

Health Professionals Report : Capacity, Accessibility and Production

Specialty of Interest: Nuclear Medicine Specialist

Authors : P. Meeus, A. Khalil, S. De Pril, K. Declercq, K. Daïnou, V. Maton

Contents
Introduction
Specialty Metrics and Comparison
Geographical Accessibility
Financial Accessibility
Continuous Professional Development
Activity Level, Working Place and Composition
Subspecialties Activity and Working Place
Accessibility, Insured Coverage
Accessibility, Insured Frequentation
Patient Frequentation
Frequentation Complementarity
Workload
Evolution of the Workforce Demography
Demographic Evolution by Age Group
Annex 1 : FTE Details
Annex 2 : Types of Practice



INAMI-RIZIV

Introduction

Introduction

This report provides a comprehensive overview per healthcare specialty working within the Belgian health insurance system, within hospital and ambulatory settings.

Professional perspective:

 Aspects covered are: capacity, production (numbers and financials), subspecialties, replacement rates. Those aspects are described by gender, age, geography, type of activity, workplace, evolution.

Patient perspective:

• Accessibility and frequentation are described by gender, age, social status, geographical distribution, evolution.

Data Sources & Transformations

This report draws insights from the "Doc P" database, encompassing patients who sought care in Belgium and claimed insurance reimbursement. The database spans from accounting years:

- 2013 to 2023 for health professionals
- 2018 to 2023 for health professionals subspecialties
- 2018 to 2022 for insured coverage and patient frequentation

Each studied year N is coupled with socio-demographic data on providers as of December 31 N.

To address GDPR (General Data Protection Regulation) compliance for small cell data, numbers from fewer than 5 registered providers are hidden.

Contact

 $\underline{appropriate care@riziv-inami.fgov.be}$

Additional information

For official information regarding the number of healthcare providers :

NIHDI : please click <u>FR | NL</u>
 MOH : please click <u>FR | NL</u>

Key Variables & Metrics

Healthcare professional perspective (specialty is determined by grouping <u>NIHDI competency codes</u>):

- <u>Demographic characteristics</u> are age (groups by 10Y), sex (M/F), working address (or contact address if not available), communication language (Dutch/French), convention status (full, partly), activity status (>1 intervention/year), type of prestation (see <u>NIHDI</u> nomenclature).
- <u>Numeric characteristics</u> are number of professionals (all providers registered within INAMI-RIZIV), number and cost of (reimbursed) prestations. Evolution is available since 2012 for professionals figures and since 2018 for the study of their activity.
- <u>FTE (full-time equivalent)</u> is calculated to determine the workload of a healthcare provider (= total reimbursements by provider in a given year divided by the median amount of reimbursements for providers aged 45 to 54 in the same specialty, see Annex 1). FTE values are capped at 1. The FTE for employed doctors in medical homes (lump sum financing) was estimated at 0.82 per doctor because the actual FTE cannot be evaluated given the absence of activity registration. Medical homes with lumpsum are not included in the productivity calculation. General practitioners with "Fee for Service" in the title specifies that doctors and patients in medical homes with lumpsum are excluded from the analysis. Weighted conventioned FTE refers to the adjusted calculation where FTEs for partially conventioned providers are multiplied by 0,5.
- Working place: distinction is made between private, polyclinic, day hospitals, or hospital stays, depending on the place of prestation.
- <u>Subspecialty Clusters</u>: Healthcare providers within a specialty can be clustered based on ([sub] group of similar) nomenclature codes reimbursed or working place.
- Indicators of Density: FTE/10.000 insured, total activity/FTE, reimbursement/FTE, number of patients/FTE.

Patient perspective:

- <u>Demographic characteristics</u> are age, sex (M/F), address of residence (not treatment place!) (by region, province, etc.), social status (normal and preferential regime [BIM])), type of specialty contacted during the year.
- <u>Patients Indicators</u>: insured coverage (% at least 1 contact) (N.B. Specialists in training included), insured frequentation (number of contacts/insured), patient frequentation (number contacts/patient).

A KPI (Key Performance Indicator) color system is used in this report. It is shown as

- Grey for contextual information
- Green for positive performance compared to starting year
- Red for negative performance compared to starting year

Limitations & Assumptions

- Professional density: metrics in this report were not standardized to a consistent population size, which means comparisons between regions or provinces may not be entirely fair or accurate.
- Patient analysis uses actual care years, not accounting years, unlike other analyses. If the analysis year is N, the last available year for patient analysis is N-1 in order to present relevant data.
- The calculation of FTEs may be impacted by modifications of competency codes over the years. A change within a specialty affects the median of reimbursements and thus generates breaks in the evolution of FTEs (see the recognition of nephrologists since 2022 for internal medicine). The median value changes depending on the year (see Annex 1).



Speciality Metrics and Comparison (2023): Nuclear Medicine Specialist

This sheet compares the specialty of interest (left) with comparison group (right).

