskeletal physiotherapist. ESPs in primary care independently assess, diagnose, and manage patients but also order investigations, refer to other services, administer steroid injections, prescribe medication, such as analgesia or anti-inflammatories. The assessment of the first 2 years of the ESP service at two GP practices revealed that a negligible number of patients required input from a GP. In addition, referrals to orthopaedics was reduced and a high proportion of referrals was 'appropriate'.²⁶⁰ However, there is a limited number of ESPs in general practice.²²⁴

2.4. Associate psychological practitioners

In 2021, a new role was launched across Northwest England within the NHS: the Associate Psychological Practitioner. Psychology graduates can train for this role in the NHS for 12 months. They focus on health promotion and prevention, typically delivering brief interventions consisting of four sessions to individuals experiencing stress, reduced well-being, and/or common mental health symptoms. The impact of introducing associate psychological practitioners into 200 GP practices in Lancashire and South Cumbria has been modelled. It is estimated that one associate psychological practitioner could free up at least 1,665 GP appointments within one year.²⁶¹

2.5. Dietitians

In the UK, a community dietetic-led care model was created to shorten the care pathway for paediatric patients with food allergies. In this model, direct access to care was established by eliminating the need for a GP referral. Compared with the usual care pathway, patients seen under this model were seen by dietitians at an earlier age, had fewer GP appointments, and fewer were referred to secondary care prior to seeing a dietitian.²⁶²

Dietitians were tested as first-contact practitioners in one general practice in UK to provide care for older people at risk of malnutrition and frailty, and to reduce GP workload. The study concluded that this care model had a significant impact on patient safety and the quality of care, as well as generating savings linked to the reduction of oral nutrition supplements. The study suggested other potential cost savings such as avoiding hospitalisation, reduced use of health and care services, and fewer GP appointments.²⁶³

2.6. Paramedics

A review published in 2021 showed that including paramedics (ambulanciers) in primary care allowed to reduce GP workload, improve access to health assessment and care for patients, broaden career perspectives for paramedics outside of their traditional emergency medical service.²⁶⁴ Two recent reviews have shown that, in the UK, paramedics in general practice increase access to care, staff satisfaction, and reduce GP workload in managing minor illnesses, conducting home visits, and providing urgent consultations.^{265, 266} However, they do not necessarily reduce NHS costs.²⁶⁶

2.7. Advanced paramedics

The designation 'advanced paramedic' is reserved in UK for paramedics who have successfully completed a master's degree in advanced Paramedic Practice, which ran concurrent with the three years of their primary care placement. They have several skills such as blood collection, urine analysis, point-of-care CRP testing, INR testing, simple suturing and wound management as well as advanced assessment of body systems. The role undertaken by advanced paramedics in the practice include telephone triage, clinic-based consultations and home visits.²⁶⁷ A small sample size qualitative study describing the experiences of GPs in Northern Ireland showed a positive impact of introducing advanced paramedics in GP practices on workload. However, it was also found that GPs need reassurance about the training of advanced paramedics and their acceptance by the patients.²⁶⁷

2.8. Advanced clinical practitioners

In UK, advanced clinical practitioners are non-medical healthcare professionals with a background in nursing, pharmacy, paramedics and occupational therapy that undertook a master's degree and extended training in specific clinical areas such as nursing, pharmacy, or allied health professions to qualify. The training underpins by four pillars: clinical practice, leadership and management, education, and research. They independently undertaking assessments, requesting and interpreting investigations, and diagnosing and discharging patients. They are embedded in hospitals, mental health care words but also in community services. Their role is to alleviate the strain on medical professionals. Studies have shown that they improve patient outcomes, increase patient satisfaction, and deliver cost-effective healthcare.²⁶⁸

3. Task delegation to non-healthcare professionals

In UK, social prescribers and care coordinators may be employed by GP practices. The role of 'care coordinators' has much in common with elements of the social prescriber role. Whilst the remit of social prescriber is to address issues of social isolation, loneliness and mental health, which coexist with medical



conditions, care coordinators are responsible for the coordination of patients with social care and community services and resources, and for signposting them to such services. Improving coordination between primary care and social care organisations and addressing social care needs reducing the need for GPs to be personally involved in these issues.²²⁴

In Switzerland, GPs are confronted with an average of three patients experiencing social problems on a weekly basis. These social problems can encompass a wide range of issues, including financial difficulties, challenges related to employment, and feelings of loneliness or social isolation. Whilst the presence of social workers in general practice has the potential to mitigate the impact of counselling on non-medical issues on GP workload, the presence of social workers in general practice remains limited. A survey conducted in 2022 and 2023 found that social workers were present in only 3.5% of general practices.²⁶⁹

