

Health Professionals Report : Capacity, Accessibility and Production

### Specialty of Interest : Internal Medicine and Nephrology

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	Contents	
	Introduction	
Speci	alty Metrics and Comparison	
	<b>Geographical Accessibility</b>	
	<b>Financial Accessibility</b>	
Continuo	us Professional Development	
Activity Level, Wo	rking Place and Composition	
Subspecialtie	s Activity and Working Place	
Ac	cessibility, Insured Coverage	
Access	ibility, Insured Frequentation	
	<b>Patient Frequentation</b>	
Fre	quentation Complementarity	
	Workload	
Evolution o	f the Workforce Demography	
Demogra	phic Evolution by Age Group	
	Annex 1 : FTE Details	
	Annex 2 : Types of Practice	



### 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

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### **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> <u>nomenclature</u>).
- <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).



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

			Internal Medicine and Nephrol	Internal Pathology	
Inte	ernal Medicine and Nephrology				Internal Pathology
Competency Code	Description	# N SubSpecialities	1	13	Profession Cardiologist
10580	Internal Medicine Specialists	# N Total	1 500	0.0//	Dermatologist
10584	Internal Medicine Specialists with recognition in functional and professional rehabilitation for the disabled		1,500	9,346	Endocrinologist Gastroenterologist General Internal
10589	Internal Medicine Specialists with a special professional title in Emergency Medicine	# N Active	999	7,538	Medicine Geriatrician
10590	Internal Medicine and Nephrology Specialists				Hematologist
10600	Internal Medicine Specialists with a special professional title in Endocrinology-Diabetology & Nephrology	# Full-Time Equivalent (FTE)	630	5,194	Medical Oncologist Neurologist
10601	Internal Medicine and Clinical Genetics Specialists with a special professional title in Nephrology	€ Expenses per FTE	515,946	427,666	Physical Medicine Pulmonologist Radiotherapist
10602	Internal Medicine Specialists with special professional titles in Emergency Medicine & Nephrology	65+	% Active % FTE   15% 8%	% Active % FTE   14% 8%	Rheumatologist
			% Active % FTE	% Active % FTE	
		Convention	97% 98%	79% 78%	
		Weighted Convention	96% 96%	76% 74%	
		Accreditation	76% 87%	84% 92%	

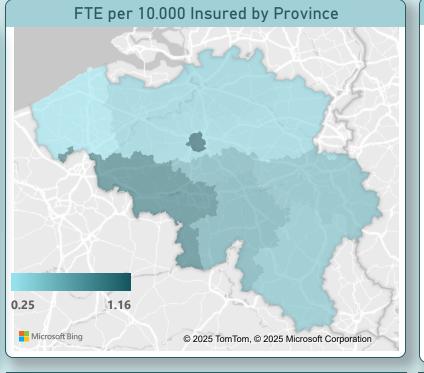


# Geographical Accessibility (2023) : Internal Medicine and Nephrology

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.

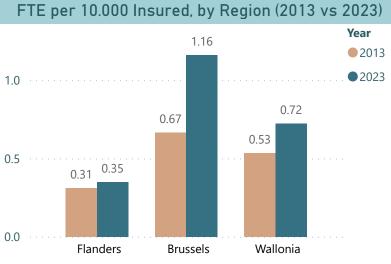
#### Indicators :

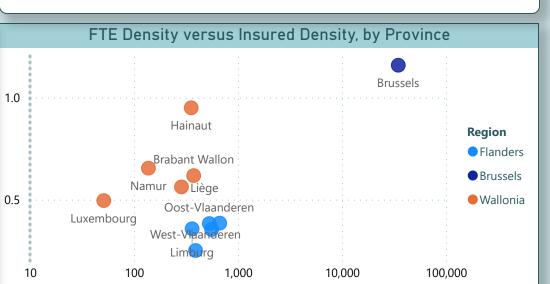
- Geographical distribution which enables to check for homogeneity.
- Evolution over 10 years and growth rate within that period.
- Comparison of number of FTE and number of insured to detect correlation.



	Demo	graphic Informati	on by Provii	nce
Province	#FTE	Density (FTE per 10.000 Insured)	%65+ (FTE)	%Women (FTE)
West-Vlaanderen	30.78	0.25	4%	47%
Oost-Vlaanderen	60.42	0.38	8%	50%
Antwerpen	73.57	0.38	6%	45%
Limburg	31.32	0.36	5%	43%
Vlaams-Brabant	41.51	0.35	5%	40%
Brussels	133.04	1.16	15%	43%
Brabant Wallon	25.28	0.62	9%	29%
Hainaut	127.73	0.95	6%	35%
Namur	33.03	0.65	3%	38%
Liège	62.18	0.56	10%	32%
Luxembourg	11.27	0.50	9%	28%
Total	630.12	0.55	8%	40%









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.