Nuclear	Medicine S	pecialist
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Competency Code	Description
10970	Nuclear Medicine Specialists
10978	Nuclear Medicine and Gynecology-Obstetrics Specialists
10983	Nuclear Medicine and Internal Medicine Specialists with a special professional title in Endocrinology-Diabetology
10985	Nuclear Medicine and Internal Medicine Specialists
10988	Nuclear Medicine and Pediatric Specialists
10994	Nuclear Medicine and Radiodiagnostic Specialists
10996	Nuclear Medicine and Internal Medicine Specialists with recognition in functional and professional rehabilitation for the disabled

	Nuclear Medicine Specialist	Diagnostic Internal Pathology	
# N SubSpecialities	1	5	
# N Total	331	3,745	
# N Active	254	2,771	
# Full-Time Equivalent (FTE)	179	1,929	
€ Expenses per FTE	799,250	1,161,320	
65+	% Active % FTE 15% 6%	% Active % FTE 16% 8%	
	% Active % FTE	% Active % FTE	
Convention	93% 94%	74% 70%	
Weighted Convention	92% 93%	72% 68%	
Accreditation	87% 96%	85% 94%	

Diagnostic Internal Pathology

Profession

Anatomic Pathologist Clinical Geneticist Medical Biologist Nuclear Medicine Specialist Radiologist

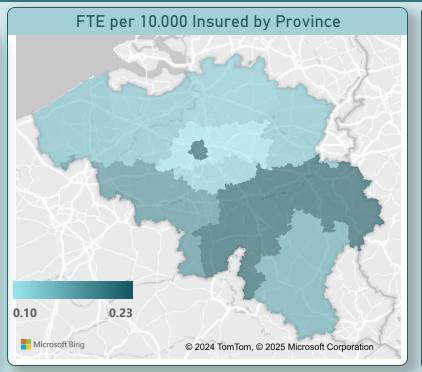


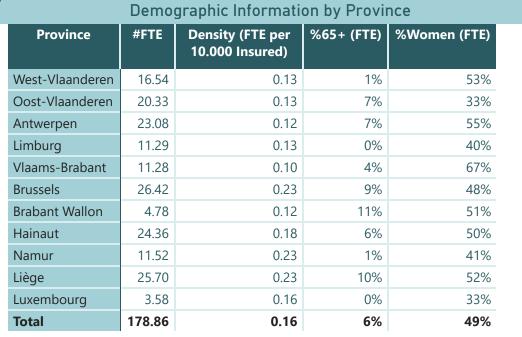
Geographical Accessibility (2023): Nuclear Medicine Specialist

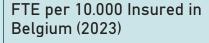
Geographical accessibility is measured by density, calculated as the number of FTE (Full Time Equivalent) per 10.000 insured and comparing the results between provinces and regions. Metrics in this report were not standardized to a consistent population size.

<u>Indicators</u>:

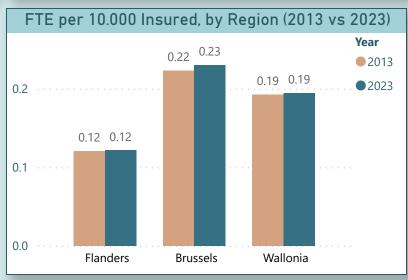
- Geographical distribution which enables to check for homogeneity.
- Evolution over 10 years and growth rate within that period.
- Comparison of number of FTE and number of insured to detect correlation.

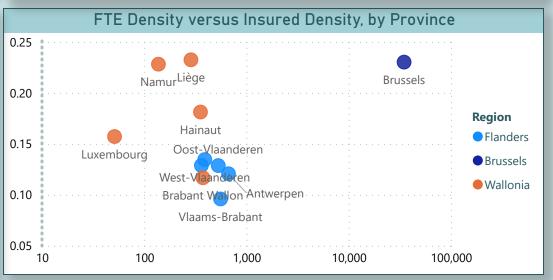






0.16 2013: 0.15 (+0.85%)







Financial Accessibility (2023): Nuclear Medicine Specialist

Financial accessibility is measured by the number of weighted conventioned FTE (Full time equivalent) by 10.000 insured. Weighted conventioned FTE refers to the adjusted calculation where FTEs for partially conventioned providers are multiplied by 0,5.

Convention means that the professional is committed to respect prices determined in the NIHDI convention. This agreement can occur partly (at specific hours during the week) or totally (all the working hours). The conventioned FTE for partially conventioned providers is calculated as half of their total FTE.

Indicators :% FTE meeting the criteria / total FTE

• Financial accessibility is gauged by weighted conventioned FTE (Full Time Equivalent) per 10.000 insured.