4. Overall consideration

A recent report on the impact of skill mix change in primary care in England showed that overall the introduction of new professionals in general practice appear to provide service improvements and role supplementation rather than the role substitution of GPs and does not decrease the NHS expenditures.²²⁴ This report also showed that quality of care and patients' outcomes were higher when more practitioners were employed, that higher patient satisfaction was associated with a higher GP full-time equivalent and that GPs' job satisfaction may not increase with skill mix changes.²²⁴

Belgian context

Task delegation in the future

- Political will

In the federal government agreement²⁷⁰, two main propositions are made to decrease the GP workload. Firstly, the direct access to the physiotherapist is foreseen for the patient with mild to moderate disorders without the gatekeeping of the GP. Secondly, the pharmacists will be implicated in the early detection of diseases and in the treatment compliance. The Flemish government agreement²⁷¹ highlighted the collaboration and the data exchanges between GPs, pharmacists and other health professionals as key components of an improved care access.

- Studies on medicine in the future

In a pilot study carried out in Belgium using horizon scanning and the Delphi method as part of a national review of the GP workforce published in 2016, it was predicted that the delegation of administrative tasks would reduce the workload of GPs by 20 to 25%.³¹

In a report on a medical workforce forecasting published by the Planning Unit⁶⁴, the members of the working group – doctors from the Planning commission of medical supply considered the vertical and horizontal delegation of tasks to generating scenarios for the future. The members of the working group considered that the likelihood of horizontal delegation occurring was fairly high, but the speed and scale with which this will happen were judged fairly moderate. The impact on the workforce is considered to be significant, as horizontal delegation necessitates new competencies, new agreements and models of cooperation between primary care and hospitals, information exchange, etc. The working group members made the assumption that vertical delegation of tasks to other healthcare professionals will become more prevalent and will result in a reduction in the GPs' workload. However, members of the working group have expressed concerns regarding the availability of other healthcare professionals to whom the tasks will be delegated. Further issues were identified, including the capacity and readiness of non-medical healthcare professionals to assume supplementary responsibilities, and the potential for delegating a proportion of their existing tasks to other professionals. The impact of vertical delegation to other health professionals on the GP workforce was considered moderate, as GPs will still invest time in the delegated tasks (e.g. follow-up, consultation, feedback, etc.). Another type of vertical delegation considered by the working group is the delegation of tasks from the GP to non-healthcare professionals, i.e. to practice assistants. Insofar as the administrative and practice support tasks will be delegated to practice assistants, the members of the working group considered that the impact of this delegation on the GP workforce will be moderate.

Domus medica also engaged in an exercise to imagine general practice in 2030. General practices were described as a multidisciplinary practice in which vertical task delegation is prevalent. This delegation is regarded as a strategy to reduce the workload burden on GPs.¹⁰⁷

Current task delegation

- Pharmacists

Within the context of public pharmacies, pharmacists are entrusted with two distinct roles that aim to reduce the workload of GPs. Firstly, they may vaccinate for COVID (since 2022)²⁷² and influenza (since 2023).²⁷³ In order to be eligible to administer vaccinations, pharmacists are required to successfully complete a 8-hour-training course on the theoretical and practical aspects of vaccination. In the event of anaphylactic shock, adrenaline may be prescribed and administered by the pharmacist.

Secondly, pharmacists can act as a reference pharmacist (huisapotheker - pharmacien de référence) for patients suffering from chronic conditions. The function of the reference pharmacist is to provide expert advice on medication regimens. The reference pharmacist is also responsible for maintaining the accuracy of the patient's medication regimen and ensuring its accessibility to healthcare providers with a therapeutic relationship to the patient.²⁷⁴

- Nurses

In Belgium, nurses can be integrated within GP practices or offer autonomous support, in accordance with their training and expertise. A study, conducted in a multidisciplinary, capitation-based general practice in Belgium, demonstrates that nurses can be safely and efficiently used in acute infection care within a general practice setting.⁶¹ The authors concluded that task delegation is feasible to reduce GP workload and to increase patient accessibility to primary care.

There are four different categories of nurses:²⁷⁵

a. Nurse responsible for general care

Firstly, the nurse responsible for general care is trained in higher education (i.e. bachelor's degree, 240 credits, in four years minimum) or the fourth level of secondary education (certificate, in three and a half years minimum). In order to collaborate in medical diagnosis and treatment monitoring, the nurse responsible for general care carries out a series of intellectual acts, deployable at the individual and population level, and technical nursing services, either autonomously or for some of those under medical prescription, as described in the law on the exercise of health care professions.²⁷³ Specifically, a nurse responsible for general care is legally authorised to work in a general medicine practice.