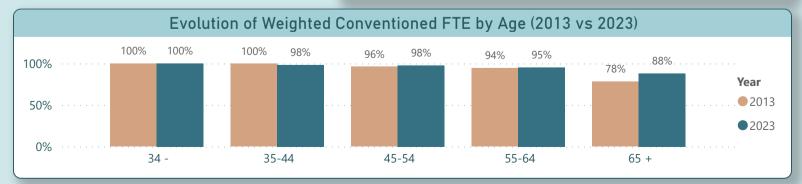
Convention means that the professional is committed to respect prices determined in the NIHDI convention. This agreement can occur partly (at specific hours during the week) or totally (all the working hours). The conventioned FTE for partially conventioned providers is calculated as half of their total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

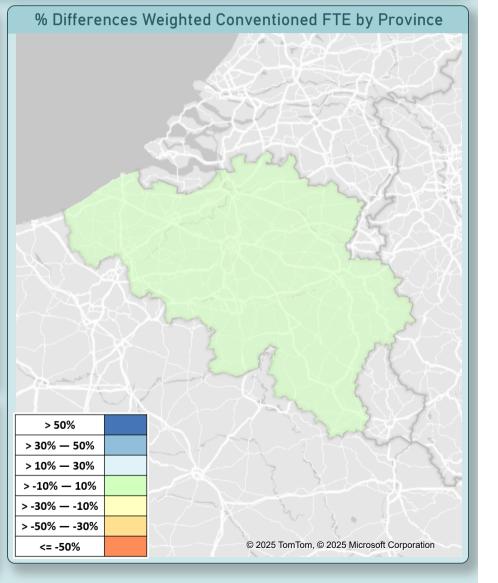
Indicators :

- % 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) 96% 2013: 96% (+0.57%)								
% Conventioned FTE by Language and Regime								
Language	Part	Full	Total	Weighted				
FR	FR 1% 96% 98% 97%							
NL 2% 94% 98% 96%								
Total 1% 95% 98% 96%								

Dem	Demographic Information by Province						
Province	Density (FTE per 10.000 Insured)	Density (Weighted Conventioned FTE per 10.000 Insured)	% Weighted Conventioned FTE				
West-Vlaanderen	0.25	0.25	100%				
Oost-Vlaanderen	0.38	0.36	94%				
Antwerpen	0.38	0.37	97%				
Limburg	0.36	0.36	100%				
Vlaams-Brabant	0.35	0.31	89%				
Brussels	1.16	1.09	94%				
Brabant Wallon	0.62	0.58	93%				
Hainaut	0.95	0.95	100%				
Namur	0.65	0.65	100%				
Liège	0.56	0.55	97%				
Luxembourg	0.50	0.50	100%				
Total	0.55	0.53	<b>96</b> %				







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).

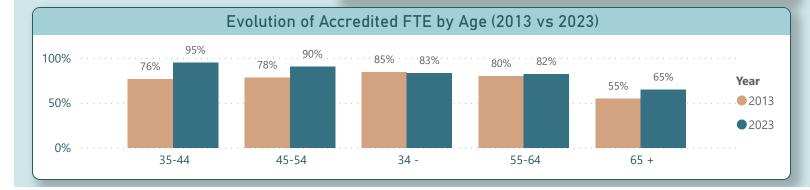
Indicator :

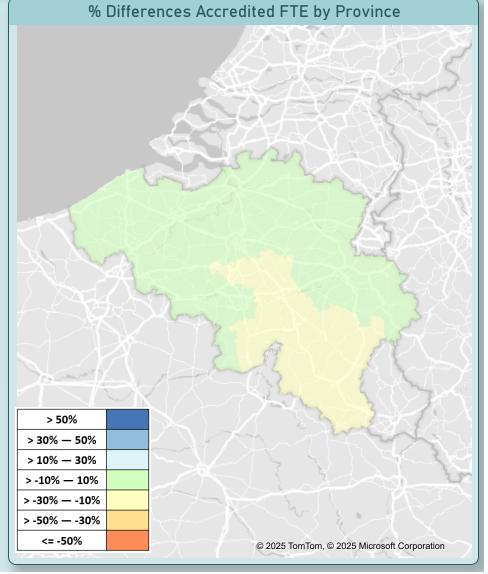
• % FTE meeting the criteria / total FTE

