Huisartsgeneeskunde: aantrekkingskracht en beroepstrouw bevorderen

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VOORWOORD

Nu het gros van de internationale instellingen de huisarts beschouwt als het hart van de gezondheidszorg, is het jammer te moeten vaststellen dat studenten geneeskunde dit enthousiasme voor de eerstelijnszorg niet delen. Integendeel, de huisartsen zelf keren hun beroep de rug toe. Deze algemene vaandelvlucht bedreigt de toekomst van de eerstelijnszorg in de geïndustrialiseerde landen en daardoor ook het evenwicht van ons gezondheidszorgsysteem.

Om dit probleem te kunnen begrijpen was het nodig de betrokken actoren te benaderen, zowel in het academische, als in het politieke en professionele milieu. De krachtlijnen van dit rapport worden gevormd door de analyse van al deze standpunten. Geïnspireerd door de internationale literatuur van dit domein, contacteerden de onderzoekers studenten, huisartsen en andere verschillende betrokken groepen om een gezamenlijk standpunt ten aanzien van het probleem te formuleren, maar vooral om na te gaan welke mogelijke oplossingen er bestaan.

Deze inhoudelijke diversiteit wordt nog onderstreept door de diversiteit binnen het team van onderzoekers van de verschillende universiteiten, al dan niet met medische vorming. Ze hanteerden verschillende kwalitatieve en kwantitatieve methodologieën, om relevante, beleidsondersteunende resultaten te bekomen. Vooral het laatste deel rapporteert de resultaten van een studie die werd uitgevoerd onder alle betrokken Belgische actoren, met als doel oplossingen voor te stellen die beantwoorden aan de verwachtingen van de maatschappij.

Wij hopen dat dit kwaliteitsvolle werk effectief een bijdrage mag leveren aan het promoten van het beroep van huisarts in België.

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Samenvatting

DOEL VAN DE STUDIE

In België kiest minder dan een derde van de studenten geneeskunde voor de specialisatie huisartsgeneeskunde: het recente KCE rapport (nummer 72) over het medische aanbod toonde aan dat een vierde van het quotum voor huisartsen, voorzien in het kader van de numerus clausus, niet wordt ingevuld door de studenten. Bovendien oefenen veel jonge gekwalificeerde huisartsen hun beroep nooit uit, of stappen er na enkele jaren weer uit. Dit fenomeen kan in de toekomst leiden tot een tekort aan huisartsen in België.

Daarom wil deze studie de problemen op het gebied van aantrekkingskracht, werving en beroepstrouw van het huisartsenberoep analyseren, als onderbouwing van doelgerichte beleidsbeslissingen die de carrière van huisartsen ondersteunen. "Aantrekkingskracht" verwijst naar het aantrekken van studenten die potentieel kandidaat zijn om huisarts te worden door hun keuze te beïnvloeden. "Werving" betekent het toevoegen van gekwalificeerde huisartsen aan de pool van praktiserende huisartsen. "Beroepstrouw" verwijst naar het in het beroep houden van de huisartsen.

METHODOLOGIE

Het eerste deel van de studie analyseert de beschikbare Belgische gegevens over artsen. De eerste analyses, gebaseerd op de gegevens van het RIZIV, rapporteren het percentage artsen dat niet actief is in de curatieve sector door middel van herhaalde dwarsdoorsnede analyses. Het tweede deel is gebaseerd op de gegevens van het "Centre d'Information sur les Professions Médicales et Paramédicales" (CIPMP). Het beschrijft het percentage artsen dat niet actief is in de curatieve sector door middel van cohort analyses 4 tot 6 en 9 tot 11 jaar na het behalen van hun artsendiploma.

Een systematisch literatuuroverzicht, in Medline, ISI Web of Science en de grijze literatuur, identificeerde studies over factoren en beleidsmaatregelen voor aantrekking-werving-beroepstrouw van huisartsen in geïndustrialiseerde landen. De kwaliteit van de studies, die werden geselecteerd door twee onafhankelijke beoordeelaars, werd geëvalueerd door middel van een specifiek instrument dat in een gelijkaardige Australische studie werd ontwikkeld.

Een kwalitatieve studie analyseerde interviews met 7e jaars studenten geneeskunde en jonge huisartsen die het beroep pas hadden verlaten. In de eerste groep werd de analyse van de motivaties van de studenten om te kiezen (of niet te kiezen) voor huisartsgeneeskunde aangevuld door een kwantitatieve enquête onder alle 7de jaars-studenten om de resultaten te trianguleren. In de gesprekken met de laatste groep werden de motivaties van de jonge huisartsen om het beroep te verlaten, onderzocht.

Tenslotte werden de posities van de Belgische "stakeholders" in kaart gebracht (multi-criteria mapping method) met betrekking tot verschillende beleidsopties om de aantrekking-werving-beroepstrouw van huisartsen te verbeteren. Het doel was beleidsopties voor te stellen die in België zouden kunnen worden geïmplementeerd . De steekproef werd zo gekozen om alle betrokken groepen in het onderzoek te betrekken, nl. beleidsmakers, beroepsorganisaties, universiteiten, media en huisartsen zelf.

RESULTATEN

INACTIVITEIT VAN HUISARTSEN IN DE CURATIEVE SECTOR IN BELGIE

Het aantal gediplomeerde huisartsen met een erkenningsnummer van het RIZIV (codes 003, 004, 007 en 008) steeg in het laatste decennium van 12 292 in 1995 tot 14 170 in 2005. Het percentage inactiviteit in de curatieve sector (geen acten bij het RIZIV) van deze huisartsen steeg echter ook bij alle leeftijdsgroepen, voor beide geslachten en voor beide taalgemeenschappen (van 4% in 1995 tot 12% in 2005). Deze toename van inactiviteit in de curatieve sector was het grootst bij huisartsen tussen 30 en 49 jaar. De stijging van de inactiviteit verschilde weinig tussen de gemeenschappen. Binnen de leeftijdsgroep van 40-49 en van 60-69 jaar lag dit groeipercentage echter lichtjes hoger bij de Nederlandstalige huisartsen dan bij de Franstalige huisartsen. Het percentage beperkte praktijkuitoefening (van 1 tot 1249 prestaties per jaar) steeg tevens in de jongste leeftijdsgroepen.

Deze tendens komt overeen met de longitudinale follow-up studie in de CIPMP database. Het aandeel huisartsen dat 4 tot 6 jaar na het behalen van hun huisartsdiploma inactief was in de curatieve sector steeg van 12,7% (1994) tot 19,2% (2005), de percentages inactiviteit waren bij vrouwen iets hoger dan bij mannen. De inactiviteit 9 tot 11 jaar na het behalen van hun huisartsdiploma steeg eveneens. In 1999 had 7,5% van de huisartsen die 9-11 jaar voordien afgestudeerd waren (1988-1990) en die 4 tot 6 jaar na het behalen van hun diploma nog actief waren, de curatieve sector verlaten. In 2005 steeg dit percentage (afgestudeerd 1993-1995) tot 14,6%.

FACTOREN DIE EEN INVLOED HEBBEN OP AANTREKKING-WERVING-BEROEPSTROUW

Bevindingen uit de literatuur

Medische faculteiten spelen een doorslaggevende rol bij de aantrekking en werving van toekomstige huisartsen. De academische cultuur, het belang van de huisartsgeneeskunde binnen de medische faculteit, het curriculum, de stages in huisartsgeneeskunde en rolmodellen beïnvloeden de keuze om te starten met een carrière als huisarts. Een van de meest prominente factoren voor werving op het platteland is een landelijke achtergrond.

De aantrekking wordt ook sterk beïnvloed door persoonlijke en psychosociale factoren (relaties met patiënten, contacten met andere collega's, verscheidenheid van de taken,….) Factoren die betrekking hebben op professionele identiteit (autonomie) en levensstijl (flexibiliteit van het werk) spelen ook een rol. Toekomstige huisartsen nemen ook de mogelijkheden voor hun familie in overweging wanneer ze een vestigingsplaats zoeken (bijv. job, vrije tijd, scholen).

De belangrijkste factoren die een invloed hebben op de beroepstrouw van de huisarts zijn de moeilijke werkomstandigheden (bijv. werkbelasting, flexibiliteit van het uurrooster), evenwicht tussen werk en gezin, inkomensniveau, professionele ondersteuning (bijv. ondersteuning door specialisten, opleidingsmogelijkheden, plaatselijke ziekenhuizen) en omkadering voor de familie (bijv. vrije tijd, culturele en schoolactiviteiten).

Meningen van studenten geneeskunde: interviews en kwantitatieve enquête

Gelijkaardige factoren beïnvloeden de keuze van specialisme van de studenten in België, vooral dan de ervaringen opgedaan tijdens het curriculum. Veel studenten hebben weinig contact met de huisartsgeneeskunde en dit contact treedt maar laat in het curriculum op. Bovendien wordt het negatieve beeld van het specialisme huisartsgeneeskunde beïnvloed door negatieve waarden vanuit de faculteit, en in sommige universiteiten lijken de huisartsen-docenten geen optimale rol te spelen als ambassadeurs van hun specialisme. Huisartsen-stageplaatsen van hoge kwaliteit zijn essentieel opdat studenten voor het specialisme huisarts zouden kiezen.

Niet-huisarts-studenten associëren het beroep van huisarts met moeilijke werkomstandigheden, weinig intellectuele uitdagingen en veel routine-taken. Huisarts-studenten hebben daarentegen een veel positiever beeld van de moeilijke werkomstandigheden van de huisartsen. Ze zien meer intellectuele uitdagingen en waarderen de verscheidenheid van het takenpakket. Een persoonlijke affiniteit wordt duidelijk in het 7e jaar van het curriculum. Alle studenten benadrukken de onzekerheid die gepaard gaat met een huisartspraktijk, maar huisarts-studenten lijken beter te kunnen omgaan met dit aspect van het beroep. Huisarts-studenten opteren voor een bredere kennis terwijl studenten die voor een ander specialisme kiezen, meer geïnteresseerd zijn in een strikter omlijnd kennisgebied. Alle studenten zien het beroep van huisarts echter als een beroep met minder status, en met lagere verdiensten.

Andere factoren oriënteren de keuze al vóór met de opleiding wordt begonnen; ongeveer een derde van de toekomstige huisartsen was al van plan om huisarts te worden vanaf de start van de medische opleiding: het medische beroep van de vader, het hoogste diploma van de moeder, een rolmodel in de familie, de aantrekkingskracht van de intellectuele uitdagingen van de huisarts en het zoeken naar menselijke contacten.

De studenten deden enkele voorstellen voor de selectie van studenten met een huisarts-georiënteerd profiel: het imago en de positie van huisartsgeneeskunde binnen de medische faculteiten, de kwaliteit van de colleges en stages in huisartsgeneeskunde, een sterkere positie van de huisarts binnen het gezondheidszorgsysteem.

Waarom stappen huisartsen uit het beroep in België?

Interviews met jonge huisartsen die een praktijk hadden, maar die het beroep verlieten, benadrukten hun gevoelens van woede, verdriet en soms opluchting. De moeilijke werkomstandigheden die door deze artsen werden vermeld, omvatten:

- een gebrek aan jobcontrole (d.w.z. beschikbaarheid, eisen van talrijke patiënten, eisen van collega's binnen groepspraktijken).
- stresserende situaties (bijv. spoedgevallen),
- een hoge werkbelasting,
- moeilijke relaties met patiënten en/of met andere huisartsen.

Deze werkomstandigheden interfereerden met hun privéleven en hun professionele ontwikkeling. De geïnterviewde artsen voelden zich uitgeput en hadden geen energie meer voor verdere persoonlijke of professionele activiteiten.

De huisartsen formuleerden ook concrete suggesties om meer artsen binnen het beroep te houden: de promotie van groepspraktijken, de organisatie van wachtdiensten, financiële ondersteuning van de praktijken, continue medische opleidingen tijdens de werkuren en een verbeterde huisartsenopleiding.