b. Specialised nurses

The nurse responsible for general care with a bachelor's degree may follow an additional training to be certified as a specialised nurse. This supplementary training encompasses a minimum of 20 credits in a domain of specialisation i.e. specialisation in acute care (intensive care, emergency or peri-operative care), in chronic care (oncology, diabetology, palliative care or radiotherapy), child and family care (paediatrics, neonatology), in geriatrics, in mental health and psychiatrics or transversal care (wound care, stoma therapy, pain assessment and treatment, community health, cardiology or neurology and neuro-revalidation). The list of procedures (intellectual acts and technical nursing services) remains consistent with those of the nurses responsible for general care.

c. General practice nurse

A general practice nurse is a nurse who specialises in primary care. The training of general practice nurses is currently available in Flanders and is underway in the French-speaking community. This is a university certificate of 30 to 35 credits depending on the training institutions, which targets the specificities necessary for the practice of general medicine. These specificities include promotion, prevention, therapeutic education, interdisciplinarity, certain types of pathologies or vulnerabilities, and certain technical acts that are little or not practiced by the nurse responsible for general care, etc. The certificate also includes internships. The list of procedures (intellectual acts and technical nursing services) remains consistent with those of the nurses responsible for general care.

d. Advanced practice nurses

The advanced practice nurse is a nurse who has received training at a master's degree level in nursing science and has accumulated a minimum of 3 000 hours of practice in their designated care context. The training encompasses both direct and indirect care in complex scenarios, clinical leadership to enhance the quality of care, and the integration of research outcomes into practice to address emerging health and societal challenges. In accordance with an interprofessional collaboration agreement, the advanced practice nurse is permitted to undertake specific clinical activities or medical acts autonomously. 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 delineated in the agreement), within the individual's area of clinical expertise, and for routine tasks of limited complexity, accompanied by the anticipation of potential risks.²⁷⁶ 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 nurses responsible for general care or specialised nurses.

• Practice assistants

The practice assistant does not possess any basis nursing training. He/she has undergone a training programme comprising a minimum of at 90 credits (970h) of a practical and theoretical instruction in addition to a 450-hour internship in a general practice setting. Subsequent to the completion of the study programme, it is incumbent upon the practice assistant to undertake continuous training, which is scheduled to last for a total of 7.5 hours per year²⁷⁷.

The practice assistant is responsible for patient intake into the medical office: by telephone, electronically, and in person. The function encompasses support for the delivery of care, performance of administrative and accounting tasks, the provision of logistical support, and the execution of a number of well-defined and protocolled medical-technical tasks under the supervision of the GP. These tasks are primarily related to anthropometric examination (height, weight, waist circumference), measurement of biological parameters (body temperature, blood pressure, pulse and respiration, oxygen saturation), sample collection and processing (simple blood test, sample collection, urine test), recording an electrocardiogram and preparation of sterile equipment for a procedure (e.g. wound closure).²⁷⁷



Factor	Observed	Direction T
<i>Proportion of tasks delegated to pharmacists</i>	Uncertainty	
<i>Level of impact of task delegation to pharmacists on GP workload</i>	Uncertainty	
<i>Number of nurses working in primary care</i>	Uncertainty	
<i>Proportion of tasks delegated to nurses</i>	Trend	Increase
<i>Level of impact of task delegation to nurses on GP workload</i>	Uncertainty	
<i>Number of practice assistants (assistant de pratique avancée / praktijkassistent)</i>	Trend	Increase
<i>Proportion of tasks delegated to practice assistants</i>	Uncertainty	
<i>Level of impact of task delegation to practice assistants on GP workload</i>	Uncertainty	
<i>Number of advanced practice nurses (infirmiers de pratique avancée / verpleegkundig specialist)</i>	Trend	Increase
<i>Proportion of tasks delegated to advanced practice nurses</i>	Uncertainty	
<i>Level of impact of task delegation to advanced practice nurses on GP workload</i>	Uncertainty	
<i>Proportion of tasks delegated to psychologists</i>	Uncertainty	
<i>Level of impact of task delegation to psychologists on GP workload</i>	Uncertainty	
<i>Proportion of tasks delegated to physiotherapists</i>	Uncertainty	
<i>Level of impact of task delegation to physiotherapists on GP workload</i>	Uncertainty	
<i>Proportion of tasks delegated to dietitians</i>	Uncertainty	
<i>Level of impact of task delegation to dietitians on GP workload</i>	Uncertainty	
<i>Proportion of tasks delegated to other healthcare professionals</i>	Uncertainty	
<i>Level of impact of task delegation to other healthcare professionals on GP workload</i>	Uncertainty	
<i>Number of professionals in new primary care professions developed in the future</i>	Uncertainty	
<i>Proportion of tasks delegated to new primary care professions developed in the future</i>	Uncertainty	
<i>Level of impact of task delegation to new primary care professionals on GP workload</i>	Uncertainty	
<i>Number of care coordinators</i>	Uncertainty	
<i>Proportion of tasks delegated to care coordinators</i>	Uncertainty	
<i>Level of impact of task delegation to care coordinators on GP workload</i>	Uncertainty	
<i>Proportion of tasks delegated to social workers</i>	Uncertainty	
<i>Level of impact of task delegation to social workers on GP workload</i>	Uncertainty	
<i>Proportion of tasks delegated to other non-healthcare professionals</i>	Uncertainty	
<i>Level of impact of task delegation to other non-healthcare professionals on GP workload</i>	Uncertainty	