% Accredited FTE (2023)
<b>87%</b> 2013: 77% (+12.4%)

	% Accredited FTE by Language and Gender							
	Language	F	М	Total				
	FR	87%	80%	83%				
	NL	96%	91%	93%				
	Total	<b>91%</b>	84%	<b>87</b> %				
L								

Demographic Information by Province					
Province	Density (FTE per 10.000 Insured)	Density (Accredited FTE per 10.000 Insured)	% Accredited FTE		
West-Vlaanderen	0.25	0.24	95%		
Oost-Vlaanderen	0.38	0.35	92%		
Antwerpen	0.38	0.36	94%		
Limburg	0.36	0.33	92%		
Vlaams-Brabant	0.35	0.30	85%		
Brussels	1.16	0.99	85%		
Brabant Wallon	0.62	0.44	71%		
Hainaut	0.95	0.84	88%		
Namur	0.65	0.50	76%		
Liège	0.56	0.47	84%		
Luxembourg	0.50	0.33	67%		
Total	0.55	0.48	87%		







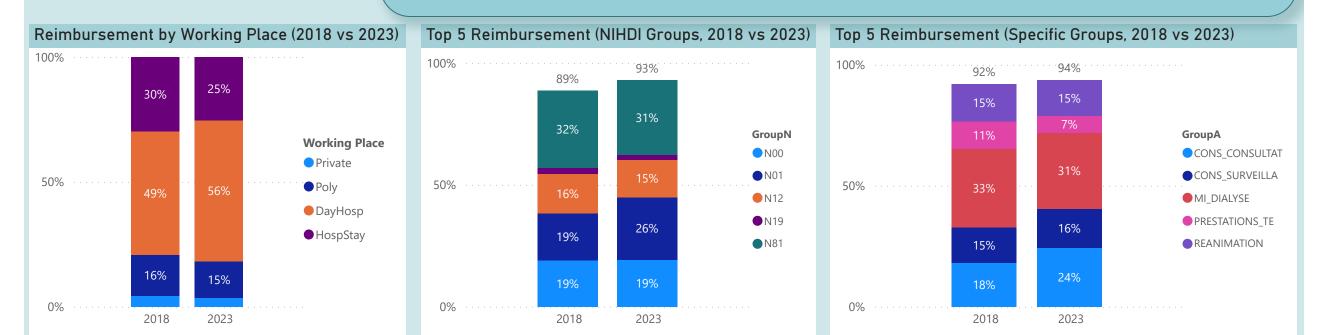
# Subspecialties Activity and Working Place : Internal Medicine and Nephrology



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.



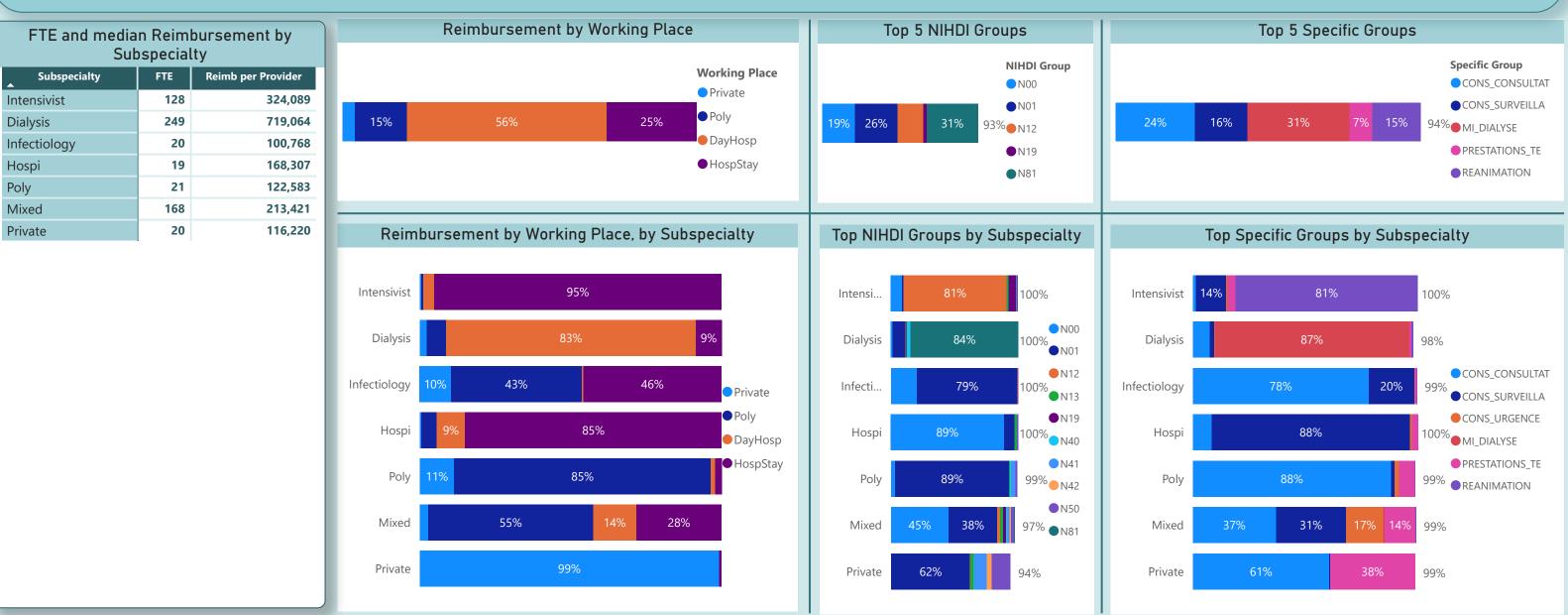
GroupN ▲	Description		
N00	Supervision of hospitalized beneficiaries		
N01	Consultations visits and medical advices		
N12	Resuscitation		
N19	Urgent technical services - Art 26 §1 +1ter + pseudos		
N81	Kidney dialysis		