BELEIDSMAATREGELEN DIE EEN INVLOED HEBBEN OP AANTREKKING-WERVING-BEROEPSTROUW

Bevindingen uit de literatuur

Het overzicht van de literatuur toont een logische samenhang tussen factoren en beleidsmaatregelen die de aantrekking, werving en beroepstrouw van huisartsen beïnvloeden, met uitzondering dan van de werkomstandigheden. Op academisch niveau: structurele veranderingen in de faculteit (bijv. het aantal en de leidende rol van huisartsen), specifieke toelatingsprocedures voor studenten die meer gericht zijn op huisartsgeneeskunde (bijv. een persoonlijkheid gericht op het aangaan van menselijke contacten), een reorganisatie van de medische opleiding (bijv. klinische lessen huisartsgeneeskunde, stages in huisartsgeneeskunde en rolmodellen) en financiële ondersteuning. De meeste van deze initiatieven lijken succes te kennen, hoewel het moeilijk is vast te stellen in welke mate zij verantwoordelijk waren voor de stijgende "productie" van huisartsen. Een stijgend aantal artsen, zal waarschijnlijk het tekort aan huisartsen niet verminderen, maar eerder leiden tot een overaanbod van (sub)specialisten.

De belangrijkste beleidsmaatregelen om huisartsen in landelijke gebieden te werven zijn economische impulsen om beginnende huisartspraktijken te ondersteunen (toelagen, subsidies, leningen). Er bestaat echter weinig bewijs over de doeltreffendheid of rendabiliteit van deze programma's. Sommige medische faculteiten promoten de werving van studenten met een landelijke achtergrond en richten specifieke programma's in waarbij de nadruk wordt gelegd op de bereidheid tot het uitoefenen van een landelijke praktijk en het wonen in landelijke gebieden. Een andere wervingsstrategie is het gebruik van "recruteerders" om landelijke gemeenten te helpen bij het werven van eerstelijnszorgverstrekkers.

Beleidsmaatregelen om beroepstrouw te vergroten, zijn onder andere salariëring, continue medische vorming, vervangers, professionele ontwikkeling, integratie in de gemeenschap. Deze maatregelen werden echter nog niet geëvalueerd.

We kunnen concluderen dat uit de literatuur blijkt dat 'pipeline' strategieën het meest doeltreffend zijn voor het aantrekken en werven van studenten, namelijk een continuüm dat begint bij de middelbare scholen en medische faculteiten, en verder loopt tot na het afstuderen. Medische faculteiten spelen hierbij een belangrijke rol, maar het invoeren en implementeren van deze beleidsmaatregelen (bijv. toelagen, vervangers) moet rekening houden met de gezondheidszorg- en academische context.

Posities van de Belgische "stakeholders" met betrekking tot de verschillende beleidsopties

De interviews met de Belgische "stakeholders" tonen dat opleiding en organisatorische beleidsmaatregelen het hoogst scoorden in vergelijking met financiering en maatregelen in verband met de combinatie werk en privéleven.

Maatregelen gericht op de organisatie van de gezondheidszorg behaalden de hoogste score: De "stakeholders" erkenden dat voor het verbeteren van de aantrekkelijkheid, de werving en de beroepstrouw van het huisartsenberoep initiatieven nodig zijn op het niveau van het gezondheidszorgsysteem. De belangrijkste maatregel is volgens hen "de huisartsen aan te moedigen om samen te werken". "Samenwerken" betekent niet noodzakelijk een groepspraktijk, aangezien de maatregel "het delen van een gemeenschappelijke infrastructuur" pas als zesde van tien items werd gerangschikt. Volgens de scores is het delegeren van administratieve activiteiten ook een essentieel punt. Het verbeteren van de rol van de huisarts in het multidisciplinaire team en het ontmoedigen van het gebruik van de tweedelijnszorg benadrukt de sleutelrol die de huisarts in het Belgische gezondheidszorgsysteem moet spelen. De numerus clausus opdoeken is geen populaire maatregel bij de "stakeholders".

Beleidsmaatregelen in het onderwijs scoren ook hoog, d.w.z. integratie van een huisartsenbenadering in alle Master opleidingen en een verplichte stage in

huisartsgeneeskunde voor alle studenten geneeskunde. De "stakeholders" verwerpen de strategie om studenten te selecteren in functie van een grotere bereidheid om huisarts te worden, deze bevinding staat haaks op de gesprekken en de conclusies uit de literatuur. De ontwikkeling van een klinisch academische huisartsactiviteit staat evenmin bovenaan de lijst.

Financiële maatregelen kregen lagere scores dan andere domeinen. De beleidsmaatregel die het hoogst scoort, is het geven van impulsen om een huisartspraktijk uit te oefenen in gebieden met een tekort aan huisartsen (cfr Impulseo I). De beleidsmaatregel met de meeste stemmen is het vast bedrag per ingeschreven patiënt (forfaitaire betaling), gecombineerd met honoraria per uitgevoerde prestatie. Over de andere financiële beleidsmaatregelen bestaat er veel minder consensus.

De resultaten voor maatregelen gericht op een beter evenwicht tussen werk en privéleven zijn tegenstrijdig . Enerzijds zijn alle "stakeholders" het er over eens dat, vanuit het standpunt van de huisarts, levenskwaliteit van zeer groot belang is om het aantrekken en werven van huisartsen te verbeteren. Anderzijds scoren maatregelen die dit evenwicht tussen werk en privéleven moeten verbeteren (bijv deeltijds werken) eerder matig, omdat deze een negatieve invloed kunnen hebben op de toegankelijkheid en de kosten voor de gemeenschap. Twee beleidsmaatregelen scoorden opvallend goed, nl. het ondersteunen van een "evoluerende" carrière (om een burn-out te voorkomen) en het schrappen van de individuele wachtdienstverplichting.

Huisartsen-"stakeholders" hebben vaak een andere mening dan de andere "stakeholders". Er bestaan ook verschillen inzake specifieke beleidsmaatregelen tussen "stakeholders" van beide taalgemeenschappen.

De bijkomende maatregelen die genoemd werden door de 'stakeholders' kunnen gerangschikt worden in enkele grote thema's: evenwicht tussen werk-privéleven, universitaire opleiding, continue medische vorming en organisatie van de praktijk. Financiering is niet essentieel, maar wel nodig om sommige problemen te overwinnen (wachtdienst, computers). Andere impulsen worden gezien als belangrijker, bijv. sociale status, zwangerschapsverlof, ondersteuning in sociaal minderbedeelde gebieden.

DISCUSSIE

Deze studie analyseerde het huisartsenberoep vanuit verschillende gezichtspunten, maar alle resultaten zijn gelijklopend. Talrijke factoren beïnvloeden de aantrekking, werving en beroepstrouw van huisartsen in België en in het buitenland:

- de cultuur van de medische faculteiten en de kwaliteit van de opleiding en de huisartsenstage,
- financiële redenen schrikken mogelijke kandidaten af; beleidsmaatregelen gebruiken financiële impulsen om huisartsen in moeilijke gebieden aan te trekken;
- het negatieve beeld van de werkomstandigheden van de huisarts, met een onevenwicht tussen werk en gezinsleven.

Om deze problemen op te lossen, stellen "stakeholders", studenten en huisartsen die het beroep verlieten een veelvoud aan maatregelen voor die passen binnen in een continuüm. Ze beginnen met initiatieven binnen de medische faculteiten (opleiding en stages) en gaan dan verder met initiatieven die de beroepstrouw van de huisartsen moeten vergroten, vooral op het gebied van de organisatie van de gezondheidszorg en in mindere mate op het gebied van financiële en werkomstandigheden. Voor deze revolutie is de mobilisering van "stakeholders" uit verschillende domeinen nodig (opleiding, beleidsmakers) met coherentie tussen de beleidsmaatregelen die afkomstig zijn van verschillende beslissingsniveaus.

AANBEVELINGEN

De gesprekken met "stakeholders" en studenten benadrukken de sleutelrol die de huisartsen moeten spelen in het Belgische gezondheidszorgsysteem. Beleidsmaatregelen om de aantrekking, werving en beroepstrouw van huisartsen te verbeteren, zijn daarom dringend nodig om de huidige tendens van een gebrek aan interesse voor dit specialisme om te keren. Initiatieven moeten in een continuüm worden geïmplementeerd, d.w.z. zowel in het curriculum als in de carrière van de huisartsen.

Initiatieven op het niveau van de medische faculteiten:

- De initiële selectie van studenten moet zich toespitsen op die studenten die de beste menselijke kwaliteiten hebben en die het juiste profiel hebben voor een specialisme, en meer bepaald voor de huisartsgeneeskunde;
- De huisartsgeneeskunde moet gepositioneerd worden als een volwaardig specialisme binnen de medische faculteiten;
- Studenten van alle universiteiten moeten, vroeg in hun curriculum, gepaste informatie over dit specialisme krijgen evenals colleges die ook het gezichtspunt van de huisarts weergeven;
- Specifieke huisartscolleges moeten oplossingen aanreiken voor eventuele problemen die in de praktijk kunnen worden ervaren door toekomstige huisartsen (bijv. de organisatie van een huisartsenpraktijk, de mogelijke stressfactoren van het beroep);
- Huisartsenstages van hoge kwaliteit moeten worden aangemoedigd voor alle studenten geneeskunde, enerzijds om de aantrekkingskracht te verbeteren, anderzijds om de kennis van de ambulante zorg bij toekomstige specialisten te verbeteren. Deze stages zouden moeten georganiseerd worden in verschillende types van praktijken, om de diversiteit aan praktijkvormen en de gevarieerde dagelijkse activiteiten van de huisarts weer te geven .

Initiatieven om de werkomstandigheden te verbeteren:

- Door werk in teamverband of binnen netwerken aan te moedigen, kan men het gevoel van isolement bij moeilijke werkomstandigheden, verminderen;
- Werken in een groepspraktijk kan een oplossing zijn voor sommige huisartsen, wat toelaat administratieve ondersteuning te organiseren, sommige taken te delegeren, multidisciplinair werk uit te voeren;
- De ontwikkeling van goed georganiseerde wachtdiensten moet de huisartsen bevrijden van de stress van individuele wachtdiensten terwijl de continuïteit van de ambulante zorg verzekerd wordt;
- Initiatieven zoals loopbaanonderbreking (waaronder zwangerschapsverlof), deeltijds werk, en continue medische vorming tijdens de kantooruren, moeten een beter evenwicht met het privéleven mogelijk maken;
- Het imago van het huisartsberoep verbeteren door nieuwe carrièremogelijkheden (bijv. onderzoek, kwaliteitsinitiatieven).

Initiatieven om de financiële omstandigheden te verbeteren:

- De huidige impulsen voor het werken in groepsverband en vestiging in onderbezette gebieden moeten worden behouden
- De inkomensverschillen tussen huisartsen en andere specialisten moeten worden geobjectiveerd. Indien deze verschillen bevestigd worden, moet men streven naar een vermindering ervan.

- Correcte informatie over de vergoeding van de huisarts en de diversificatie van de betalingsmechanismen om het huidige honorarium per prestatie aan te vullen, zou het negatieve imago dat studenten hebben over de financiële omstandigheden van het beroep, kunnen verbeteren.

Een aantal reeds genomen maatregelen gaan in de richting van de aanbevelingen die hierboven werden geformuleerd. Het is aangewezen om de instrumenten te voorzien om het effect van die maatregelen te evalueren.

Een belangrijke vaststelling van deze studie is de negatieve perceptie van de status van het huisartsberoep. Echter, de resultaten leiden niet naar concrete oplossingen om dit imago bij studenten en artsen in België te verbeteren.

De aanbevelingen die hierboven werden vermeld, veronderstellen de integratie van verschillende beslissingsniveaus om er voor te zorgen dat de beleidsmaatregelen die worden genomen op niveau van de gemeenschappen voor de aantrekking (met betrekking tot opleiding) in overeenstemming zijn met de beslissingen genomen op federaal niveau voor de huisartsen-studenten en de huisartsen die het beroep al uitoefenen.

Scientific summary

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INTRODUCTION

General practitioners (GPs) play an important role in the health care system. They are usually the first medical contact with the patients. The GP is also a key interface between outpatient and hospital care; he plays a vital role in linking clinical cares with other community-based services; he is an important ally in care integration, particularly for frail elderly and patients with chronic diseases. In most European countries, socioeconomically vulnerable patients find an easier access to their GP than to specialty medicine [1]. In other words, the GP should be in the driver's seat [2].

However, the driver's car seems to be running out of gas. From a GP's point of view, life seems not to be that successful story international bodies and policy blueprints are calling for. Indeed, studies from several Western countries indicate that the health care system is facing difficulties in recruiting and retaining general practitioners in the workforce. The percentage of UK doctors choosing general practice has declined from one third among the 1983 graduates to one fourth in 1993 [3]. Such a declining trend has also been observed in other European countries like Switzerland where the percentage of primary care providers has declined from 60% of all actively working doctors in 1991 to 50% in 2004 [4].