5 STAKEHOLDER INVOLVEMENT

5.1 Scenario development panel

Table 29 – Members of the scenario development group

Name	Language	Workshop 1	Workshop 2	Workshop 3	Workshop 4
Adriaensen, Katrien	Nl		x	x	x
Anseeuw, Karel	Nl	x	x	x	x
Brunel Elodie	Fr		x	x	x
Cumps Sarah	Fr	x			
Demerre Wouter	Nl	x		x	x
Dispas Hélène	Fr	x		x	x
d'Otreppe Pascaline	Fr	x	x		
Goderis Geert	Nl	x	x	x	
Jacquemain Christiane	Fr	x	x	x	x
Lambert Brice	Fr				
Lenoir Anne-Laure	Fr		x	x	x
Maleki Mehnaz	Fr	x	x	x	x
Marechal Céline	Nl	x	x	x	x
Mouysset Virginie	Fr		x	x	
Nieuwenhuysse Jelle	Nl	x	x		x
Oris Toon	Nl	x			
Pirotte Kevin	Fr	x			
Van Reet Lynn	Nl	x	x	x	x
Vandebeek Raymond	Nl	x	x	x	x
Vanneste Hadewich	Nl		x	x	x
Zaeytjdt Pierre	Fr	x	x		x

5.2 Elicitation working panel

Table 30 – Members of elicitation working group

Name	Language	Affiliation
Absil Simon	Fr	Université de Namur
Ballout Hanna	Fr	Société Scientifique de Médecine Générale
Barbut Christophe	Fr	Fédération des Associations de Médecins Généralistes de Bruxelles
Bastiaens Hilde	Nl	Universiteit Antwerpen
Belche Jean-Luc	Fr	Université de Liège
Bonelli Salvatore	Fr	ABSyM
Cardon Philippe	Fr	Université libre de Bruxelles
Danhieux Katrien	Nl	Universiteit Antwerpen
De Lepeleire Jan	Nl	Katholieke Universiteit Leuven
De Maeseneer Jan	Nl	Universiteit Gent
de Munck Paul	Fr	Groupe Belge des Omnipraticiens
Deudon Pierre-Louis	Fr	Fédération des Associations de Médecins Généralistes de Bruxelles
Devroey Dirk	Nl	Vrije Universiteit Brussel
Dheere Anthony	Nl	Domus Medica
Henrion Dominique	Fr	Université de Namur
Hoffman Peter	Nl	Domus Medica
Jamart Hubert	Fr	Université de Liège
Moreau Véronique	Fr	ABSyM
Raat Willen	Nl	Katholieke Universiteit Leuven
Teughels Stefan	Nl	Domus Medica
Thillaye du Boullay Didier	Fr	Ordre des Médecins



Van Olmen Josefien	NI	Universiteit Antwerpen
Vansintejan Johan	NI	Vrije Universiteit Brussels
Versmissen Joke	NI	Jong Domus
Willems Sarah	NI	Universiteit Gent

5.3 Brainstorming panel

Table 31 – Members of brainstorming panel

Name	Language	Affiliation
Ballout Hanna	Fr	Société Scientifique de Médecine Générale
Brouwers Jonas	Fr	Vlaamse planningscommissie medisch aanbod
Casimir Georges	Fr	Académie royale de Médecine de Belgique, Commission consultative de planification de l'offre médicale en Communauté française
Bonelli Salvatore	Fr	ABSyM
De Lepeleire Jan	NI	Katholieke Universiteit Leuven
De Maeseneer Jan	NI	Universiteit Gent
Devroey Dirk	NI	Vrije Universiteit Brussels, Flemish planningcommission
Raat Willem	NI	Katholieke Universiteit Leuven
Van Olmen Josefien	NI	Universiteit Antwerpen
Vansintejan Johan	NI	Vrije Universiteit Brussels
Van Trappen Sigrid	NI	Departement Zorg

Table 32 – Moderators

Name	Language	Affiliation
Nadia Benahmed	Fr	KCE
Jolyce Bourgeois	NI	KCE
Christelle Durand	Fr	Cellule Offre et Planification
Peter Jouck	NI	Cel Aanbod and Planning
Mélanie Lefèvre	Fr	KCE