GroupA	Description
CONS_CONSULTAT	Consultation
CONS_SURVEILLA	Monitoring
MI_DIALYSE	Dialysis
PRESTATIONS_TE	Technic prest.
REANIMATION	Intensive Care

### Subspecialties Activity and Working Place (2023) : Internal Medicine and Nephrology

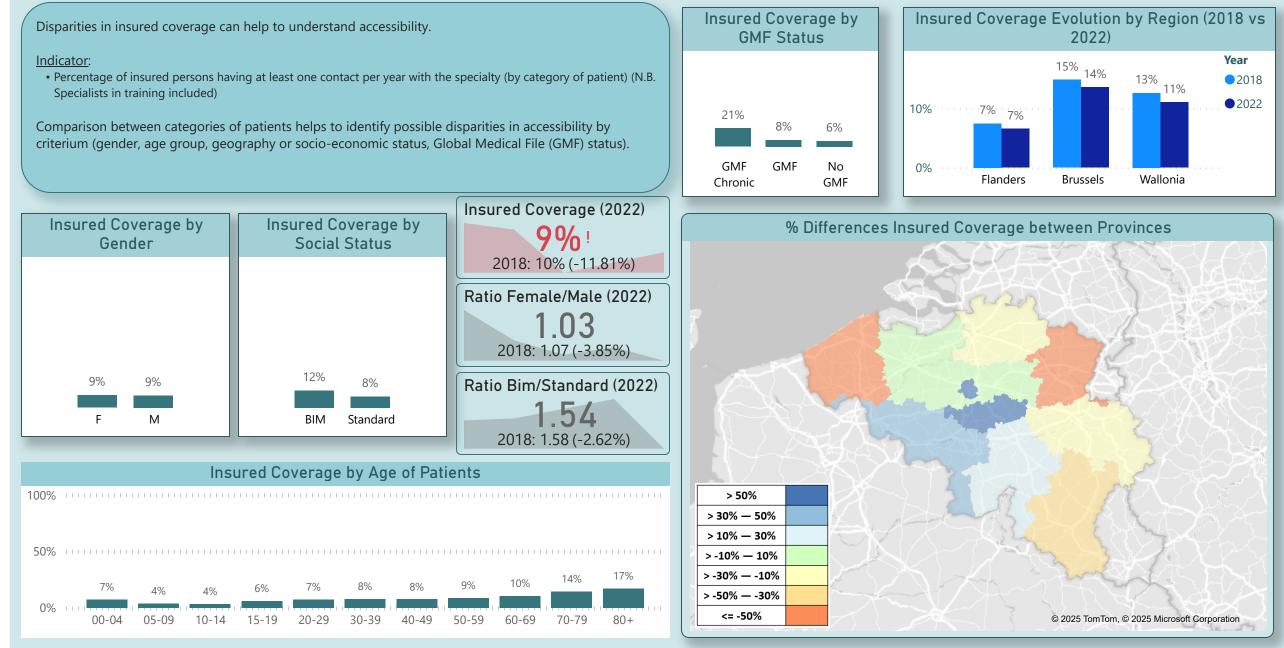
Subspecialties are identified by the working place and/or type of activity (see previous page): the assignment of a health care provider to a sub-specialty prioritizes the type of activity exercised. In general, the type of activity with the most reimbursements, if the amount exceeds 10% of reimbursements 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