Belgium does face similar problems. In 2000, Van Baelen *et al.* [5] carried out a 5-years follow-up of the cohort of GPs who graduated in 1995 (licensed or not for the Health Insurance). From this cohort, around one out of three had left the GP profession five years after their graduation. Another Belgian study [6] studied the activity of general practitioners. They found that 85% of the young physicians working in the curative sector in 1994 were still active in the curative sector 8-years later, 3.4% had shifted in the non-curative sector, and 7.8% were working in a mix of curative and non-curative activities.

Furthermore, Roberfroid et al [7] studied the percentage of GPs effectively working in the curative sector in 2005. They concluded that the global number of GPs registered in the Cadastre of Health Care Professions (2005) was 21804. Among them, only 4 out of 5 were registered as active in Belgium (i.e., alive, not retired and not dropped out and whatever the professional field e.g., curative sector, administration, research centre). In this GP population, 11626 GPs (63.4%) had performed 1 contact to at least 50 individual patients during that year (thus considered as GPs practising care).

The drop-out of general practitioners from family medicine is disturbing for three reasons. First, the WHO, since the Alma Ata declaration, has put primary care as a key ally in achieving the Health For All Agenda [2]. This is not only a WHO statement but also an important point of the March 2008 Belgian governmental declaration, calling for reinforcing the role of the general practitioner. Second, there are some indications that strong primary care reach better results in terms of health status and equity and that primary care plays a vital role in care coordination [8]. Thus, having general practitioners dropping-out of medicine may risk jeopardizing the continuity and quality of care. Finally, the inactivity among GPs can considered as a loss of the social resources invested in the teaching by both public authorities and students themselves [6].

This situation requires an understanding of the factors influencing the attraction of students into the general practice studies and of the recruitment and the retention of the general practitioners in the practice. The goal of this study is to analyze and to suggest policies to improve attraction, recruitment and retention of GPs into the profession. The background of this study has been the analysis of the GP medical supply in Belgium [7] and this topic is out of the scope of the present report.

This report attempts answering the following questions in order to formulate suggestions for policies:

- What is the situation in Belgium regarding the evolution of the inactivity of all medical doctors in the curative sector and the inactivity of young GPs in the curative sector after their degree as medical doctor (MD)?

- What does the international literature tell us about the factors and policies influencing GPs' attraction, recruitment and retention?
- What are the motivations of 7th year medical students to choose or not the GP profession and why do young general practitioners choose to leave the practice?
- What are the policies, in the Belgian context, most likely to improve the attraction, retention and recruitment of general practitioners into the profession?

To answer to those research questions, this report is structured with six chapters. The first one analyzes the current situation in Belgium by describing the evolution of the proportion of inactive GPs in the Belgian curative sector. Two databases have been analysed. First, the INAMI/RIZIV database enabled to perform a time-series study and to observe the evolution of the inactivity level of the Medical Doctors (MDs) in the curative sector under the AMI[a] for specific years between 1995 and 2005. Secondly, the CIPMP (Centre d'Information des Professions Médicales et Paramédicales) database was used for a cohort analysis to study the inactivity of young GPs in the curative sector after their MD degree.

The second chapter provides the international literature background of the report. It summarizes the factors influencing GPs' attraction, recruitment and retention from the national and international literature. This chapter provides a conceptual overview and definition of the concepts used in this report. It reviewed 165 papers published since 1997, mainly found in Medline and ISI web, as well as in other important databases.

The third chapter addresses the problems of attraction and recruitment of the students into general practice. This chapter analyzes their motivations and the process of specialty choice. It includes two data collections. The first part presents the results of 24 semi-structured qualitative interviews with students in 7th year of medical training. The second part undertakes a survey by questionnaire delivered to 768 students from all the Belgian Universities providing a postgraduate medical training.

The fourth chapter addresses the problems of retention. Through qualitative semi-structured interviews with 16 Belgian former GP's, it undertakes to understand why young general practitioners choose to leave the practice. Suggestions that these GPs propose at the health system level to improve the retention in the profession have also been studied.

The fifth and sixth chapters move to policies to improve GPs attraction, recruitment and retention. The fifth chapter reviews the international literature for policies able to increase attraction, recruitment and retention of general practitioners. The last chapter presents a stakeholders' analysis in order to test the policies that could be implemented in Belgium to improve the GPs' career. This study interviewed, thanks to a multi-criteria quantitative face-to-face questionnaire, 102 important Belgian stakeholders: policy-makers, unions' representatives, universities' stakeholders, media and GPs themselves.

An analysis of the GP medical supply is out of the scope of this report: this topic has been extensively analysed in a recent KCE report [7].

[a] Assurance Maladie Invalidité/Ziekte en invaliditeitsverzekering (Health Insurance)

1 CHAPTER 1: GP INACTIVITY IN BELGIUM: THE FIGURES

1.1 INTRODUCTION

This chapter analyses the evolution of the inactivity in the curative sector for all medical doctors [b](MDs) and the inactivity of young GPs in the curative sector after their degree as MD[c]. It uses data from two databases. This chapter first defines the research questions and then describes the methods, the results and their discussion.

1.2 OBJECTIVES

This part describes the evolution of the numbers and percentages of medical doctors who are inactive in the curative sector. This evolution is studied using two different approaches i.e., a repeated cross-sectional approach and a cohort analysis. The research questions addressed in this chapter are the following:

- What is the evolution of the percentage of licensed or unlicensed GPs who are inactive in the curative sector under the AMI and of the percentage of those who have a small practice (by gender, age group and linguistic community)?
- What is the evolution of the percentages of medical doctors who were inactive in the curative sector 4 to 6 years after their graduation as MD (or 9 to 11 years after their graduation as MD)?

1.3 METHODS

This section describes the databases and the statistical analyses. For the glossary and the terminology used in the analyses, see appendix 1.1.

1.3.1 Databases

Three Belgian databases could theoretically be used for the analyses:

- The federal register of medical practitioners set up by the Public Health Ministry since 2003 (called "Cadastre of Health Care Professions"). However, it could not provide time-series data. So this study used both other available databases i.e. the INAMI/RIZIV database and the CIPMP database.
- The INAMI/RIZIV[d] database is a register with all registered MDs allowed to practice within the Belgian Health Insurance [e] as well as the type of their activity. This file is fully described in appendix 1.2. Details on the qualification, situation codes and variables are in appendix 1.3, 1.4 and 1.5.
- The CIPMP database managed by the SESA/CIES at the UCL is a listing of all MDs based on the compilation of various information sources: provincial councils of the Order of Physicians, phonebooks, Belgian

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b One should be aware of the meaning of the term "GP" and its evolution. In this study, it includes all medical doctors who are not specialists, including those who are registered in other categories in other countries, e.g.; in nursing homes, Red Cross, public health, and until 1999, occupational medicine.

c Thus the 7 years degree needed to be a medical doctor before 1995 and the 9 years (7 + 2) needed after 1995, at least to work under the Health Insurance (INAMI/RIZIV)

d National Institute of Health and Disability Insurance

e All medical students can obtain this registration after their graduation (7th year of study) or based on an equivalent degree acquired abroad and recognised by the Ministry of Health. Moreover, the INAMI uses different qualification codes to differentiate physicians (in training or not) and thus the types of acts that they are allowed to perform according to the legislation (see appendix 1.3.).

universities (for the graduates and the teaching functions), sickness funds, hospitals, Department of National Defense, various sources of non curative functions, etc. The database is described in appendix 1.2. Validation procedures of its content are in appendix 1.6. The general methodology is detailed on the website: http://www.sesa.ucl.ac.be/cipmp

1.3.2 Statistical analyses

The database from the INAMI/RIZIV enabled to perform a time-series study and to observe the evolution of the inactivity level of the MDs in the curative sector[f] under the AMI for specific years.

The CIPMP database allowed to conduct a cohort study and to evaluate the MDs' inactivity in the curative sector according to their year of graduation.

1.3.2.1 Time-series analysis: INAMI –RIZIV database

PERCENTAGE OF INACTIVE GENERAL PRACTITIONERS IN THE CURATIVE SECTOR

The percentage of inactivity in the curative sector is the ratio of the number of MDs having 0 curative acts under AMI during a year[g] to the number of MDS being licensed or unlicensed according to the health insurance (INAMI/RIZIV) and being available on the Belgian curative market[h] . The analysis excluded the situation codes from 02 to 11 (i.e. the deceased, the retired, those who are abroad, etc.) because these MDs are no longer on the Belgian curative market.

The calculation of the percentage of small practices used, in the numerator, the number of MDs having between 1 and 1249 acts a year (small practice percentage)[i]. MDs in training were excluded because most of their acts are registered under the name of their supervisor.

The analysis was stratified according to variables which might influence the inactivity percentage: gender [9, 10], linguistic communities [11] and age group [6].

The analyses were carried out for 3 years of study i.e., 1995, 2000 and 2005. Because taking 3 points of time between 1995 and 2005 tend to overlook the undergoing changes in the other dates, an annual growth rate of the inactivity covering each year from 1995 to 2005 was computed by binomial regression using the year as an explanatory factor and the inactivity rate as the dependent variable. It was computed by gender, age and linguistic community.

1.3.2.2 Cohort analysis: the CIPMP database

The CIPMP database was used for cohort analysis.

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f Being inactive in the curative sector does not mean being quite inactive: other functions within the health system may be performed by those who are labeled MD, mainly in Belgium, where there are no specific categories of MDs for Public Health activities.

g Those services are more precisely those which are at least partially paid or reimbursed by the 7 Health Funds in Belgium for each year and for each MD (excluding services performed under a lump sum system and those performed outside the Health Funds). Since a patient can ask the reimbursement during 2 years, the number of services does not precisely represent the number of services per physician and per year.

h We must specify here that not all the medical doctors with a situation code 1 are really available. Indeed, they can have made other professional choices and still be administratively encoded as available under AMI (active).

i For accuracy reasons, we must specify here that the threshold of 1250 acts doesn't reflect the average practice of medical doctors (mean practices between 2000 and 4000 acts a year). Furthermore, we must make a difference between the term "at least 1250 acts per year" (=reimbursed by the Health Insurance) and the annually 1250 contacts (consultations) needed for accreditation.

The first analysis computed the percentage of MDs who were inactive in the curative sector 4 to 6 years after their graduation as MD (see table below).

Denominator	**Numerator**
Year of MD degree:	**Inactive** in the curative sector in:
Between 1988 and 1990	1994
Between 1993 and 1995	1999
Between 1996 and 1998	2002
Between 1999 and 2001	2005

The second percentage was the percentage of MDs (licensed and unlicensed GPs for INAMI/RIZIV) who are inactive in the curative sector 9 to 11 years after their degree as MD if they had at least one place of curative care 5 years after obtaining such a degree (=denominator).

The following table summarizes these analyses:

	Denominator	**Numerator**
Year of MD degree	Having at least one place of curative care in:	**Inactive** in the curative sector in:
Between 1988 and 1990	1994	1999
between 1993 and 1995	1999	2005

Those percentages have been computed by linguistic community and gender and have then been compared to those of specialists. We excluded the MDs who died in the meantime and those having worked in Belgium with a legal license but who left Belgium afterwards.

The table below summarizes the analyses conducted in both databases.

Database	**Type of study**	**Studied questions**	**Numerator**	**Denominator**
INAMI/RIZIV	Repeated cross-sectional study between 1995, 2000 and 2005	Percentage of MDs inactive in the curative sector under the AMI in 1995, 2000 and 2005 and small practice percentage	MDs having 0 INAMI acts or between 1 and 1249 acts a year	Licensed or unlicensed GPs according to the Health insurance, with a situation code 1(active) (+ specialists)
CIPMP	Cohort studies (4 to 6 years and 9 to 11 years after their degree as MD): follow-ups of those graduating between: 1988-1990, 1993-1995, 1996-1998, 1999-2001	Evolution of the inactivity of MDs in the curative sector among those who got their degree as MD at time t0.	<u>First percentage :</u> MDs who are inactive in the curative sector 4 to 6 years after their degree as MD	Cohorts of medical students who got their degree as MD at time t0
			<u>Second percentage</u>: MDs who are inactive in the curative sector 9 to 11 years after their degree as MD	MDs who had at least one curative activity 4 to 6 years after their degree as MD

1.4 RESULTS

1.4.1 INAMI/RIZIV DATABASE

In 1995, 16714 GPs (including GPs in training) were registered in the INAMI/RIZIV (see table 1 below). A group of 16515 so-called "active" general practitioners remained when excluding the GPs known as out of practice, retired, living abroad or forbidden of practice. This number climbed to 18217 in 2005. The proportions of types of general practitioners (the unlicensed GPs, the licensed GPs and the GPs in training) out of the total "active" general practitioners increased slightly throughout the years. The rather

higher percentage of GPs in training in 1995 is due to the fact that, at that time, all GPs were asked to follow a specific training, in order to comply with new European rules.