6 ADDITIONAL FACTORS RETRIEVED DURING THE WORKSHOP 1 OF THE SCENARIO DEVELOPMENT

Table 33 – Additional factors suggested by participants

Supercluster	Cluster	Summary description
WORKFORCE	Inflow	(Sub-)quota general medical practice Impact of high-quality GP internships for all medical students Exposure to general practice internships during undergraduate medical training Exposure to GP-specific teaching during medical education
	Outflow	Degree of influence of the job's emotional impact Quiet quitting Alternative or aesthetic medicine <i>Extent to which GP training contributes to practitioner resilience</i>
	Attractiveness	Recognition and prestige compared to other specialities Limited attractiveness in terms of remuneration (GP vs specialist) and compared to other professions Promotion of work-life balance opportunities Top-down decisions by policy makers Development of competencies Climate of suspicion toward GPs Extent to which policy measures reveal a lack of trust in the clinical judgement of GPs (e.g. employer 'hotlines' to report sick leave) Politically controlling or suspicious climate towards doctors, leading to a lack of positive future prospects for the profession Rising patient expectations Context of reduced therapeutic freedom Pension conditions for GPs Impact of task shifting on the GP's sense of professional value and identity Impact of social media (with inaccurate health information) on the consultation process Impact of (withdrawal of) reimbursement for telephone or video consultations Proportion of unpaid activities in the GP's workload
WORK AND PRACTICE	Working hours	-
	Out-of-hours services	No triage during deep night shifts Flexibility, freedom, and transparency in the organisation of on-call services for GPs <i>Impact of centralising weekday on-call services</i> Extent to which daytime out-of-hours services are 'misused' by patients for non-urgent issues Relative underuse of night-time out-of-hours services (particularly during the late-night hours)



	Changes in type and organisation of practices	Belgian tradition of dominant hospital-centrism Impact of multidisciplinary even beyond direct practice Clarity and differentiation of roles and obligations across different types of GPs Degree of organisational freedom in the internal distribution of consultations and patient records (DMGs) within group practices
	Technological and digital solutions	AI Telemonitoring Teleconsultation Extent to which digital tools can support triage
PATIENTS	Evolution of patient population	Increasing or decreasing poverty levels (e.g. major impact on mental well-being) Political decision-making regarding socio-economic situation of citizens (e.g. limiting unemployment) Epidemiological impact of climate change Extent of overuse of care and lack of self-care among patients Extent of political action on non-medical health determinants (e.g. housing, nutrition policies) Greater emphasis on the value of prevention
THE SYSTEM AROUND THE GP PRACTICE	Task delegation	Political decision-making in healthcare (e.g. reinforcing silos in primary care regarding new tasks for pharmacists) Welcoming health centre Extent to which an administrator can support practice coordination Professional autonomy in task delegation and clarity in shared responsibilities Importance of longitudinal patient follow-up Social responsibility of the doctor: commitment to continuity of care for one's patient population Respect for practice diversity to reflect different patient needs and enrich care
	Impact of hospital-based and home care on GP practice	ONE practice (referring to child health centres in Belgium) MCC practice (referring to multidisciplinary community centres?) Accessibility of complementary and mental health care
	Indirect clinical activities	Relative share of administrative tasks (at the expense of patient contact) in the GP's work Extent to which administrative tasks from secondary care are shifted onto the GP
	New skills and competences	Recognition and implementation of holistic care Primary healthcare policy oriented toward prevention
	Joint triage with emergency services	-
	Regulation & Financing	Policies regarding support and development of prevention Policies regarding the care organisation at hospital and primary care Funding of primary care Policies regarding the non-medical determinants of health (housing, fooding policies...)

Policies regarding the collaboration between the primary care providers (e.g. GPs and pharmacists)

7 DELPHI PANEL

7.1 Specialty rate

Based on historical data and their own expertise, the elicitation group members were asked to estimate the value of the specialty rate in 2045 in the four scenarios. Results from the first round of the Delphi Panel are presented in Table 31.

Table 34 – Specialty rate: results from the first round of the Delphi Panel

	Median	Mode(s)	Average	Min	Max	N
Scenario A	42%	45%	39%	12%	55%	19
Scenario B	25%	25%	26%	5%	45%	18
Scenario C	20%	15%; 20%; 40%	25%	5%	45%	18
Scenario D	30%	35%	29%	10%	42%	18

In the second round, one value was suggested for scenario A (45%), scenario B (25%) and scenario D (30%). For scenario C, respondents had the possibility to select a value from four suggested values (15%; 20%; 25%; or 35%). These suggestions were based on the results from the first round (value provided by the respondents, but also their justifications and commentaries). Results from the second round are presented in Table 32. It was considered that no consensus was reached.

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. More than 70% of the respondents agreed that a unique national assumption was sufficient, therefore it was considered that a consensus was reached.