# Accessibility, Insured Coverage (2022) : Internal Medicine and Nephrology





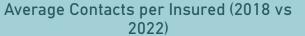
# Accessibility, Contacts per Insured (2022) : Internal Medicine and Nephrology

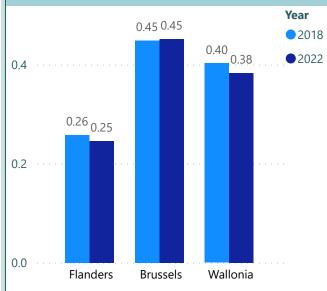
Number of contacts per insured is a complementary measure to understand accessibility.

<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)

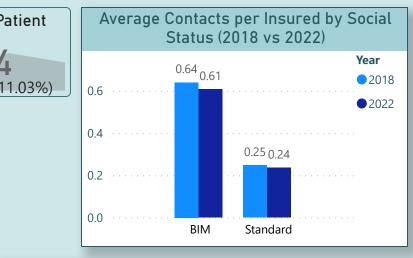
Categories of insured are defined by several criteria : gender, social status, age group, residence geography.



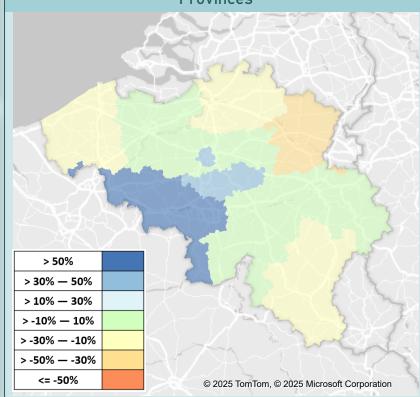


	(20	ntacts per Insur (22) 0.30 2018: 0.32 (-6.519	(2022	ed Coverage ) <b>8%</b> ! 18: 10% (-15.8%	<b>*</b> <sup>(2022</sup>	acts per Pa 2) <b>3.64</b> 8: 3.28 (+1
		Age Patient	Contacts per Insured	Insured Coverage	Contacts per Patient	
		00-04	0.10	7%	1.35	
		05-09	0.05	4%	1.19	
		10-14	0.04	4%	1.23	
		15-19	0.09	6%	1.40	
		20-29	0.12	7%	1.73	
		30-39	0.16	8%	2.08	
		40-49	0.20	8%	2.65	
		50-59	0.30	9%	3.42	
		60-69	0.47	10%	4.53	
		70-79	0.83	14%	5.79	
/s		80+	1.03	17%	6.02	
3						

Province	Contacts per Insured	Insured Coverage	Contacts per Patient
West-Vlaanderen	0.22	3%	7.81
Oost-Vlaanderen	0.29	8%	3.48
Antwerpen	0.23	7%	3.36
Limburg	0.19	4%	4.50
Vlaams-Brabant	0.29	10%	2.98
Brussels	0.45	14%	3.32
Brabant Wallon	0.46	16%	2.79
Hainaut	0.48	13%	3.56
Namur	0.32	11%	2.90
Liège	0.29	7%	4.04
Luxembourg	0.26	6%	4.63