Table 1: Evolution of registered medical doctors (unlicensed, licensed GPs and GPs in training) according to their INAMI/RIZIV situation codes in 1995, 2000 and 2005 (source: INAMI/RIZIV database, Belgium, 2007)

		Year		
Situation (codes)	**Type of GPs**	**1995**	**2000**	**2005**
All situation codes except deaths	Unlicensed* Licensed** In training***	16714	19024	20163
→from which are retired, living abroad, forbidden of practice, etc. (situation codes 3 to 11)	Unlicensed Licensed In training	199	1049	1946
→from which are active for the INAMI/RIZIV (situation code nr 1)		16515 (100%)	17975 (100%)	18217 (100%)
	Unlicensed	3349 (20.27%)	3801 (21.16%)	3366 (18.48%)
	Licensed	12297 (74.46%)	13480 (75%)	14179 (77.83%)
	In training	869 (5.27%)	694 (3.84%)	672 (3.69%)

Source: INAMI/RIZIV (file of registered MDs), 2007
*unlicensed GPs=qualification codes 000, 001, 002 and 009
**licensed GPs= qualification codes 003, 004, 007 and 008
***GPs in training= qualification codes 005 and 006

1.4.1.1 Licensed and non licensed GPs: numbers and percentages by gender (INAMI/RIZIV database)

Table 1 and 2 in appendix 1.9 show the proportions of men and women among the unlicensed and the licensed GPs respectively.

Among unlicensed GPs (table 1 in appendix 1.9), the percentage of males decreased from 62% to 53% between 1995 and 2005 while the percentage of females increased from 38% to 47% during the same period.

The number of licensed GPs increased from 1995 to 2005, particularly for the women (from 2 747 in 1995 to 4 433 in 2005) (table 2 in appendix 1.9). The number of men remained quite stable (from 9 550 in 1995 to 9 746 in 2005) and their proportion decreased.

Table 3 in appendix 1.9 displays the number of GPs in training in the years 1995, 2000 and 2005 (qualification codes 005 and 006). The number of women decreased from 1995 to 2005 and declined sharply for men (from 430 in 1995 to 273 in 2005).

1.4.1.2 Inactivity or small practice in the curative sector for licensed GPs under AMI: analysis by age group (INAMI/RIZIV database)

Since the licensed GPs can perform more AMI medical acts compared to the unlicensed GPs, it is normal that the inactivity in the curative sector is much higher for the unlicensed GPs than for the licensed GPs. As a consequence, we stratified our analysis by licensing status. The results for the licensed general practitioners are displayed in table 2 below. Table 4 in appendix 1.9 displays the results for the unlicensed general practitioners. This total number includes the GPs who are potentially available (called "active", i.e. not being dead, and not known as being out of practice, nor retired, nor living abroad, nor forbidden of practice) (group nr 16 in appendix 1.8).

The following analyses only focus on the licensed general practitioners of the INAMI/RIZIV database.

The total licensed GPs increased throughout the years (from 12 292 in 1995 to 14 170 in 2005) (table 2) as well as the proportion of GPs who were inactive in the curative care. The inactivity percentage was defined as the GPs having 0 INAMI acts during the year (group nr 19 in appendix 1.8). This percentage increased for all age groups throughout the period considered (from 4% in 1995 to 12% in 2005 globally). More precisely, the increase was more noticeable for the age groups above 30 years. Indeed, between 1995 and 2005, the inactivity percentage for the age group between 30 and 39 years old increased from 4% in 1995 to 11% in 2005, while it only increased from 6% in 1995 to 9% in 2005 for the age group between 25 and 29 years.

The small practices were defined as GPs who provide between 1 and 1249 acts during the observed year. The small practice percentages increased as well as the inactivity percentage in the age groups from 25 to 39 years old.

Table 2: Inactivity or small practices in the curative sector for licensed GPs : numbers and percentages among potentially available GPs, by age group in 1995, 2000 and 2005. (Source: INAMI/RIZIV database, Belgium, 2007)

Age groups	Year								
	1995			2000			2005		
	% inactive in curative care under AMI*	Small practice percentage**	Total GP***	% inactive in curative care under AMI*	Small practice percentage**	Total GP	% inactive in curative care under AMI*	Small practice percentage**	Total GP
25 - 29	6.0	41.1	470	7.3	42.3	634	8.9	50.9	440
30 - 39	3.9	15.3	4307	9.5	15.8	2951	11.0	20.8	2696
40 - 49	2.6	11.0	4496	6.9	10.7	5413	11.4	12.9	4413
50 - 59	2.6	10.6	1454	4.4	10.5	2589	7.4	11.7	4359
60 - 69	6.4	19.1	1126	10.3	17.9	1185	10.8	18.1	1265
70+	25.1	44.6	439	36.2	34.9	702	43.5	30.3	997
total	**4.3**	**15.6**	**12292**	**8.8**	**15.2**	**13474**	**12.2**	**16.9**	**14170**

Source: INAMI/RIZIV (file of profiles), 2007
*The inactivity percentage is computed for MDs who do not provide any INAMI act during the observed year (group nr 19 in appendix 1.8).
** The small practice percentage concerns MDs who provide between 1 and 1249 acts during the observed year.
***The total GP concern the licensed GPs who are potentially available (those called "active", i.e. not being dead, and not known as being out of practice, retired, living abroad, nor forbidden of practice) group nr 16 in appendix 1.8
****Difference between the totals of table 5 and the totals of table 3 due to calculation on 2 different INAMI files (max loss/years: 9 persons).

1.4.1.3 Inactivity or small practice in the curative sector for licensed GPs under AMI: analysis by gender (INAMI/RIZIV database)

Figures 1 and 2 (see appendix 1.9) detail the table 2 (above) for the percentages of GPs who are inactive in the curative sector, by gender.

Figure 1 clearly shows that the inactivity percentage increased gradually for all age groups for the female GPs. However, the increase was less pronounced for the younger age groups (from 5.6% in 1995 to 10% in 2005) compared to the other age groups.

The global inactivity percentage for the men also increased for all age groups (figure 2) but to a lesser extent, compared to the global inactivity percentage of the women (respectively 6% in 1995 to 15% in 2005 for the women versus 4% in 1995 to 11% in 2005 for the men).

The inactivity percentage for the youngest age groups remained stable (from 6.5% in 1995 to 6% in 2005) compared to the inactivity percentage of women for the same age groups (from 5.6% in 1995 to 10% in 2005). The strong variations among this youngest age group can be explained by the small size of this group (137 men in 2005).

Tables 5 and 6 in appendix 1.9 give details on the percentages of inactivity or small practices for licensed/unlicensed general practitioners by gender and by age group (1995, 2000 and 2005).

1.4.1.4 Inactivity in the curative sector for the licensed GPs: analysis per linguistic community (INAMI/RIZIV database)

Figures 3 and 4 in appendix 1.9 show the inactivity percentages for the French-speaking and the Dutch-speaking licensed GPs. For further details on those two figures, see table 7 in appendix 1.9.

Although the number of licensed GPs increased in the French-speaking part (from 5849 in 1995 to 6644 in 2005), the proportions of inactivity increased too for all age groups (from 4% in 1995 to 11% in 2005) (figure 3, appendix 1.9).

The inactivity proportion for the younger age group increased from 5.6% in 1995 to 8% in 2005.

The number of licensed GPs was higher in the Dutch speaking part (from 6443 in 1995 to 7526 in 2005) (table 7 in appendix 1.9) compared to the French-speaking part of Belgium. However, the increase of inactivity proportion was slightly higher in the Dutch-speaking part (from 4% in 1995 to 13% in 2005) (figure 4, appendix 1.9) compared to the French-speaking part of Belgium (from 4% in 1995 to 11% in 2005) (figure 3, appendix 1.9). However, the differences were not statistically significant (table 4 below).

The small practice percentages were higher in the French-speaking part than in the Dutch-speaking part of Belgium and this for all age groups (table 7 appendix 1.9).

1.4.1.5 Inactivity in the curative sector for the licensed GPs: annual growth rates by age group and gender (INAMI/RIZIV database)

Overall, the inactivity rate of licensed GPs increased annually, for all genders and in mostly all age groups (table 3 below). As an example, inactivity increased by an annual 8.3% among men and 6% among women for those aged 30-39 years. The only exception is the youngest age group (its size is however small): the inactivity rate decreased by non-significant 2% annually for the men between 1995 and 2005, while it increased by a 4% for women.

We tested whether men and women had different annual growth rate of inactivity (see p-value column). Broadly the test was non significant or had a borderline significance (for 30-39 and 50-59). There is very slight evidence that the growth rate of inactivity has been higher for men than women.

Table 3: Licensed GPs: annual growth rate of the inactivity in the curative sector under AMI by age group and gender, 1995-2005. Source: INAMI/RIZIV database, Belgium, 2007

Age group	Yearly growth rate men [a]	95% CI		Yearly growth rate women	95% CI		p-value Men-women difference
25 – 29	-.022	(-0.09, 0.04)		0.041	(0.00, 0.08)	*	0.05
30 – 39	0.083	(0.06,0.10)	***	0.060	(0.05, 0.08)	***	0.04
40 – 49	0.106	(0.09, 0.12)	***	0.118	(0.10, 0.14)	***	0.14
50 – 59	0.081	(0.06, 0.10)	***	0.042	(0.00, 0.08)	*	0.04
60 – 69	0.023	(0.00, 0.04)	*	0.063	(0.00, 0.13)	*	0.11

Source: INAMI/RIZIV (file of profiles), 2007 a is estimated by a beta coefficient of the binomial regression: inactivity rate at time t = a + b year ; ***significant at 0.001; ** at 0.01; * at 0.05;

1.4.1.6 Inactivity in the curative sector for the licensed GPs: annual growth rates by linguistic community (INAMI/RIZIV database)

The annual growth rate of inactivity was stratified by linguistic community (table 4 below). Overall, the differences between the communities were small. However, among the youngest age group, the increase of inactivity was much more important in the French-speaking (annual growth rate of 8.5%) than in the Dutch-speaking part (1.1%). In the other age groups, the growth rate was slightly more important for the Dutch-speaking GPs compared to the French-speaking GPs but these differences were not statistically significant, apart for the age group 40-49 and 60-69 (p-value=0.02).

Table 4: Licensed GPs: annual growth rate of the inactivity in the curative sector under AMI by age group and linguistic community, 1995-2005. Source: INAMI/RIZIV database, Belgium, 2007

Age group	Yearly growth rate FR	95% CI		Yearly growth rate NL	95% CI		p-value Difference north/south
25 – 29	0.085	(0.01, 0.16)	*	0.011	(-0.03, 0.05)		0.04
30 – 39	0.081	(0.06, 0.10)	***	0.093	(0.08, 0.11)	***	0.17
40 – 49	0.117	(0.10, 0.13)	***	0.141	(0.12, 0.16)	***	0.02
50 – 59	0.085	(0.06, 0.11)	***	0.096	(0.07, 0.12)	***	0.28
60 – 69	0.013	(-0.01, 0.04)		0.051	(0.03, 0.08)	***	0.02

Source: INAMI/RIZIV (file of profiles), 2007 a beta coefficient of the binomial regression: inactivity rate at time t = a + b year; ***significant at 0.001; ** at 0.01; * at 0.05;

An analysis has been carried out In order to assess if the situation is different between GPs and the specialists, (see figures 5 and 6 and table 8 in appendix 1.9)

1.4.2 CIPMP DATABASE: Inactivity 4 to 6 years AND 9 to 11 years after the degree as Medical Doctor

1.4.2.1 Inactivity in the curative sector for the non licensed and the licensed GPs: analysis per gender (CIPMP database)

The total number of young qualified GPs (unlicensed or licensed) increased from 1988 to 2001 (from 944 between 1998 and 1990 to 1137 between 1999 and 2001). However, the proportion being inactive in the curative sector 4 to 6 years after their degree as MD increased too (from 12.7% in 1994 to 19.2% in 2005) (table 5 below). Female GPs had higher inactivity proportions than male GPs throughout the period but the proportion of men inactive in the curative sector nearly doubled during the same period.