Table 35 – Specialty rate: results from the second round of the Delphi Panel

	Suggested value(s)	Agreement/selection	Consensus	N
Scenario A	45%	47%	No	17
Scenario B	25%	59%	No	17
Scenario C	15%	12%	No	17
	20%	24%	No	17
	25%	18%	No	17
	35%	41%	No	17
Scenario D	30%	61%	No	17
Unique national assumption		76%	Yes	17

In the third round of Delphi Panel, a comprehensive set of assumptions was presented to the respondents including a value for each scenario (scenario A: 40%; scenario B: 37%; scenario C: 35%; scenario D: 30%) and a reminder that a unique national assumption for each scenario was considered sufficient.

Results are presented in Table 33. The consensus was not reached for the complete set of assumptions, as only 63% of the respondents fully agreed with the suggested set of assumptions. However, when asked with which part they do not agree, it could be identified that a consensus was reached for the suggested values for scenarios A, C and D.

**Table 36 – Specialty rate: results from the third round of the Delphi Panel**

N=19	Suggested value	Agreement	Consensus
<i>Set of assumptions</i>		63%	No
<i>Scenario A</i>	40%	74%	Yes
<i>Scenario B</i>	37%	63%	No
<i>Scenario C</i>	35%	74%	Yes
<i>Scenario D</i>	30%	84%	Yes
<i>Unique national assumption</i>		Consensus round 2	

During the final workshop an alternative assumption was proposed for scenario B (40%). A consensus was reached on this new value. Participants were also asked whether the specialty rate is expected to evolve linearly between 2025 and 2045. Results from the workshop are presented in Table 34.

Table 37 – Specialty rate: results from the final workshop

	Suggested value	Agreement	Consensus	N
<i>Scenario A</i>	40%	74%	Consensus round 3	
<i>Scenario B</i>	40%	87%	Yes	8
<i>Scenario C</i>	35%	74%	Consensus round 3	
<i>Scenario D</i>	30%	84%	Consensus round 3	
<i>Unique national assumption</i>		76%	Consensus round 2	
<i>Linear trend</i>		83%	Yes	6

7.2 Repartition rate

Depending on the future organisation of care, a different share of professionally active GPs might drop out of the practising sector and chose to work in a non-practising sector. Using historical data and their own expertise, the elicitation group members were asked to estimate the value of the share of non-practising GPs in 2045 in the four scenarios. Results from the first round on the Delphi Panel are presented in Table 35.

Table 38 – Share of non-practising GPs: results from the first round of the Delphi Panel

	Median	Mode(s)	Average	Min	Max	N
<i>Scenario A</i>	17%	17%	17%	10%	30%	17
<i>Scenario B</i>	18%	15%	22%	10%	40%	17
<i>Scenario C</i>	22%	17%; 25%	24%	10%	50%	17
<i>Scenario D</i>	20%	20%	20%	10%	30%	17

In the second round, one value was suggested for scenario A (17%), scenario B (20%) and scenario D (20%). For scenario C, respondents had the possibility to select a value from three suggested values (17%; 22%; or 25%). These suggestions were based on the results from the first round (value provided by the respondents, but also their justifications and commentaries). Results from the second round are presented in Table 36. It was considered that no consensus was reached.

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. More than 70% of the respondents agreed that a unique national assumption was sufficient, therefore it was considered that a consensus was reached.

Table 39 – Share of non-practising GPs: results from the second round of the Delphi Panel

	Suggested value(s)	Agreement/selection	Consensus	N
<i>Scenario A</i>	17%	59%	No	17
<i>Scenario B</i>	20%	53%	No	17
<i>Scenario C</i>	17%	25%	No	16
	22%	38%	No	16
	25%	38%	No	16
<i>Scenario D</i>	20%	53%	No	17
<i>Unique national assumption</i>		72%	Yes	18

In the third round of Delphi Panel, a comprehensive set of assumptions was presented to the respondents including a value for each scenario (scenario A: 17%; scenarios B, C and D: 20%). Regarding the unique national assumption, 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 take into account historical differences between the Flemish and the French communities.

Results are presented in Table 37. The consensus was reached for the complete set of assumptions, as 76% of the respondents fully agreed with the suggested set of assumptions. When asked with which part they do not agree, it could be identified that a larger consensus was reached for the suggested values for scenarios A, D and C than for scenario B.

Table 40 – Share of non-practising GPs: results from the third round of the Delphi Panel

N=17	Suggested value	Agreement	Consensus
<i>Set of assumptions</i>		76%	Yes
<i>Scenario A</i>	17%	94%	Yes
<i>Scenario B</i>	20%	76%	Yes
<i>Scenario C</i>	20%	82%	Yes
<i>Scenario D</i>	20%	88%	Yes
<i>Unique national assumption</i>		72%	Consensus round 2 (but relevant in a further step to take into account historical differences between communities)

During the final workshop, participants were asked whether the share of non-practising GPs is expected to evolve linearly between 2025 and 2045 and a consensus was reached (100%, N=7).