% Weighted Conventioned FTE (2023)

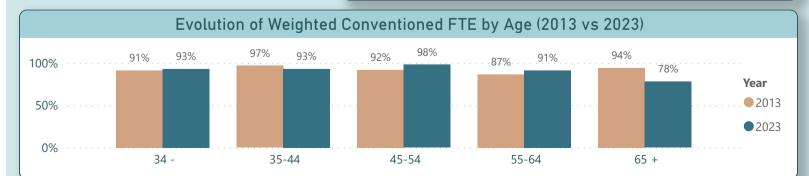
93% (+0.71%)

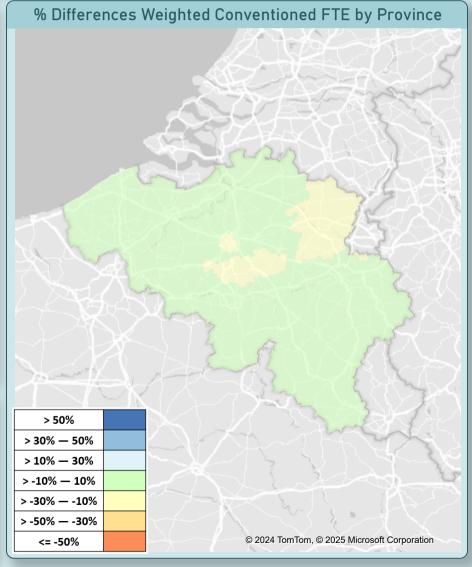
% Conventioned FTE by Language and Regime

Language	Part	Full	Total	Weighted
FR	1%	89%	92%	91%
NL	1%	95%	96%	95%
Total	1%	92%	94%	93%

Demographic information by Province					
Province	Density (FTE per 10.000 Insured)	Density (Weighted Conventioned FTE per 10.000 Insured)	% Weighted Conventioned FTE		
West-Vlaanderen	0.13	0.13	100%		
Oost-Vlaanderen	0.13	0.13	100%		
Antwerpen	0.12	0.12	100%		
Limburg	0.13	0.09	68%		
Vlaams-Brabant	0.10	0.10	100%		
Brussels	0.23	0.18	76%		
Brabant Wallon	0.12	0.08	70%		
Hainaut	0.18	0.18	100%		
Namur	0.23	0.22	95%		
Liège	0.23	0.23	97%		
Luxembourg	0.16	0.16	100%		
Total	0.16	0.14	93%		

Demographic Information by Province







Continuous Professional Development (2023): Nuclear Medicine Specialist

CPD (continuous professional development) is measured by accreditation criteria.

Accreditation means that the professional meets several CPD (continuous professional development) criteria (which indicates the will for quality of care).

Indicator:

• % FTE meeting the criteria / total FTE

% Accredited FTE (2023)

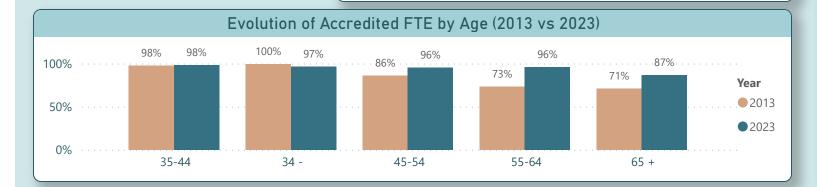
96%
2013: 87% (+10.23%)

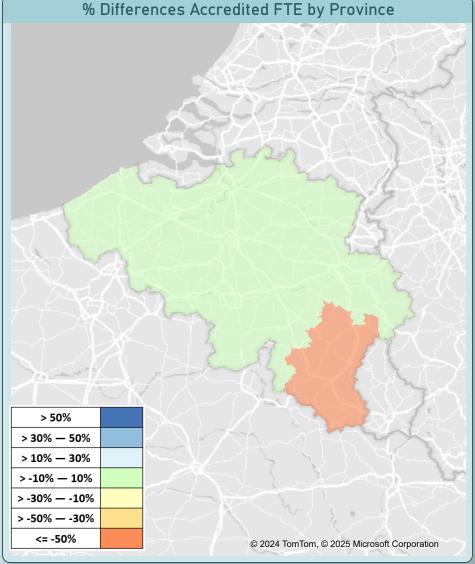
% Accredited FTE by Language and Gender

Language	F	М	Total
FR	96%	90%	93%
NL	100%	98%	99%
Total	98%	94%	96%

Demographic	Information	by Province
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Province	Density (FTE per 10.000 Insured)	Density (Accredited FTE per 10.000 Insured)	% Accredited FTE
West-Vlaanderen	0.13	0.13	100%
Oost-Vlaanderen	0.13	0.13	100%
Antwerpen	0.12	0.12	96%
Limburg	0.13	0.13	100%
Vlaams-Brabant	0.10	0.09	96%
Brussels	0.23	0.23	98%
Brabant Wallon	0.12	0.11	96%
Hainaut	0.18	0.18	100%
Namur	0.23	0.23	99%
Liège	0.23	0.21	88%
Luxembourg	0.16	0.07	45%
Total	0.16	0.15	96%







Subspecialties Activity and Working Place: Nuclear Medicine Specialist

Reimbursement by FTE (2023)

799,716 2018: 655,958 (+21.92%)

The level of activity is measured by the total reimbursement amount of the specialty. The distribution of the reimbursement by specialty allows to distinguish different types of activity which are grouped to study what kind of procedures are done and where. The type of activity is described by 2 criteria: the place of work and the nature of the activity:

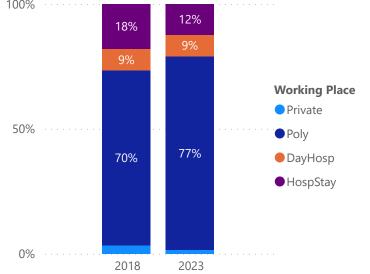
- The place of work is the place where the activity takes place (private, polyclinic, day hospital, hospital stay).
- The nature of the activity is described according to 2 logics of grouping. The traditional distribution of reimbursements within NIHDI (N01 contacts, N20 surgery, etc.) and a specific, more detailed breakdown to identify sub-specialties within the specialty (i.e. cardiac surgery within surgery).