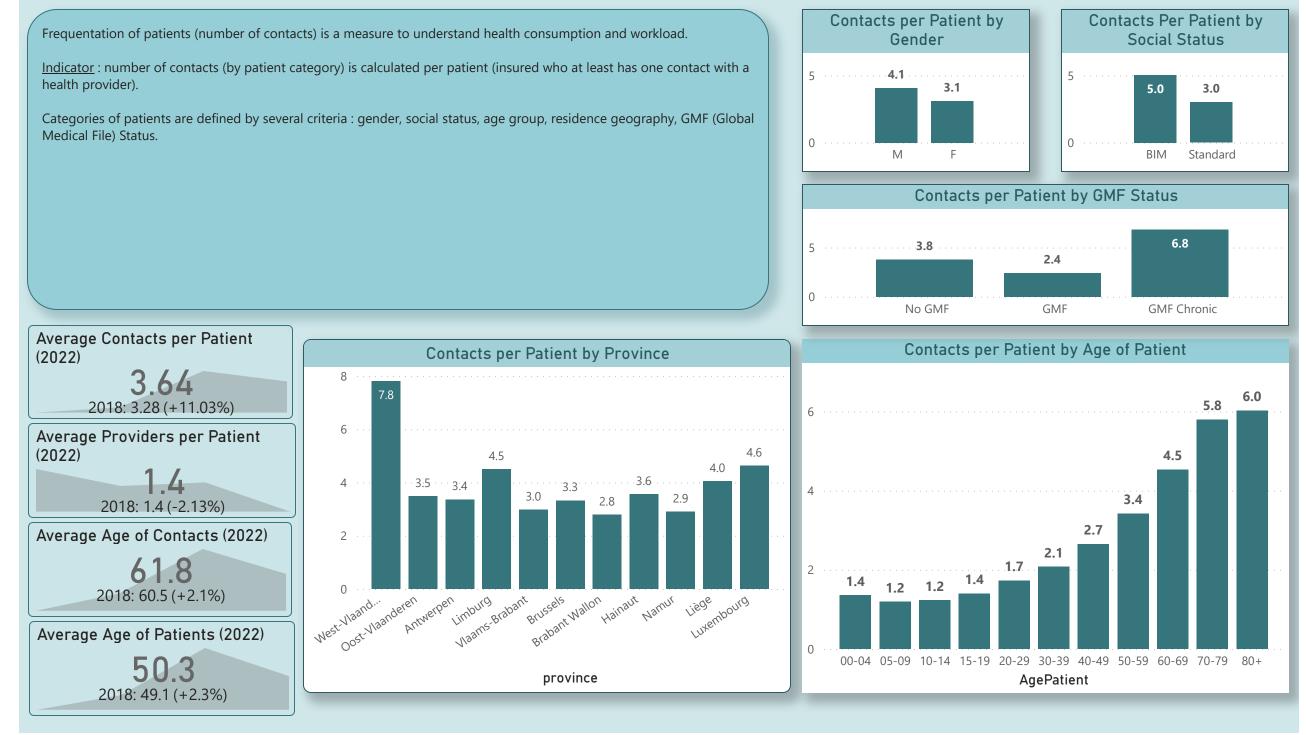


% Differences Contacts per Insured between Provinces



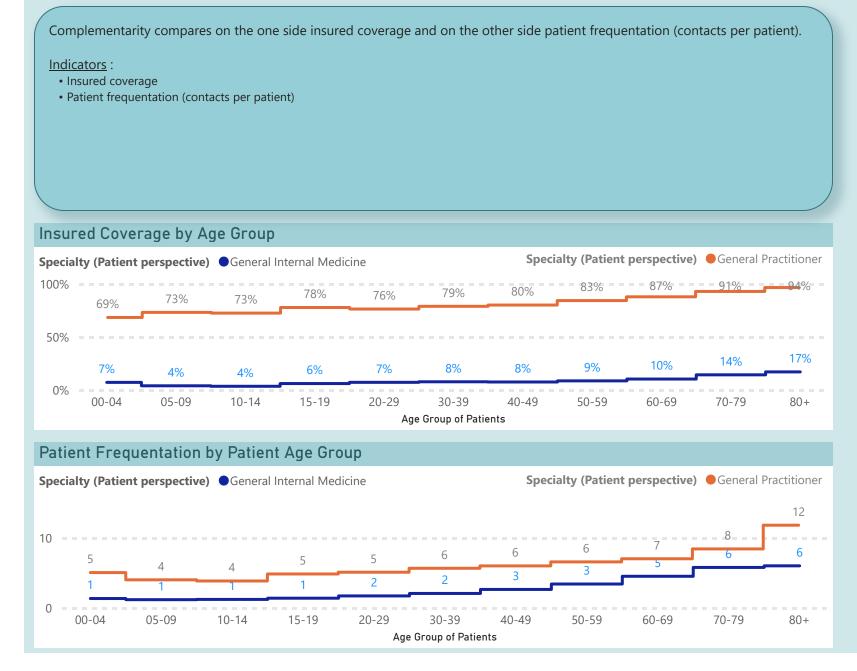


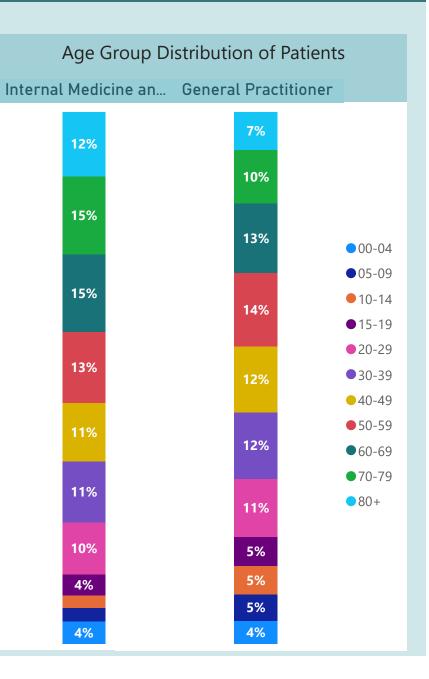
### Patient Frequentation (2022) : Internal Medicine and Nephrology





# Complementarity with comparison group (2022) : Internal Medicine and Nephrology







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/ provider) (N.B. Specialists in training are excluded). The classification criteria are linked to the healthcare 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.