7.3 Activity rate

Members of the elicitation group 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 first round⁹ of the Delphi Panel are presented in Table 38.

Table 41 – Activity rate: results from the first round of the Delphi Panel

	Median	Mode(s)	Average	Min	Max	N
<i>Scenario A</i>	-20%	-30%; -20%	-21%	-30%	0%	17
<i>Scenario B</i>	-20%	-10%	-21%	-50%	+10%	17
<i>Scenario C</i>	-20%	-20%	-23%	-50%	+10%	17

⁹ Because this element was identified during the elicitation process, the first round regarding this parameter took place in the second online survey.



Scenario D	-10%	-30%; -10%; 0%; +20%	-14%	-60%	+20%	15
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In the last round of Delphi Panel, a comprehensive set of assumptions was presented to the respondents including a value for each scenario (scenario A: -20%; scenario B: -20%, scenario C: -25%; scenario D: -30%). It was suggested that these decreases applied to the value observed in 2022 rather than 2025, to take into account recent trends. It was also suggested to apply these decreases separately to the value observed in each region of the country, to take into account historic differences between regions.

To make the interpretation easier, each assumption was also translated into an average number of hours per week dedicated to the “practising” activity, in a region where the starting point is 50 hours per week in 2022 (scenario A: 40 hours; scenario B: 40 hours; scenario C: 37.5 hours; scenario D: 35 hours).

Results are presented in Table 39. The consensus was reached for the complete set of assumptions, as 80% of the respondents fully agreed with the suggested set of assumptions. When asked with which part they do not agree, it could be identified that large consensus (minimum 87%) was reached for the each of the scenarios.

Table 42 – Activity rate: results from the second round of the Delphi Panel

N=15	Suggested value	Agreement	Consensus
<i>Set of assumptions (including “above decreases apply to the activity rate observed in each region in 2022)”) </i>		80%	Yes
Scenario A	-20%	93%	Yes
Scenario B	-20%	87%	Yes
Scenario C	-25%	93%	Yes
Scenario D	-30%	93%	Yes

During the final workshop, it was asked whether these decreases were likely to occur gradually until to 2045, or more sharply in the near future and then plateau. Results are presented in Table 40.

Table 43 – Activity rate: results from the final workshop

	Suggestion	Agreement	Consensus	N
Trend	Linear decrease between 2022 and 2032, then stable	67%	No	6
	Linear decrease between 2022 and 2045	56%	No	9

7.4 Need in terms of patient encounter

The elicitation group was presented with the PROMES-based projection results^h (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 of the scenarios.

Results from the first round on the Delphi Panel are presented in Table 41.

^h In the PROMES-based projection results presented to the elicitation group, due to a rounding difference, the variation in the number of contacts between 2025 and 2045 was estimated to be +42% (rather than +43% as in Table 15).

Table 44 – Number of contacts: results from the first round of the Delphi Panel

	Median	Mode(s)	Average	Min	Max	N
<i>Scenario A</i>	+41%	+30%; +50%	+40%	+20%	+70%	18
<i>Scenario B</i>	+35%	+20%	+32%	+5%	+55%	19
<i>Scenario C</i>	+40%	+40%	+34%	+5%	+60%	19
<i>Scenario D</i>	+40%	+35%; +40%; +42%	+42%	+15%	+90%	19

In the second round, one value was suggested for scenario C (+40%). For scenario A, B and D, respondents had the possibility to select a value from three suggested values (Scenario A: +30%; +40%; or +50%; scenario B: +20%; +35%; or +42%; scenario D: +35%; +40%; or +42%). These suggestions were based on the results from the first round (value provided by the respondents, but also their justifications and commentaries). Results from the second round are presented in Table 42. It was considered that no consensus was reached. During the second round, respondents were also asked whether a unique national assumption was sufficient for this parameter. No consensus was reached for that question either.

Table 45 – Number of contacts: results from the second round of the Delphi Panel

	Suggested value(s)	Agreement/selection	Consensus	N
<i>Scenario A</i>	+30%	38%	No	16
	+40%	32%	No	16
	+50%	13%	No	16
<i>Scenario B</i>	+20%	40%	No	15
	+35%	27%	No	15
	+42%	20%	No	15
<i>Scenario C</i>	+40%	56%	No	16
<i>Scenario D</i>	+35%	0%	No	16
	+40%	25%	No	16
	+42%	50%	No	16
<i>Unique national assumption</i>		58%	No	19

In the third round of Delphi Panel, a comprehensive set of assumptions was presented to the respondents. In that set, assumptions were presented in the form of a deviation to the projections that only take into account population characteristics (see figure x). In scenario A, it was suggested that the variation in the number of contacts between 2025 and 2045 is decreased by 5%. If one considered the PROMES-based projection as starting point, this would mean an increase in the number of contacts of 40% (compared to 42% in the PROMES-based projection). In scenario B, the suggestion was a decrease of 50% compared to the projections (e.g. +21% instead of +42%). In scenario C, the suggested assumption stated a decrease of 25% compared to the projections (e.g. +31.5% instead of +42%). In scenario D, an increase of 5% was suggested (e.g. +44% instead of +42%). It was also proposed to regional projections rather than a unique national projection.