Indicators:

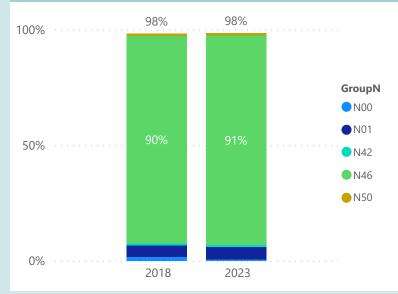
- Reimbursement (in Euros) / FTE
- % Reimbursement (in Euros) by category / total reimbursement (in Euros)

The evolution provides information on the stability of the patterns of the activity comparing year N with N-5.

Reimbursement by Working Place (2018 vs 2023)



Top 5 Reimbursement (NIHDI Groups, 2018 vs 2023)



Top 5 Reimbursement (Specific Groups, 2018 vs 2023)



GroupN	Description
N00	Supervision of hospitalized beneficiaries
N01	Consultations visits and medical advices
N42	Gastroenterology
N46	Nuclear medicine in vivo
N50	X-ray diagnosis

GroupA	Description
CONS_CONSULTAT	Consultation
CONS_SURVEILLA	Monitoring
IM_PETXSCAN	Pet-Scan
IM_SCINTIXSPEC	Scintigraphy
PRESTATIONS_TE	Technic prest.

Subspecialties Activity and Working Place (2023): Nuclear Medicine Specialist

Subspecialties are identified by the working place and/or type of activity (see previous page): the assignment of a health care provider to a sub-specialty prioritizes the type of activity exercised. In general, the type of activity with the most reimbursements, if the amount exceeds 10% of reimbursements in all types of activity, determines the specialty of the health care provider. If no particular activity was identified for the specialty, the assignment was done on the criterium of the workplace: hospital, polyclinic, private. If there is no clear distinction between the different locations, then the cluster is named "Mixed". Clusters less than 5 FTE or less than 0,5% of total FTE are left out. Comparison of clusters helps to understand differences in nature of work.

Indicators:

- % FTE by type of cluster
- % type of activity (in Euro) / total reimbursement (in euro) by cluster

Reimbursement by Working Place Top 5 NIHDI Groups Top 5 Specific Groups FTE and median Reimbursement by Subspecialty NIHDI Group **Specific Group Working Place** FTE Reimb per Provider CONS_CONSULTAT ●N01 Private Pet-Scan 13 410,009 CONS_SURVEILLA ●N13 Scintigraphy 162 660,950 77% 68% 100% IM_PETXSCAN 99% N42 DayHosp ●IM SCINTIXSPEC N46 HospStay PRESTATIONS TE N50 Reimbursement by Working Place, by Subspecialty Top NIHDI Groups by Subspecialty Top Specific Groups by Subspecialty 49% 37% 14% 33% Pet-Scan 99% N01 Pet-Scan Pet-Scan 100% CONS_CONSULTAT Private OCONS SURVEILLA ●N13 **N**42 IM_PETXSCAN DayHosp ●IM SCINTIXSPEC **N**46 HospStay 100% N50 100% PRESTATIONS_TE 81% 12% 74% Scintigraphy Scintigraphy Scintig.

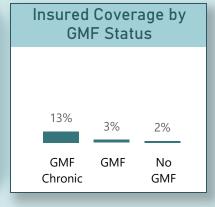
Accessibility, Insured Coverage (2022): Nuclear Medicine Specialist

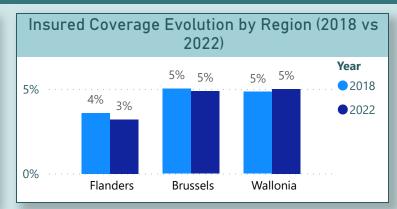
Disparities in insured coverage can help to understand accessibility.

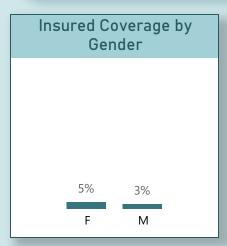
Indicator:

• Percentage of insured persons having at least one contact per year with the specialty (by category of patient) (N.B. Specialists in training included)

Comparison between categories of patients helps to identify possible disparities in accessibility by criterium (gender, age group, geography or socio-economic status, Global Medical File (GMF) status).