1.4.2.2 Inactivity in the curative sector for the specialists: analysis per gender (CIPMP database)

Compared to the GPs, the inactivity in the curative sector among specialists was less important 4 to 6 years after their degree as specialists (from 1.36% in 1994 to 2.15% in 2005) and much more stable during the observed years (table 5). The difference between genders for the specialists is slighter than among GPs (1 or 2% only).

Table 5: Inactivity among unlicensed and licensed GPs and specialists four to six years after their degree as MD: percentages and numbers by gender. A study of four groups qualified as MD between 1988 and 2001, in Belgium (CIPMP database, 2007)

		Cohorts							
		Qualified as MD in 88, 89, 90		Qualified as MD in 93, 94, 95		Qualified as MD in 96, 97, 98		Qualified as MD in 99, 2000, 01	
		% inactive in the curative sector** in 1994	total number	% inactive in the curative sector in 1999	total nber	% Inactive in the curative sector in 2002	total nber	% inactive in the curative sector in 2005	total nber
General practitioners *	Women	17.57	444	14.79	311	25.15	489	21.44	709
	Men	8.40	500	11.97	259	15.41	318	15.42	428
	Total	12.7	944	13.51	570	21.31	807	19.2	1137
Specialists	Women	1.89	476	2.26	619	1.84	761	2.45	856
	Men	1.11	995	0.96	936	1.49	803	1.82	822
	Total	1.36	1471	1.48	1555	1.66	1564	2.15	1678

*"General practitioners" include the licensed and the unlicensed general practitioners
**for whom no place of curative care has been registered

1.4.2.3 Inactivity in the curative sector for the unlicensed and the licensed GPs: analysis per linguistic community (CIPMP database)

Eight percent (8%) of the GPs who qualified between 1988 and 1990 in the French-speaking Community were inactive in the curative sector in 1994 (i.e. four to six years later) (table 6). This inactivity rate increased with 12% in 2005 for the GPs qualified between 1999 and 2001 in the French-speaking Community. This increase was even more noticeable in the Dutch-speaking community: 16% in 1994, climbing to 25% in 2005.

1.4.2.4 Inactivity in the curative sector for the specialists: analysis per linguistic community (CIPMP database)

The inactivity percentages of the specialists were always much lower than those of the general practitioners, throughout the various cohorts (table 6). In 2005, 2.2% of the specialists were inactive in the curative sector against 19.2% of the GPs. We also notice that the number of GPs increased compared to the specialists, which might partly explain the noticeable increase of inactivity in the curative sector among GPs from different the cohorts.

Table 6: Inactivity among unlicensed and licensed GPs and specialists four to six years after their degree: percentages and numbers, by linguistic community. A study of four groups qualified as MD between 1988 and 2001, in Belgium (CIPMP database, 2007)

		Cohorts							
		Qualified as MD in 88- 90		Qualified as MD in 93- 95		Qualified as MD in 96- 98		Qualified as MD in 99-01	
		% inactive in the curative sector** in '94	total nber	% inactive in the curative sector in '99	total nber	% inactive in the curative sector 5 in '02	total nber	% inactive in the curative sector in '05	Total nber
General practitioners *	French	7.71	350	12.66	237	11.38	325	11.84	515
	Flemish	15.66	594	14.07	334	28.01	482	25.24	622
	total	12.71	944	13.49	571	21.31	807	19.17	1137
Specialists	French	0.68	736	1.72	697	0.95	740	1.91	786
	Flemish	2.04	735	1.28	858	2.31	824	2.35	892
	total	1.36	1471	1.48	1555	1.66	1564	2.15	1678

* these include the licensed and the unlicensed general practitioners
**for whom no place of curative care has been registered

1.4.2.5 Inactivity in the curative sector 9 to 11 years after degree as MD: analysis by gender (CIPMP database)

The following section focuses on the inactivity in the curative sector for the unlicensed and licensed GPs who were inactive in the curative sector 9 to 11 years after their degree as MD if they had at least one place of curative care 4 to 6 years after their degree as MD.

Among the GPs who qualified between 1988 and 1990 and who had at least one place of curative care in 1994, 7.5% had left the curative sector in 1999 (i.e. no place of curative practice registered, see table 7).

A difference in gender can be noticed: more female GPs than male GPs were inactive in 1999 if they had at least one place of curative care in 1994 (respectively 10.60% for the women and 5% for the men).

Regarding the specialists who were active in the curative sector in 1994, 1% of them had left the curative sector in 1999 compared to 7.5% for the GPs (table 7 below and table 13 in appendix 1.9).

It is important to notice that few GPs and few specialists came back in the curative sector in 1999 if they were inactive in 1994 (8 GPs and 10 specialists) (table 7 below and table 13 in appendix 1.9). These numbers are small, compared to those physicians who left the curative sector in 1999 if they were active in the curative sector in 1994 (60 GPs and 12 specialists). This observation confirms that the losses in the curative sector are not compensated by those who come back.

Table 7: Inactivity among unlicensed and licensed GPs, qualified between 1988 and 1990 as GP, active or not in the curative sector in 1994: numbers and percentages by gender (Source: CIPMP database)

Qualified as GP in '88- '90		Situation in 1999			
Situation in 1994		Active		Inactive	
		%	N	%	N
Women	Active	88.24	315	10.64	38
	Inactive	9.09	7	90.91	70
Men	Active	93.71	417	4.94	22
	Inactive	2.44	1	97.56	40
Total	Active	91.27	732	**7.48**	60
	Inactive	6.78	8	93.22	110

Among the GPs who qualified between 1993 and 1995 and who were active 4 to 6 years after their degree, 14.6% had left the curative sector in 2005 (table 8). Compared with the previous table (table 7), the inactivity percentage between both cohorts increased (from 7.5% for the GPs qualified between 1988 and 1990 to 14.6% for the GPs qualified between 1993 and 1995).

A difference between genders can also be noticed: 18% of female GPs had left the curative sector in 2005 if they had at least one place of curative care in 1999 compared to 10.5% for the male GPs (compared to 10.64% for the women and 5% for the men of the previous cohort).

Regarding the specialists (table 14 in appendix 1.9), the proportion having left the curative sector in 2005 if they had at least one place of curative care in 1999 (1.4%) stayed quite similar compared to the previous cohort (0.8%).

Here too, few GPs and specialists came back in the curative sector in 2005 if they were inactive in 1999 (5 GPs and 14 specialists) compared to those who left the curative sector in 2005 if they were active in the curative sector in 1999 (70 GPs and 22 specialists).

Table 8: Inactivity among unlicensed and licensed GPs, qualified between 1993 and 1995, active or not in the curative sector in 1999: numbers and percentages by gender (Source: CIPMP database)

Qualified as GP in '93- '95		Situation in 2005			
Situation in 1999		Active		Inactive*	
		%	N	%	N
Women	Active	81.15	211	18.08	47
	Inactive	4.44	2	95.56	43
Men	Active	87.73	193	10.45	23
	Inactive	10.00	3	86.67	26
Total	Active	84.17	404	14.58	70
	Inactive	6.67	5	92.00	69

*for whom no place of curative care has been registered

1.4.2.6 Inactivity in the curative sector 9 to 11 years after the degree as MD: analysis by linguistic community (CIPMP database)

The tables of these analyses are in appendix 1.9. (tables 9 to 12).

For the GPs who qualified between '88 and '90 and had at least one place of curative care in 1994, there are few differences between the inactivity percentages of the French-speaking and the Dutch-speaking GPs, who left the curative sector in 1999 (6.8% for the French-speaking Community and 7.9% for the Dutch-speaking Community).

The same phenomenon can be observed for the specialists qualified between '88 and '90 (who had at least one place of curative care in 1994 and who had left in 1999) although the rate of inactivity is much lower (1% for the French-speaking Community and 0.7% for the Dutch-speaking Community).

For the GPs who qualified between '93 and '95, the inactivity percentage a few years later is higher than the one from the previous cohort. Indeed, 11.60% of the French speaking GPs who had at least one place of curative care in 1999 had left the curative sector in 2005 compared to 16.6% for the Dutch-speaking GPs.

The inactivity percentages for the specialists are slightly higher than for the previous cohorts (1.17% for the French-speaking and 1.65% for the Dutch-speaking).

1.5 DISCUSSION

1.5.1 Main findings

These results show that the absolute number of licensed GPs has been increasing but the proportion of inactive licensed GPs in the curative sector also increased.

The first important finding is that the number of licensed GPs increased during this last decade. Such increase might be explained by the mandatory training to become a general practitioner that has been progressively introduced.

Secondly, the results show, between 1995 and 2005, an increasing percentage of inactivity in the curative sector among licensed GPs for all age groups, both genders and both linguistic communities. This also applies to the proportion of small practices. The level of inactivity is however age-specific: it was more pronounced among the age group between 30 and 49 years. This suggests a recruitment problem (adding postgraduates – those with an MD degree– to the pool of practicing GPs) in general practice. This finding is consistent with the longitudinal follow-up: the inactivity percentage among the recently qualified GPs increased in the more recent cohorts compared with the older ones. This was not counterbalanced by GPs coming back in the curative sector: more GPs left the curative sector than GPs came back 9 to 11 years after their MD degree if they had been inactive in that sector before.

Third, if we compare the inactivity proportions between the licensed GPs and the specialists, there are slight differences regarding both the trends and the level of inactivity. Indeed, the global inactivity for specialists also increased for both genders and this increase was higher than for the licensed GPs. In particular, the young female and male specialists aged 30 to 39 years were both more likely to be inactive in 2005 than the corresponding young female and male GPs.

Finally, we found little evidence that the communities had either different inactivity level or different growth rate of inactivity, between 1995 and 2005. However, for the 40-49 years old, the annual inactivity growth rate in the curative sector was more important among the Dutch-speaking GPs compared to the French-speaking GPs.

1.5.2 Strengths of the study

This is the first Belgian study that describes the evolution of the inactivity among GPs on both cross-sectional and longitudinal data by age, gender and linguistic community.

A second strength of this study is the comparison with specialists that allowed observing that the global inactivity percentage for specialists also increased for both genders and this increase rate was higher than for the licensed GPs, especially for men.

The third strength is the fact that two valid data sources have been analyzed showing converging results. Furthermore, in 2002, the CIPMP compared its file with a file of one of the 3 most important Sickness Funds of Belgium (see appendix 1.6). They found a rather good level of concordance: when the CIPMP recorded a place of curative activity, the sickness fund recorded a curative act in 91% of the cases. However, when the CIPMP could not find any curative activity, the sickness funds did actually register one in 43% of the cases. This could owe to the important percentage of GPs having a very small practice size (around 17% according to the INAMI/RIZIV analyses): these GPs would not have a practice office and would thus not be identified by the CIPMP.

Last, the findings of this study are valid as showed by their accordance with the results of previous works, as discussed below.

1.5.3 Comparison with previous works

The results are consistent with the studies synthesised in appendix 1.10.

According to Roberfroid et al [7], 11 626 GPs performed at least 1 contact to at least 50 individual patients in 2005 among the 18332 active general practitioners, that is 63%

were practicing. This percentage is lower than in this study and this may be due to the less restrictive definition of "active in the curative sector".

These results are similar to the results of this study: 20163 general practitioners are registered in the INAMI/RIZIV database from which 18217 are registered as active in the curative sector, from which 12971j had performed at least one curative act in 2005.

A. De Wever [12] concluded that in 2001, 23.7% of the general practitioners had no curative activity (licensed, unlicensed and in training). The results of this study are not similar since we analysed the licensed and the unlicensed GPs apart and that we excluded the GPs in training from our main analysis.

The higher rate of inactivity for the younger GPs is consistent with a study carried in 1999 [9]. A lower activity level was more common among those having 5 to 9 years of practice (25%) than among those having between 15 and 19 years of practice (18%). It was also more frequent among GPs than among specialists. The trend of the inactivity percentage is similar to that study for the cohort of GPs who qualified between '88 and '90: 12.71% of men and women of this cohort had left the curative sector 4 to 6 years after their degree as GPs while only 7.5% of men and women of the same cohorts had left this sector 9 to 11 years after their graduation as GPs if they had been active in the curative sector 4 to 6 years after their graduation as GPs.