Results are presented in Table 43. The consensus was not reached for the complete set of assumptions, as only 67% of the respondents fully agreed with the suggested set of assumptions. When asked with which part they do not agree, it could be identified that a consensus was reached for the for scenarios A, C and D but not for scenario B.

**Table 46 – Number of contacts: results from the third round of the Delphi Panel**

N=12	Suggested value	Agreement	Consensus
<i>Set of assumptions</i>		67%	No
<i>Scenario A</i>	-5% with respect to projected increase	83%	Yes
<i>Scenario B</i>	-50% with respect to projected increase	67%	No
<i>Scenario C</i>	-25% with respect to projected increase	75%	Yes
<i>Scenario D</i>	+5% with respect to projected increase	83%	Yes
<i>Differentiation per region</i>		Projection models at the regional level (see report)	

During the final workshop a new suggestion (-30%) was made for scenario B. No consensus was reached on this new suggestion (agreement 44%, N=9). After discussion, to ensure consistency between scenarios, participants suggested to change the value also for scenario C, despite the previous consensus for that scenario. Results from the workshop are presented in Table 44.

Table 47 – Number of contacts: results from the final workshop

	Suggested value	Agreement	Consensus	N
<i>Scenario A</i>	-5% with respect to projected increase	83%	Consensus round 3	
<i>Scenario B</i>	-20% with respect to projected increase	88%	Yes	8
<i>Scenario C</i>	-15% with respect to projected increase			
<i>Scenario D</i>	+5% with respect to projected increase	83%	Consensus round 3	

7.5 Need in terms of other professional tasks

The elicitation group was asked to estimate, for each scenario, the average time spent in 2045 by general practitioners on professional tasks other than consultations, teleconsultations and visits. Results from the first round on the Delphi Panel are presented in Table 45.

Table 48 – Other tasks: results from the first round of the Delphi Panel

	Median	Mode(s)	Average	Min	Max	N
<i>Scenario A</i>	12	10	13	5	26	19
<i>Scenario B</i>	20	20	20	8	40	19
<i>Scenario C</i>	23	30	24	10	40	18
<i>Scenario D</i>	15	15	16	9	25	19

In the second round, one value was suggested for scenario A (10 hours) and scenario D (15 hours). For scenario B, respondents had the possibility to select a value from three suggested values (15, 20 or 25 hours) and for scenario C between four suggested values (15, 20, 25 or 30 hours). These suggestions were based on the results from the first round (value provided by the respondents, but also their justifications and commentaries). Results from the second round are presented in Table 46. It was considered that a consensus was reached for scenario D as 80% of the respondents agreed with the suggested value.

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. More than 70% of the respondents agreed that a unique national assumption was sufficient, therefore it was considered that a consensus was reached.

Table 49 – Other tasks: results from the second round of the Delphi Panel

	Suggested value(s)	Agreement/selection	Consensus	N
<i>Scenario A</i>	10	44%	No	16
<i>Scenario B</i>	15	19%	No	16
	20	63%	No	16
	25	13%	No	16
<i>Scenario C</i>	15	25%	No	16
	20	31%	No	16
	25	31%	No	16
	30	13%	No	16
<i>Scenario D</i>	15	80%	Yes	15
<i>Unique national assumption</i>		74%	Yes	19

In the third round of Delphi Panel, a comprehensive set of assumptions was presented to the respondents including a value for each scenario (scenario A: 13 hours; scenario B: 20 hours; scenario C: 22 hours; scenario D: 15 hours) and a reminder that a unique national assumption for each scenario was considered sufficient.

Results are presented in Table 47. The consensus was reached for the complete set of assumptions, as 94% of the respondents fully agreed with the suggested set of assumptions.

Table 50 – Other tasks: results from the third round of the Delphi Panel

N=16	Suggested value(s)	Agreement	Consensus
<i>Set of assumptions</i>		94%	Yes
<i>Scenario A</i>	13 hours per week	94%	Yes
<i>Scenario B</i>	20 hours per week	94%	Yes
<i>Scenario C</i>	22 hours per week	94%	Yes
<i>Scenario D</i>	15 hours per week	94%	Yes
<i>Unique national assumption</i>		74%	Consensus round 2

During the final workshop, participants were asked whether the time dedicated to other tasks is expected to evolve linearly between 2025 and 2045 and a consensus was reached (83%, N=6).



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