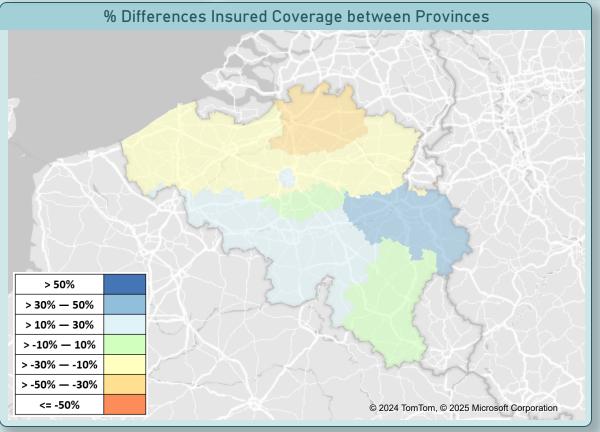
Insured Coverage (2022)
4 % !
2018: 4% (-4.78%)

Ratio Female/Male (2022)

1.43 2018: 1.51 (-5.23%)

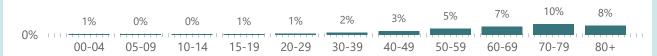
Ratio Bim/Standard (2022)

2018: 1.44 (+6.21%)



Insured Coverage by Age of Patients

50%





Accessibility, Contacts per Insured (2022): Nuclear Medicine Specialist

Number of contacts per insured is a complementary measure to understand accessibility.

<u>Indicator</u>: number of contacts (by category of insured) is respectively calculated

- per insured
- per patient (insured who at least has one contact with health provider)

Categories of insured are defined by several criteria: gender, social status, age group, residence geography.

Contacts per Insured (2022)

U.U O 2018: 0.06 (-3.15%)

Age Patient

Insured Coverage (2022)

2018: 4% (-1.34%)

Contacts per Insured Insured Coverage Contacts per Patient

Contacts per Patient (2022)

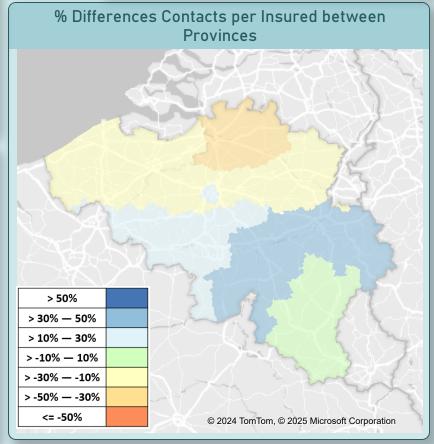
2018: 1.40 (-1.84%)

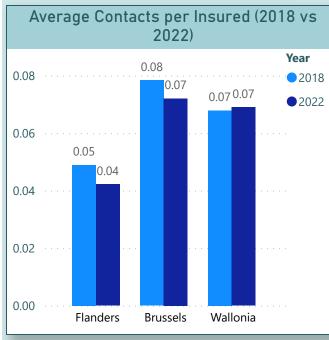
	9	Status (2018 vs	2022)		
	0.08		ear 2018			
	0.06		0.05	05	2022	
	0.04 · · · · · · · ·					
	0.02					
	0.00	BIM	Standa	ard		
Differences Contacts per Insured between						

Average Contacts per Insured by Social

ш				
	00-04	0.01	1%	1.16
	05-09	0.00	0%	1.11
	10-14	0.00	0%	1.14
	15-19	0.01	1%	1.15
	20-29	0.01	1%	1.19
	30-39	0.03	2%	1.23
	40-49	0.04	3%	1.28
	50-59	0.07	5%	1.33
	60-69	0.10	7%	1.43
	70-79	0.14	10%	1.47
	80+	0.11	8%	1.37

		Aldric .			
0.08	Year	Province	Contacts per Insured	Insured Coverage	Contacts per Patient
0.07	2018	West-Vlaanderen	0.04	3%	1.30
0.07	●2022	Oost-Vlaanderen	0.05	4%	1.34
		Antwerpen	0.04	3%	1.28
		Limburg	0.04	3%	1.34
		Vlaams-Brabant	0.05	3%	1.36
		Brussels	0.07	5%	1.48
		Brabant Wallon	0.06	5%	1.41
		Hainaut	0.07	5%	1.37
		Namur	0.07	5%	1.43
		Liège	0.07	5%	1.37
Pruseele Mellerie		Luxembourg	0.06	4%	1.28
Brussels Wallonia			'		





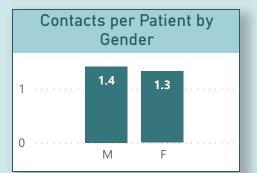


Patient Frequentation (2022): Nuclear Medicine Specialist

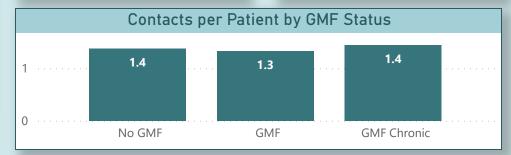
Frequentation of patients (number of contacts) is a measure to understand health consumption and workload.