On the other hand, this same trend cannot be observed within the cohort of GPs who qualified between '93 and '95 (13.5% compared to 14.5%).

14% of men and women who qualified between '93 and '95 had left the curative sector 4 to 6 years after their degree as MD, while 9% of men and women of the same cohorts had left this sector 9 to 11 years after their graduation as MD if they had been active in the curative sector 4 to 6 years after their graduation as MD.

The denominator of this study is slightly different from Van Baelen et al. Their denominator included all MD intending to work as general practitioners 5 years after their core graduation (3 years after their degree as MD) while our denominator only included the licensed and the unlicensed general practitioners. However, the CIPMP cohort's results look very similar to the results of Van Baelen [13]. According to Van Baelen et al, 30% of the cohort of students graduated between in 1995 and who had the intention to study for general practice before their degree as MD had left the general practice five years later (25.3% for the men and 29.4% for the women). This is quite similar to the 15.41% (men) and the 25.15% (women) who graduated between '96 and '98 and were observed in 2002 (CIPMP database).

The data from this study show that, in comparison with the study of Van Baelen [13], more women GPs (21.44%) than men GPs (15.42%) were inactive in the curative sector 4 to 6 years after their graduation as MD between 1999 and 2001.

1.5.4 Limitations of the study

There are risks of misclassification in both databases.

Firstly, for the INAMI/RIZIV database, some GPs with a curative activity may have been wrongly classified as non-practicing care. This is for example the case of GPs practicing in primary care centers being financed on a capitation basis[k], GPs practicing in hospital emergency departments, the GPs in training[l] working under the supervision of their training supervisors[m] when the latter signs all act of the practice. These GPs do practice curative activities, but some of them may not be tracked through reimbursement claims. This bias is however unlikely to change our results because a

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j This percentage has been calculated on the licensed and the non-licensed GP → (14170- 12.2% of 14170= 12442) + (3346- 84.2% of 3346= 529)) = 12971. See tables 4 and 5 appendix 1.9.

k In 2005, 349 medical doctors (from which 267 were licensed) were working in medical houses financed with capitation financing. (source: Meeus see appendix 1.7)

l This category has therefore been excluded in our main analysis.

m In 2005, 549 training supervisors were registered.

recent study (Meeus, 2007[14]) showed that this group is rather limited (see appendix 1.7).

The second risk of misclassification comes from the definition of "inactive in the curative sector": those having "zero curative acts" during the year. This criterion falls short to be a fully active MD in the curative sector (the official minimum to be certified is about 1250 contacts a year). This is why we paid attention to small practices that decrease over time, at least for the licensed GPs older than 30 years old. Pooling together the "inactivity" with the small practice groups would have thus increased the overall inactivity rate and slightly smoothed the trend in the inactivity rate.

Thirdly, the situation codes[n] of the activity of the MDs registered in the INAMI/RIZIV database are based on spontaneous and their personal and non-compulsory declaration. This information may thus not always be updated or accurate, influencing the total number of MDs who are really "active" (or inactive). Recent data from the INAMI/RIZIV show that the situation codes are 98% correct when the GP is inactive; but for those called "active", only 71% do really practice care [15].

Fourth, we excluded from the denominator the situation codes corresponding to inactivity. Consequently, our inactivity percentages are restricted to those who are still potentially available. We could have included the GPs being abroad or temporarily inactive in our denominator, but if we had chosen to include those extra losses; the percentages of inactivity would have been higher. However this group has a rather small size and our percentages would have not been too much affected. Furthermore, we did not take into account those who never registered at the INAMI/RIZIV whereas such a decision also contributes to poor recruitment for the curative practice.

Fifth, the CIPMP database registers curative activities by comparing various files and information. Some information may be missing: it is possible that some GPs are active in the curative sector but are not being registered as such. However, comparisons with sickness funds and RIZIV/INAMI databases have shown a good concordance between the information of the CIPMP and these databases (see details in appendix 1.6).

Sixth, the year of MD degree used in the inactivity analyses is approximate, since it is based on the theoretical year of MD degree (which is reliable) and not on the exact (observed) time of MD degree. For those who were still allowed to follow a part-time training, the estimated date of the degree is thus too early in the life cycle, and the inactivity rate might thus be overestimated.

Finally, the scope of this study was limited to the factors and policies that influence the attraction, recruitment and retention in the profession. This study did not consider other topics that should have been also interesting for analyzing in detail the demography of the GP population. As stated in introduction, the background of this study was the analysis of the medical supply in Belgium [7] and this topic was not anymore considered in this report. There is also a lack of information on the GP population who is inactive and is not anymore available: only the potential workforce has been the target population of the analyses. One also has to take into account the increase of foreigners in medical specialization and practice, a consequence of the recent openness of the EU internal market. This situation generates questions concerning medical workforce supply planning. Indeed, in 2006, 106 foreign MDs began a practice, contributing for 12.1% of the medical workforce inflow, compensating to some extent the observed losses of Belgian GPs working in the curative sector [7].

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[n] See appendix 1.4

1.6 STATE OF THE ART OF THE GENERAL PRACTICE IN BELGIUM: SUMMARY

The absolute number of licensed GPs increased during this last decade because of the law obliging them to specialize in order to be licensed. However, the percentage of inactivity in the curative sector among those licensed GPs increased for all age groups, both genders and both linguistic communities. This increase of inactivity in the curative sector was more important among GPs aged between 30 and 49 years old compared to the other age groups. The inactivity in the curative sector as well as the growth rate of such inactivity was very similar in both linguistic communities. The percentage of inactivity in the curative sector of GPs 9 to 11 years after their degree as MD among the GPs who were active in curative care 4 to 6 years after their degree as MD increased too.

This analysis supports the idea that the recruitment is a major challenge for the general practitioners' activity in the curative sector.

2 CHAPTER 2: LITERATURE REVIEW ON FACTORS INFLUENCING ATTRACTION, RECRUITMENT AND RETENTION OF GENERAL PRACTITIONERS

2.1 OBJECTIVES

The previous chapter showed that GPs were increasingly more likely to drop out from medicine after their graduation. The systematic literature review of this chapter aims to analyze the factors that influence attraction, recruitment and retention of GPs in the profession in Western countries.

2.2 LITERATURE SEARCH METHODOLOGY

Cf. details in appendix 2

2.2.1 Strategy of research:

- Large scope of inclusion criteria ensuring a broad exploratory phase,
- Search equation to obtaining a high sensitivity.

The literature search was limited to the publications published since 1997

2.2.2 Data sources

The existing literature was first searched in Pubmed:

http://www.ncbi.nlm.nih.gov/sites/entrez and ISI web of Science:

http://portal.isiknowledge.com/portal.cgi?DestApp=WOS&Func=Frame

The other websites/data bases consulted are in appendix 2.1

2.2.3 Phase 1: Research questions

The literature review focuses on factors and policies (see chapter 5 for the policies) influencing GPs attraction-recruitment-retention in industrialized countries. The objective is to identify the effective policies to improve attraction, recruitment and retention in order to formulate a range of possible solutions to be proposed to the stakeholders of chapter 7.

A large body of literature comes from North America, Australia and New Zealand. The problems of recruitment and retention are in particular crucial and well studied in the rural areas of those regions.

The theoretical considerations were based on the recent work of Bilodeau et al (2006) [16] published by the GRIS (Groupe de Recherche Interdisciplinaire en Santé, Montréal). They analyzed the factors influencing the recruitment and retention that are defined as follows:

- Attraction: attracting students who are likely or plan to be GPs, influencing specialty choice of undergraduate and graduate students, and educating future GPs,
- Recruitment: adding postgraduates –those with an MD degree– to the pool of practicing GPs (through internship, residency and, secondarily, choice of practice location),
- Retention: maintaining GPs in they current practice.

Furthermore, they developed a theoretical model that displays the relationships between the main categories of factors that influence the attraction, recruitment and retention of GPs in remote areas.

2.2.4 Phase 2: Identification, selection and quality appraisal of the literature

The appendices 2.2 and 2.3 summarize the terms used, the search strategy and the selection procedure of the papers.

The tree in appendix 2.4 details the number of articles found and selected, as well as the resons for inclusion/exclusion.

The researchers selected the papers using a specific appraisal tool (see appendix 2.5). The results of the quality appraisal are summarized in the tables of the appendix 2.6.

2.3 RESULTS OF THE LITERATURE REVIEW: ATTRACTION, RECRUITMENT AND RETENTION IN THE GP PROFESSION

2.3.1 Factors affecting GPs attraction-recruitment-retention

The attraction of future general practitioners, their recruitment in the profession and the longevity of their career are three poles subject to a variety of influencing factors. The object of this chapter is to analyze their description in the literature.

2.3.1.1 Theories about GPs attraction-recruitment-retention

This chapter introduces two theoretical models that present in a structured way the factors influencing the attraction, recruitment and retention of the general practitioners in the profession.

Bland-Meurer and al. (1995) [17] are the authors of another model which focused on a presentation of the factors influencing the attraction of the future general practitioners for the profession. This model is in fact integrated in the attraction part of the model of Bilodeau and al. that will be further detailed.

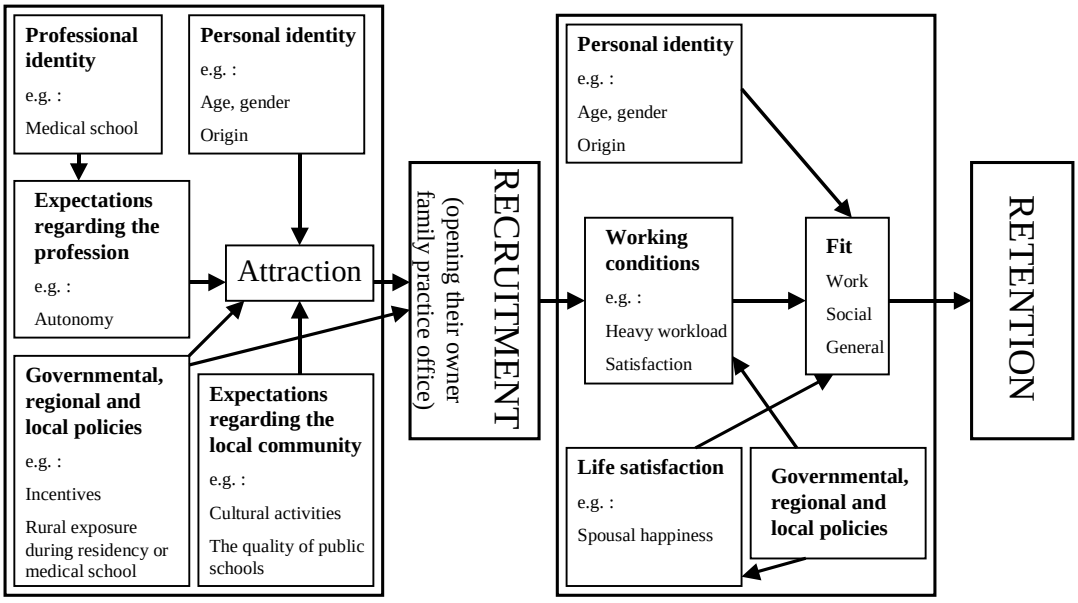
Bilodeau et al elaborated a theoretical model (2006) based on existing knowledge that considers different factors related to the 3 poles of the problem, namely attraction to the profession, recruitment and the retention of this choice of career (see illustration below). They considered all factors concerned in the process of decision of a place of practice and their interrelationship. The authors consider that the attraction, the recruitment and the retention of the practice in rural area refer to three distinct dynamics with specific factors. This model has limitations that will be discussed in the chapter about policies. It is quite artificial as the same factors interfere with the three stages. Moreover, some personal factors also influence the decisions.

The authors define the concept of attraction as a positive attitude with regard to the practice of medicine in rural area, without necessarily any further installation of their practice in this area. This research opted for another definition of attraction: "attracting students who are likely or plan to be GPs, influencing specialty choice of undergraduate and graduate students, and educating future GPs", not only limited to the rural area. The concepts of recruitment and retention used in this research are otherwise in adequacy with the definitions of Bilodeau et al.

- recruitment = adding postgraduates –those with an MD degree– to the pool of practicing GPs (through internship, residency and, secondarily, choice of practice location)
- retention = maintaining GPs in their current practice

The model of Bilodeau et al provides an adequate framework to organize the results of this literature review in a logical and judiciously articulated way.