838

1,733

2,559

1,047

2.6

1.8

1.7

2.2

Average Contacts per FTE (2022)	Province	Contacts per FTE	Patients Per FTE	Contacts per Patient and Provider	Gender	Contacts per FTE	Patients Per FTE	Contacts per Patien and Provider
<b>5,859</b> 2018: 6986 (-16.12%) Average Patients per FTE (2022) <b>1,639</b> 2018: 2124 (-22.83%)	West-Vlaanderen	9,330	1,074	3.2	F	4,783	894	2.
	Oost-Vlaanderen	8,006	2,133	2.2	М	6,538	2,108	1.
	Antwerpen	6,003	1,821	1.9				
	Limburg	5,429	933	2.1				
	Vlaams-Brabant	4,233	1,464	1.6	Language	Contacts per FTE	Patients Per FTE	
	Brussels	5,649	1,577	1.9	<b>^</b>			and Provider
	Brabant Wallon	9,271	4,535	1.4	FR	5,178	1,535	1.8
	Hainaut	5,117	1,570	1.7	NL	6,824	1,786	2.0
	Namur	3,342	911	1.7				
	Liège	5,417	1,306	2.3	Convention	Contacts per FTE	Patiants Par ETE	Contacts per Patient
	Luxembourg	4,662	613	4.0				and Provider
verage Contacts per Patient and					Full	5,962	1,662	1.9
Provider (2022)					No	2,814	852	2.3
<b>1.9</b> 2018: 1.8 (+7.24%)	Age Class	Contacts per FTE	Patients Per FTE	Contacts per Patient and Provider	Partial	4,192	1,287	2.0
2010. 1.0 (17.2470)	34 -	3,498	577	2.2				

5,255

5,844

7,343

3,548

35-44

45-54

55-64

65 +

Accredited	Contacts per FTE	Patients Per FTE	Contacts per Patient and Provider
No	4,567	1,849	1.7
Yes	6,058	1,606	2.0

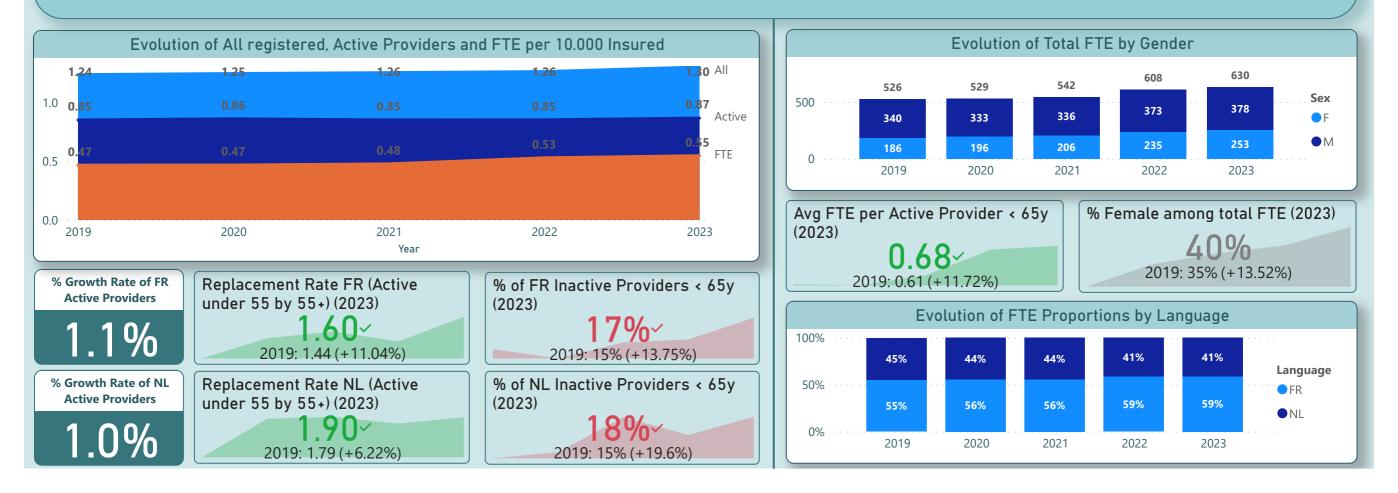


Healthcare workforce demographics present active professionals having more than one activity per year on the <u>left side</u> of the page, while Full-Time Equivalents (FTE) are displayed on the <u>right side</u>. The analysis spans the past decade and is segmented by professional characteristics such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