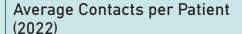
<u>Indicator</u>: number of contacts (by patient category) is calculated per patient (insured who at least has one contact with a health provider).

Categories of patients are defined by several criteria: gender, social status, age group, residence geography, GMF (Global Medical File) Status.









1.38 2018: 1.40 (-1.84%)

Average Providers per Patient (2022)

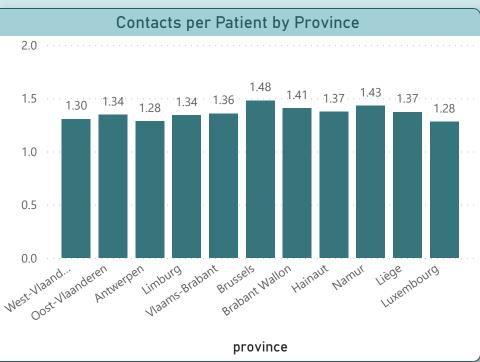
2018: 1.2 (+2.23%)

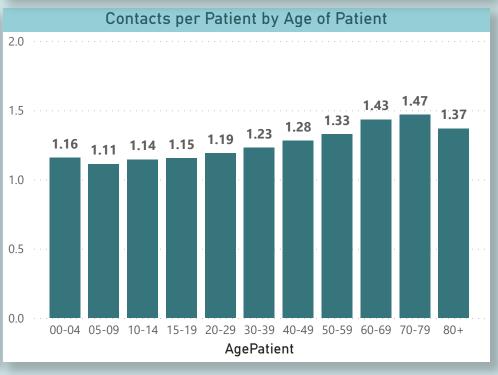
Average Age of Contacts (2022)

60.5 2018: 60.5 (-0.01%)

Average Age of Patients (2022)

59.4 2018: 59.1 (+0.58%)





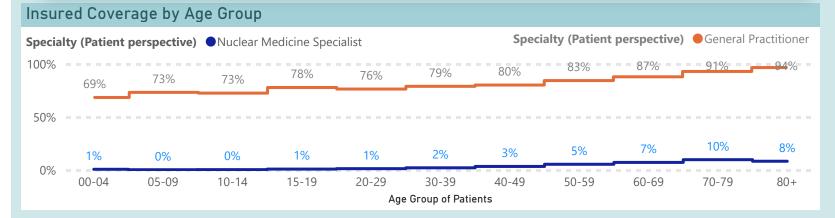


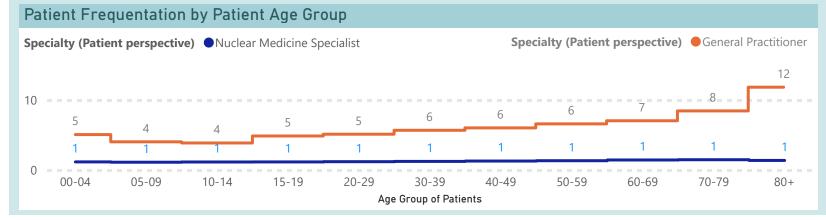
Complementarity with comparison group (2022): Nuclear Medicine Specialist

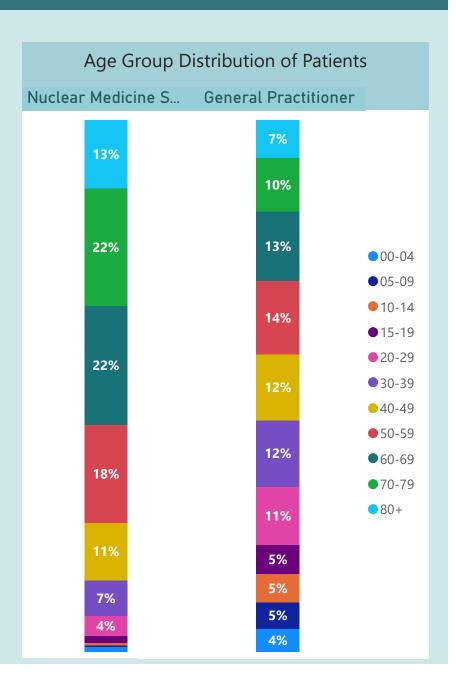
Complementarity compares on the one side insured coverage and on the other side patient frequentation (contacts per patient).

Indicators:

- Insured coverage
- Patient frequentation (contacts per patient)









Workload (2022): Nuclear Medicine Specialist

Workload by specialty provides insight into the work volume per year of the specialty by FTE and the patient base population (Individual patients are allocated to one single professional per specialty per year to build the patient base population for each single professional (age, language, gender, work address, convention status, accreditation)

Indicators:

- Workload : contacts / FTE
- Patient base population: Patients / FTE
- Contacts per patient per provider

Limitation: working address of health professionals can be different than the location of patients. This can explain differences in workload results (contact/FTE, patients/FTE) and lead to misinterpretation for geographical criteria (province) especially for small numbers of working professionals. Also if the number of FTE by cell is inferior to 5, contacts per FTE and patients per FTE are hidden.