Model of recruitment and retention of the GPs in distant area (Bilodeau and al. 2006).



Three parts are developed in the following pages.

- The first one details factors influencing favorably or not the choice to become general practitioner (GP) (College, high school and undergraduate Students).
- The second one presents the parameters that have an impact on the recruitment of the general practitioner in a given area.
- The final chapter considers the factors influencing the longevity of a career of general practitioner (retention).

2.3.1.2 Attraction: Choice to become general practitioner (College, high school and undergraduate Students)

Several characteristics related to the profession attract students who are likely or plan to be GPs, influencing specialty choice of undergraduate and graduate students, and educating future GPs.

This literature mainly comes from the US (61%) and from the UK (71% of the European papers). Some Australian and New Zealand studies (5%) and a few Canadian ones (3%) complete the sources.

PERSONAL IDENTITY

The profile of the student, namely his personal experience as regards health (personal/family experiences with health problems) [18], his participation in health-related curricula/activities (such as an internship in a healthcare setting, career fair or field trip) [18], its rural or urban origins [19] and its academic strengths in required subjects (particularly mathematics and science) [18] have an impact on the attraction for the general practice.

The personality of the future GP also weigh in the balance of the choice of the profession. He presents a pronounced tendency for altruism [18, 20, 21], for social compassion attitudes and values [22, 23] and a less authoritarian personality [21] than in other specialties. The future GPs are less concerned than other future specialists about the

income [23, 24, 25] and the prestige [23, 26] but more concerned about the psychosocial issues of their patients [19, 26, 27, 28, 29].

Different demographic factors are linked with the attraction for general practice. The gender, the age, the race, the marital status and the socioeconomic status are items to be considered.

Female students view GP more positively than male students [22, 23, 24, 30, 31]. Women

have a propensity for relation-orientated, humanistic specialties, such as family medicine [20, 21, 25, 32, 33, 34].

Older age would be a factor favorably influencing the orientation towards general practice according to some studies [20, 21, 23, 26, 34, 35 5]. Other studies did not observe the influence of age [19, 36].

No consensus is observed about the influence of ethnicity. One study suggests that nonwhites might be more inclined than whites to select general practice [33].

Being married and having children would positively influence the attraction for general practice according to some authors, in particular if the partner is also a GP [21, 23, 27, 32, 33, 35 5]

Several studies specify that a low socioeconomic status or low parental income or education is related to the choice of family practice [20, 21, 37].

PROFESSIONAL IDENTITY

The respected title of GP associated with a notion of prestige is an important factor: the society considers actually the GP like a positive role model [34, 38, 39, 40, 41, 42, 43, 44]. In addition, the medical school has a clear influence on the attraction for general practice. Several aspects include the school's characteristics, the environment, the curriculum, the role models suggested and the students' perception.

School characteristics and environment

From a macroscopic point of view, the global academic commitment towards general practice influences the attraction of the student for that specialty [18], in particular according to the presence of a department of family medicine [41, 45, 46 79]. The size of the department, just like its research activity also indicates of the importance conferred on this discipline [45].

The culture of the academic medicine impregnated or not by the mission to encourage students to become GPs also plays a role in the attraction for the profession [26, 45, 47 77]. The attraction of the job is therefore related to quantitative parameters as the proportion of faculty in family medicine [32, 41].

The academic learning environment usually valued and promoted by the medical school faculty favors specialty and subspecialty careers over GP careers. Moreover, the creation of subspecialty-oriented or research-oriented academic environment has unidirectional long-term effects on career decisions of medical graduates [26].

Finally, the increasing representation and leadership by GPs on admission committees has a beneficial effect on the applicants in general medicine [34].

From a microscopic point of view, the direct environment of the student influences his choice, like the class size [45] and the proportion of matriculating students who express an interest in family medicine [32]. In the US, the attendance of a public medical school influences positively the choice to become a GP rather than a specialist: the public medical schools have indeed more reacted to the social pressure to train a higher number of primary care physicians than the private medical schools [21, 32, 33].

Curriculum in general practice

The literature frequently points out that students have a positive attitude after completing a course in GP [21, 26, 41, 45, 48, 49]. Optional courses in primary care as well as

the extra-curricular activities (e.g. elective clinical courses) reinforce this attitude [50, 51, 52].

Role models

The society is also responsible for the attraction for general practice. The friends, members of the family, local health professionals and school teachers, by their encouragements, assistance and interest for the profession, can stimulate the degree of adhesion to general practice [18, 19, 23]. Several students identified professionals in their school and community as role models or mentors. The fact that the future general practitioner can refer to a role model, even a mentor GP during his studies, has a strongly positive influences to the attraction into the profession [18, 19, 21, 23, 28, 34, 47 77, 51, 53 33, 54, 55, 56, 57, 58, 59, 60].

EXPECTATIONS REGARDING THE PROFESSION

The perception of the profession determines the orientation towards a GP career. Some factors favor this orientation although many studies mention factors that have a harmful influence.

Negative perception of the profession

First of all, many papers mention the difficult working conditions of the GPs. They include a heavy workload [28, 61, 62, 63, 64, 65], the stressful lifestyle [30, 44] and the non controllable lifestyle. Inflexibility of hours, required commitment and on call availability [22, 23, 24, 30, 34, 41, 42, 43, 44, 61, 62, 63, 64, 66, 67, 68, 69] are some examples mentioned in the studies to support this assertion.

An other important factor is the balance with a harmonious family life who seems difficult [22, 26, 40, 61, 62, 66, 69] (especially for women [13], a lack of personal time [61] or time with family [30].

Finally, disadvantages related to the health of the GP were mentioned: professional burn out (even in young GP's), stress and depression [62].

Finally, many studies suggest that students perceive that family practice has a less prestigious picture than other specialties within the medical profession. This relative lack of prestige reduces the attractiveness of primary care in comparison with other specialties [22, 26, 27, 28, 29, 30, 33, 42, 43, 44, 55, 70, 71].

The increasing demands and expectations of patients [62, 65, 66, 72] also play a deterring role, with potential litigations [62] that follow their dissatisfaction.

The burden of administrative work also discourage some students [10, 30, 55, 61, 62, 63, 64, 65].

Finally, the absence of teamwork [23, 31] and the insufficient intellectual content [55], are also pointed as factors not favorable to invest in a career of GP.

Positive perception of the profession

The patients have also a positive role as regards the attraction for the GP profession. The practice of a holistic medicine [31, 62] registered in a continuity of care [30, 54, 61, 62, 66] with human dimension [31] are tempting aspects for the future GPs.

The good relationships with staff and local hospitals[62] reinforce the positive attraction for general practice.

In addition, the variety of tasks (to deal with both common and complex problems) [23, 54, 61, 64, 66] represent positive aspects of the profession.

The working conditions of the GP also have a positive features for attracting the future GP's, in particular three aspects related with autonomy: the flexibility of work [61], the control over working pattern [61] and the possibility of a flexible career according to skills, interests, and personal situation [64, 66].

GOVERNMENTAL, REGIONAL AND LOCAL POLICIES

It is important to note that students value the interaction with patients and GPs early in medical school. The contact with primary care modifies the career choices in favor of the general medicine [19, 23, 24, 26, 28, 31, 34, 41, 45, 47 77, 48, 49, 54, 55, 58, 59, 64, 71]. On the opposite, unsatisfactory experiences of medical students in primary care clerkships (i.e. during their training) deter from the specialty [30].

The economic incentives are a driving force in students' choice of careers [54]. The debt that a medical student will incur can be an important factor in career choice because the incomes of a doctor specialist are higher than those of a GP [21, 22, 24, 26, 30, 33, 34, 40, 41, 45, 48, 49, 58, 73]. Still a potential bias may exist if there are important interactions among some independent variables that affect specialty choice. For example, the father's low socioeconomic status and the educational debt may be either complementary or substitutes in their effect on specialty choice [33].

The exhaustive list of all factors found in the literature is in appendix 2.7.

2.3.1.3 Recruitment in rural areas

The literature on recruitment in general practice mainly describes the recruitment in rural areas. A few papers detailed in the following paragraph analyze the recruitment in general practice without any further specification for the setting.

The large body of literature on factors linked with recruitment in rural areas identifies the characteristics related to the personal and professional identity (e.g., the medical school) and the expectations of the GP. More than half of the papers come from the US (53%), 20% from Canada, 20% from Australia or New Zealand and finally, 7% are studies from the UK.

PERSONAL IDENTITY

Various items related to the experience of the GP influence the recruitment in rural area. The school competences (science, verbal,…) [67], being a member of an underserved ethnic/minority group (one of the most important factors of recruitment in rural) [18, 25, 34, 38, 50, 65, 67, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90], having attended a rural primary and secondary school [67, 75, 82, 89, 91, 92] are many factors associated with the recruitment of GPs in rural area.

Various factors linked with the psychological profile of the GP are also at stake. Having a strong interest in practicing in an underserved area prior attending medical school [67, 74, 81, 85, 88, 89, 93, 94] and having a positive opinion of the quality of rural life [77, 79, 92, 95] greatly support the recruitment of the GPs in rural areas.

The independent-minded [74], relationships-driven [74], resourceful [74, 79] and trustworthy [74] personalities work more easily in rural area.

The demographic factors suggest that men are more prone to work in rural areas than women [38, 65, 67, 74, 75, 82, 86, 94, 96, 97, 98]. Neither the age [67, 75, 82], nor the ethnic origin [67, 86] or marital status have an effect.

PROFESSIONAL IDENTITY

The medical school is always a decisive actor in the choice to work in rural area by its characteristics, its policy, its environment, its curriculum, the student exposure to rural practice and patients, the role model and finally the general context.

A medical school support the rural recruitment if it practices premedical recruitment activities targeting future GPs [35 5, 67, 93] or if the medical school is located in rural area [67, 77], if it encourage admission of rural students [57, 77, 87] or selecting candidates whose personal characteristics are compatible with GP rural careers [99].

A medical school curriculum with specific courses that prepare students to understand and work with rural communities have a strong beneficial effect on the recruitment in this area [67, 75, 77, 87, 100, 101].

Mentoring relationships with a rural GP have great effects on the recruitment of the GP [25, 57, 75, 80, 81, 94, 99, 101, 102]. On the other hand, the perception that rural physicians are not reimbursed as well as were their urban counterparts does not encourage the GP to start in rural area [25, 77].

Finally, the mean level of debt [88] predicts urban practice rather than rural practice.

EXPECTATIONS REGARDING THE PROFESSION

Many characteristics related to the profession dissuade the GPs to practice in rural areas: the level of professional commitment (long work hours, frequent calls) [74], the feeling of professional isolation [64, 74], the concern about staying up to date [74] and the higher level of responsibility than urban doctors [77].

On the other hand, some features of the profession have a positive influence on the recruitment of the GPs in rural area: intellectual aspects (wide variety of procedures) [74, 79, 92] and professional autonomy [74, 92].

Some expectations of GPs concerning the social, financial and professional supports of the local community can be mentioned. The presence of a social support network, [74] of a specialist support [92], the opportunity to follow continuing education [78], the availability of capital for practice development [78] are significant criteria in favor of a recruitment in rural areas.

GOVERNMENTAL, REGIONAL AND LOCAL POLICIES

The financial issues greatly influence the recruitment of the GPs in rural area. Loan repayment programs attracts the GP in a rural practice [57, 103]. In addition, some data suggest that a higher debt load upon leaving training is inversely related to the likelihood of practicing in a rural area [67].

An other very important aspect is the rural exposure early during residency or medical school that would have a beneficial effect on the recruitment in this area [18, 32, 38, 57, 67, 75, 76, 77, 79, 81, 86, 90, 91, 98, 100, 101, 102, 104, 105, 106, 107, 108, 109] the longer the exposure, the stronger positive impact [90].

Various items related to the experience of the GP have also an effect on the recruitment in rural areas. Examples from foreign programs are the participation to the "Physician Shortage Area Program (PSAP)" [88, 94] and to the National Health Services Corps [85, 89, 94].

EXPECTATIONS REGARDING THE LOCAL COMMUNITY

The future local environment has an effect on the decision. A friendly community supports the recruitment [110] whereas a high rate of poverty among rural residents rather dissuades it [78].

Moreover, the access to cheaper housing and quality housing in rural area are positive factors [92].