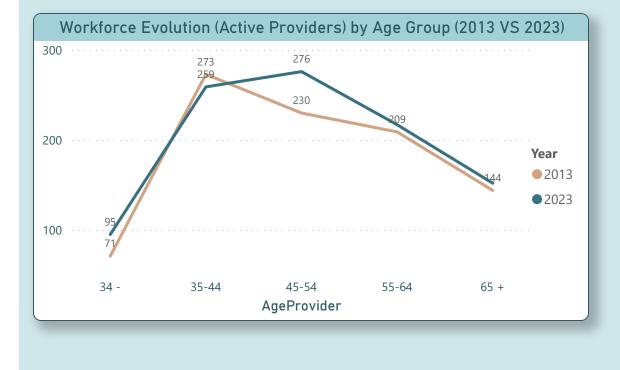


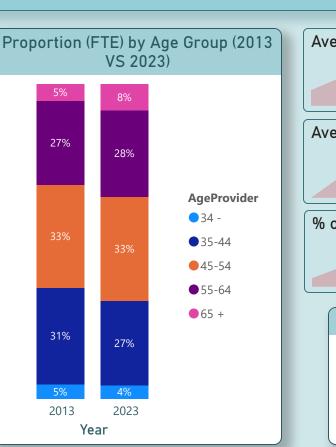


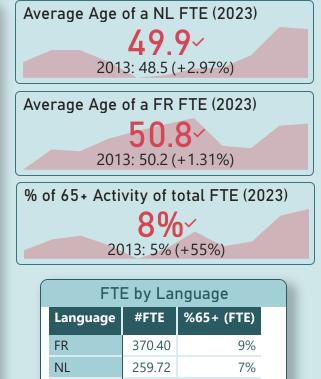
Demographic evolution by age group and activity of professionals above 65 years (provides information on the demographic stability).

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







630.12

Total

8%

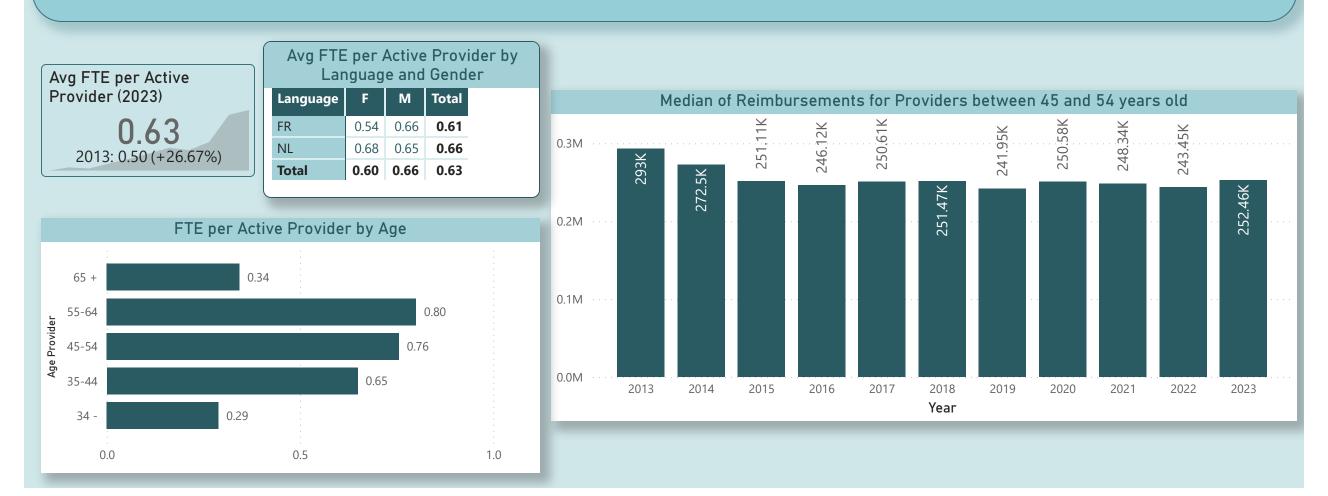


<u>FTE (full-time equivalent)</u> is calculated to determine the workload of a healthcare provider (= total reimbursements by provider in a given year divided by the median of reimbursements for providers aged 45 to 54 in the same specialty).

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.





## Annex 2: Type of Practice (2023) : Internal Medicine and Nephrology

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.