Average Contacts per FTE (2022)

3,294 2018: 3620 (-9.01%)

Average Patients per FTE (2022)

2,414 2018: 2580 (-6.44%)

Average Contacts per Patient and Provider (2022)

2018: 1.2 (-5.72%)

Province	Contacts per FTE	Patients Per FTE	Contacts per Patient and Provider
West-Vlaanderen	3,233	2,461	1.1
Oost-Vlaanderen	3,675	2,743	1.1
Antwerpen	2,977	2,339	1.1
Limburg	2,831	2,134	1.1
Vlaams-Brabant	3,044	2,274	1.1
Brussels	2,929	2,004	1.1
Brabant Wallon	4,541	3,186	1.2
Hainaut	2,887	2,121	1.1
Namur	3,545	2,475	1.2
Liège	4,302	3,062	1.2
Luxembourg	2,110	1,762	1.1

Age Class	Contacts per FTE	Patients Per FTE	Contacts per Patient and Provider
34 -	2,865	2,125	1.1
35-44	3,066	2,254	1.1
45-54	3,166	2,339	1.1
55-64	3,496	2,585	1.1
65 +	4,688	3,068	1.3

Gender	Contacts per FTE	Patients Per FTE	Contacts per Patient and Provider
F	3,171	2,351	1.1
М	3,407	2,472	1.1

Language	Contacts per FTE	Patients Per FTE	Contacts per Patient and Provider
FR	3,398	2,430	1.2
NL	3,187	2,398	1.1

Convention	Contacts per FTE	Patients Per FTE	Contacts per Patient and Provider
Full	3,263	2,407	1.1
No	3,905	2,650	1.2
Partial	3,004	2,065	1.3

Accredited	Contacts per FTE	Patients Per FTE	Contacts per Patient and Provider
No	6,855	4,750	1.2
Yes	3,155	2,323	1.1



Evolution of the Workforce Demography: Nuclear Medicine Specialist

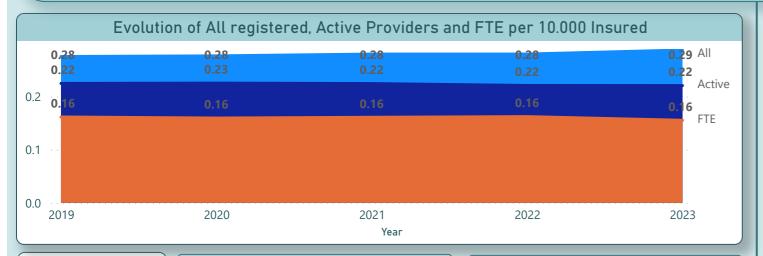
Healthcare workforce demographics present active professionals having more than one activity per year on the <u>left side</u> of the page, while Full-Time Equivalents (FTE) are displayed on the <u>right side</u>. The analysis spans the past decade and is segmented by professional characteristics such as age class, gender, and language.

Active indicators (Left):

- Number of Actives (>1 prestation /accounting year) and its % growth rate over the past 5 years.
- Replacement Rate: Active professionals above 55 years compared to those below 55 years.
- Inactivity: % of inactive professionals in relation to the total.

FTE indicators (Right):

- Equal proportion of gender: Indicates the percentage of female FTE in relation to the total FTE.
- Average FTE: Indicates the level of activity by dividing the FTE below 65 years with the total active workforce.





-0.7%

% Growth Rate of NL Active Providers

1.1%

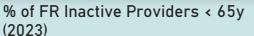
Replacement Rate FR (Active under 55 by 55+) (2023)

0.99
2019: 0.91 (+8.85%)

Replacement Rate NL (Active under 55 by 55+) (2023)

1.54

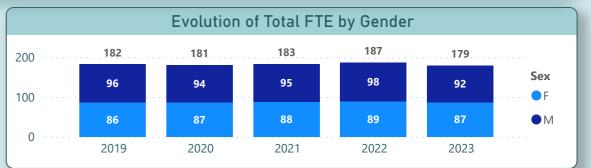
2019: 2.50 (-38.26%)

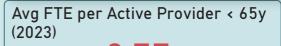


12% 2019: 9% (+31.27%)

% of NL Inactive Providers < 65y (2023)

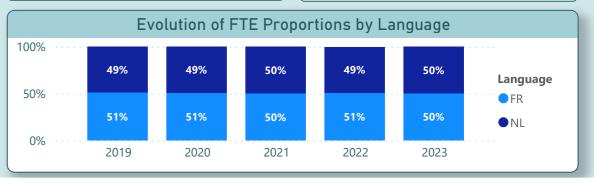
12% 2019: 9% (+31.69%)





U. / / ! 2019: 0.80 (-2.77%)

% Female among total FTE (2023)
49%
2019: 47% (+2.2%)



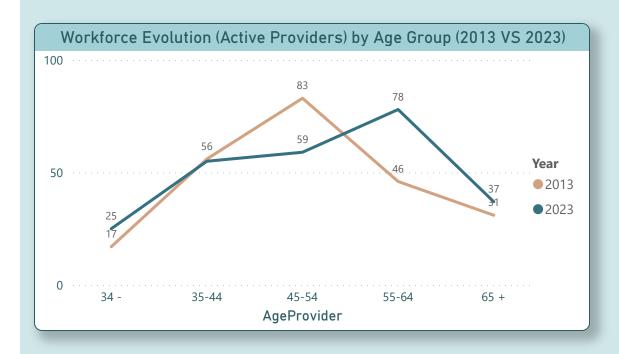


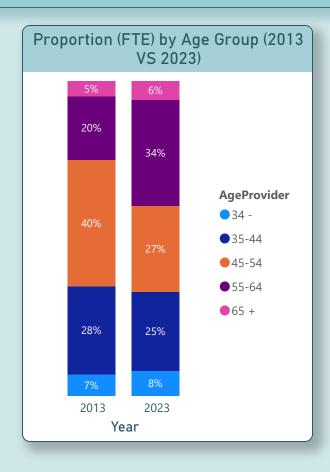
Demographic Evolution by Age Group (2023): Nuclear Medicine Specialist

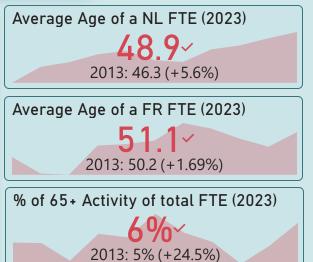
Demographic evolution by age group and activity of professionals above 65 years (provides information on the demographic stability).

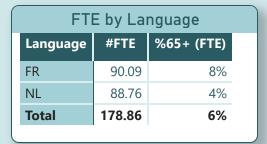
Indicators:

- Trend in age group distribution (active/FTE),
- Age FTE: average of a professional's age weighted by its corresponding Full-Time Equivalent (FTE) value, by language of the provider.
- Contribution of older practitioners to the overall activity: % 65+ FTE/ Total FTE











Annex 1: FTE Details (2023): Nuclear Medicine Specialist

FTE (full-time equivalent) is calculated to determine the workload of a healthcare provider (= total reimbursements by provider in a given year divided by the median of reimbursements for providers aged 45 to 54 in the same specialty).

The median amount of reimbursement for providers aged 45 to 54 is calculated each year. Evolution is not adjusted for inflation.

FTE values are capped at 1. See the comparison per active provider by sex, language and age group.

N.B. The FTE for employed doctors in medical homes (lump sum financing) was estimated at 0,82 per doctor because the actual FTE cannot be evaluated given the absence of activity registration.

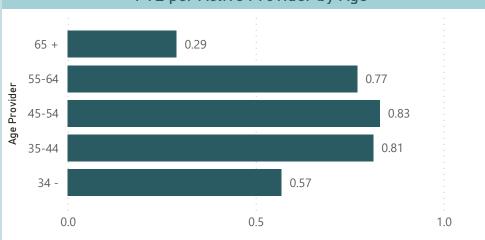
Avg FTE per Active Provider (2023)

0.70 2013: 0.73 (-3.58%)

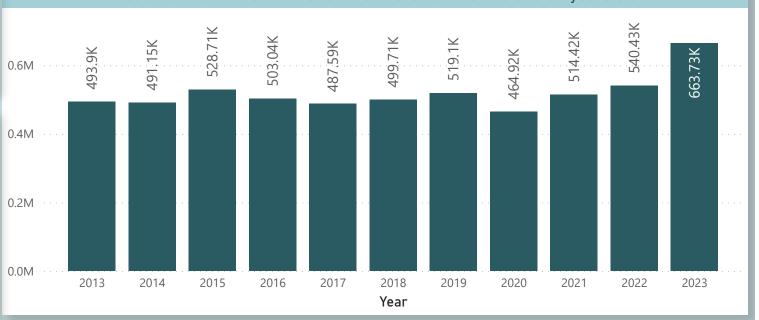
Avg FTE per Active Provider by Language and Gender

Language	F	M	Total
FR	0.69	0.63	0.66
NL	0.81	0.72	0.76
Total	0.74	0.67	0.70

FTE per Active Provider by Age



Median of Reimbursements for Providers between 45 and 54 years old





Annex 2: Type of Practice (2023): Nuclear Medicine Specialist

Type of practice (FTE) by age group and region. Evolution and trends

5 types of practices are represented:

- Nursing home: represents care facilities for the elderly or individuals requiring psychiatric care.
- Group: represents collective practices or facilities where professionals work together (ex: medical house with lumpsum, mental health center, day care center, public pharmacies, medical laboratories, bandagist/orthopedist workshops, physiotherapy office).
- Hospital: represents hospitals or medical establishments (ex: general hospitals, psychiatric hospitals, hospital pharmacies)
- Solo: represents individual practitioners or private addresses.
- Other: represents facilities or organizations not falling into the above categories (ex: tariff office, organizations with a registered business number)

N.B. Not Available (NA) values are decreasing over time as the database becomes increasingly complete.