The spouse influences the recruitment of the GP in rural areas by a stronger tendency to choose for a rural area if the spouse adheres to it. Positive factors are a rural exposure during the childhood [74, 82], the compatibility with the partner's career aspiration [78, 79] and the satisfying quality of rural life [74, 79]. The proximity of the family and an environment favorable to its development are also important [18, 77, 92, 103, 110].

Finally the availability of social infrastructures (leisure, education, culture) also supports the recruitment of GPs in a rural zone [77, 78, 79, 95].

2.3.1.4 Recruitment: indifferent area

Different parameters influence the decision to begin with a GP practice, independently of its geographic situation. Half of the scarce literature available for this part comes from US data and the other half is Europeans studies (mostly from the UK).

PROFESSIONAL IDENTITY

The percentage of students interested in family medicine at matriculation is the most powerful predictor of the estimated number of students in a family medicine practice 6 years later [21].

EXPECTATIONS REGARDING THE PROFESSION

The characteristics related to the profession such as the working conditions (heavy workload, lack of flexibility in working arrangements), the increasing demands and expectation of patients, the lack of training, the few career development issues and the poor image and status of GPs do not support the recruitment in the profession [72].

In particular a British study points out the lack of opportunities provided by inner city practice for continuing education [111].

GOVERNMENTAL, REGIONAL AND LOCAL POLICIES

The medical school plays a role with early exposure to clinical and community settings that promote the recruitment of the future GP [34].

2.3.1.5 Retention in rural areas

This chapter reviews the factors that influence the retention of a GP in a rural area and in particular the GP background, the role of the medical school, the characteristics related to the profession, the family and financial issues, the local environment and the demographic factors. The next chapter will analyze the retention phenomenon in any undifferentiated location.

The sources of literature are a majority of American studies (38%), Australian and New Zealand studies (38%), some Canadians (12%) and European sources (12% including 2/3 of UK studies).

PERSONAL IDENTITY

An attachment to a specific area favors his/her professional investment in this rural area [94, 104]. However, three studies conclude that a childhood in a specific environment (inner city or rural area) does not predict the future retention [75, 88, 94]. Gender does not seem to have any influence on the retention [67].

WORKING CONDITIONS

A large body of literature analyzes the difficult working conditions that deter GPs from staying in rural areas. Professional isolation (from specialized medical and other health professional support) [67, 73, 80, 91, 92, 105, 112, 113], the lack of teamwork [114], the heavy workload [73, 80, 81, 84, 88, 89, 91, 92, 97, 105, 112, 113, 115, 116] are many negative factors of retention.

Furthermore, the GPs are dissatisfied because of stressing [116] and exhausting working conditions [81, 105, 114]. The GP working in rural area devotes in fact an important time to his/her work as shown by the long working hours [81, 92, 104, 105, 113, 114, 115, 117, 118], the frequency of being on-call [81, 91, 92, 97, 105, 113] and the inability to get time off [97, 105]. Moreover, the GP holds concurrently various other functions including community health promotion, health education, casual epidemiological research and improvement of the local healthcare delivery system [105].

Conversely, a few working conditions are positive to the retention in rural areas. Factors related to the image of the profession include the recognition for good work by the community [114] and a feeling of doing an important job [81]. The GPs enjoy the continuity of care they provide and the strong relationships with patients and with the community [105]. Moreover, the professional autonomy encourages the retention [81].

The relationships with professional community are also important factors. Conflicts with local hospitals [92] and personality clashes with colleagues [81] decrease the retention of rural areas.

The financial parameters (incomes, debt and the general socio-economic context) also influence the retention in rural areas. Low income (explained by lower reimbursement rates and greater numbers of uninsured patients) acts as a brake on the retention [67, 79, 88, 92, 114] even if a study pointed that the income was usually not a primary concern for the GP [84]. Nonetheless one study noted that GPs placed in underserved communities just stay long enough to repay their loan obligations [119].

Many facets of the local community play an important role in the retention of the GPs in rural areas. The acceptance of the GP by the local community has positive effects on the retention [84, 105, 113].

Some GPs suffer from a lack of professional support e.g., specialty support [67, 81, 113], educational opportunities [67], support from local hospitals or community health staff [81]. In particular, locum relief, defined as "a physician who substitutes temporarily for another physician" (from the Latin "locum tenens" is frequently cited. [80, 81, 91, 97, 105, 113]. Conversely, the availability of relief coverage after hours [105], a good on-call arrangement, including time off for holidays and for continuing medical education [79, 105, 117], a medical group dynamics [79], an available diagnostic service [79] are many factors supporting the retention of the GP in a rural area.

GOVERNMENTAL, REGIONAL AND LOCAL POLICIES

This part is developed in the next section.

LIFE SATISFACTION

The family has a considerable influence on the retention in rural area. The lack of cultural activities and entertainment [81, 91, 105] and the social isolation of the family [80, 81, 91] have a negative impact on the retention. The partner's employment opportunities [84] and his/her happiness in the community are also decisive factors [84, 105].

The lack of anonymity (especially if doctors are hesitate to take a wider role within the community) [105, 112] and the lack of professional development opportunities [105] are supplementary negative factors that play a role in the retention in rural area.

The community support for the personal life retains GPs in rural areas (availability of housing and religious support structures) [105]. A study specifies that the proximity to a city or large regional center is not linked with the retention [117].

2.3.1.6 Retention in indifferent area

Similar factors influence the retention in general practice, independently of the location. They relate to the personal identity, the working conditions and the life satisfaction.

More European studies (61%) are available for that part (mostly (88%) from the UK). American studies (31%) and a few Australian studies (8%) were other sources.

PERSONAL IDENTITY

Demographic factors such as the age, the ethnic origin and the sex affect the retention.

GPs older than 55 years would be more satisfied with their work: the satisfaction declines until age 45 and then increases to the age of 60 [118] Younger GPs are less satisfied with the amount of responsibility. Three studies show however that the intent to leave the profession is higher with advancing age [118, 120].

White GPs seem more satisfied with the working conditions [118].

Women are generally more satisfied with their work than men [118, 121], However, they retire earlier (5.5 years earlier) than men [122, 123].

WORKING CONDITIONS

Difficult working conditions are also a major brake on retention, as explained in the literature about rural areas.

The challenge of maintaining high-quality care [34], of keeping up with a continuously expanding list of recommended therapeutic and preventive treatments [122] and the amount of responsibility play a negative role for the retention [121]. The lack of flexibility in working arrangements [72], the dissatisfaction (for example in the UK, following the NHS reforms) [61, 118, 122], the heavy workload [65, 72, 118, 124], the long hours of work [118, 121] are also related to the problem of the GP retention.

A lot of stressing agents have also an effect on the intention to leave (e.g., night visits, fear of assault during visits, finding a locum) [121]. Additional factors are linked to the patients with their increasing demands and expectation [65, 72].

On the other hand, the studies identified some facilitating factors related to the profession. An overall satisfaction [80, 120, 121], the development of the personal abilities [121], the variety in the job [121], the recognition for good work [121, 125], the positive relationships with the patients [125] are favorable for the GP retention.

The local community features are influential. The positive relationships with the local communities [120] and the professional community support that allow adequate time off [80], training and career development [72] support the retention of the GP. On the other hand, working in deprived areas with lower payments discourages the retention [123].

As a matter of fact, the financial parameters influence the retention of the GP, as noted in the chapters about attraction and recruitment. Many studies present the low incomes [72, 118, 120]and the rising practice costs [122] as negative factors. It should be noted that the GPs with higher incomes were less likely to reduce their working time [122]. A study found that the income is not related to the decision of retirement [122].

LIFE SATISFACTION

The family is important for the retention: if the GP profession creates an imbalance in the family life, the GP will have a higher intention to leave his/her job [121]. A study further specifies that part-time GPs with an important marital or parental role have less intention to leave their job than full-time GPs [126].

2.4 SUMMARY: LITERATURE REVIEW ON FACTORS INFLUENCING ATTRACTION, RECRUITMENT AND RETENTION

This chapter considers all factors that play a role in the attraction of the future general practitioners and in their decision to start and go on with their practice. Many papers study the situation in North America and in Australia, in particular the factors that influence the work in remote rural areas. Some conclusions might not be applicable to Belgium. Nevertheless, the identification of all factors potentially interacting with the attraction, recruitment and retention in the GP profession are worth being analyzed in the context of this project.

This literature review emphasizes the role of extrinsic factors. The most important or influential extrinsic factors that have an effect on the attraction, recruitment and retention were identified as the following ones:

- The major role of the medical school (student's exposure, role model, curriculum…);
- The difficult working conditions (heavy workload, the stressful and the non controllable lifestyle, inflexibility of hours, required commitment and on call availability…);
- The level of income;
- The positive aspects of relationships within the patient.

These findings also underline the complexity of the factors interacting in the decisions and the necessity to tackle the problem using a multidimensional approach.

3 CHAPTER 3:WHY DO STUDENTS CHOOSE TO STUDY GENERAL PRACTICE: QUALITATIVE AND QUANTITATIVE STUDY WITH 7TH YEAR MEDICAL STUDENTS ON MOTIVATIONS TO CHOOSE OR NOT THE GP PROFESSION

3.1 OBJECTIVES

The previous chapter identified the factors influencing GPs' attraction, recruitment and retention from the national and international literature. Are they relevant for the Belgian context? This chapter specifically focuses on the Belgian situation. Each country has indeed its own health care system, medical training tradition and labor market equilibrium and it is important to ensure that the Belgian situation is in accordance with the literature findings from the US, Australia and the UK.

This chapter studies the influence of the medical school, of the working conditions, of the level of income on the students' decision to choose (or not) general practice as a career.

3.2 LITERATURE

The aim of this survey among students is to look at the interaction of factors related to medical students' specialty choice in Belgium. A specific narrative literature review first focused on the choice of GP profession among students (see appendix 3.1). It served as a guidance for the development of the interview schedule at the beginning of the project, before the systematic literature review described in the second chapter.

The factors related to the choice of the specialty family medicine/general practice (factors related to GPs attraction) follow the chronological pathway of any specialty choice [22].

- a first set of factors concern medical students' characteristics when entering medical school (personal and professional identity). These include their personal characteristics (age, gender, personality), background (socio-economic, rural living area, medical background of the family), their values and their intentions (expectations on income, attitude towards and interest in primary care/general practice);
- the second set includes the medical school and experiences that occur during the process of medical education (classes and practice training = relays in primary care/general practice): curriculum and mainly time allocated to family medicine/general practice, role-models (mostly negative ones), peer encouragement and informal culture of the school (attitudes, comments regarding primary care, strong hierarchical perceptions);
- finally, a group of factors relates to the outcomes of the process of medical education including perceptions about specialties (characteristics and content), career intentions (expectations regarding the profession e.g. income, status, working conditions, relationship with patients, interest in family medicine/general practice) and the influence of financial debt.

3.3 RESEARCH QUESTION

The main research question is: "Which reasons do influence the choice of general practice among Belgian students?"

Three sub-questions define the scope of the research:

- Which factors are related to specialty choice before medical school?
- Which factors are related to specialty choice during medical education?
- Which factors do attract students in the GP profession in Belgium?

3.4 METHODS

Qualitative interviews were first performed. The qualitative survey method is indeed an appropriate method to make an inventory and describe ideas, experiences and actual behavior of a population [127, 128]. The results of this qualitative study were complemented with a quantitative approach that allowed triangulating the results.

3.4.1 Qualitative interview study

The focus of the interview was to explore the reasons for choosing or not choosing general practice as a career and to get an insight in the process of choice.

3.4.1.1 Qualitative instrument

The data were collected by semi-structured interviews based on an interview guide (interview protocol). Three different researchers conducted semi-structured interviews with students allowed a standardization of the process as the interviews. The use of an interview guide also supported tackling the important topics in each interview by all interviewers.

After a standardized introduction [128], the interview guide had open-ended questions (see appendix 3.2. and 3.3.). In this way the interviewees had enough space to tell their stories, but on the other hand this method ensured a comparable approach by the 3 interviewers.

The chronological natural process of specialty choice was the frame of the interview guide [21] : characteristics, attitudes and intentions before entering medical school; experiences during and with the medical curriculum, and the final career choice. So the interview guide was divided in three major parts and students were encouraged to go over and to talk about the elements having influenced their decision during these phases.

During the pilot interviews remembering was not easy and students reconstructed these elements again throughout the interview. Questions regarding the process of choice were repeated but with different wording or from a different angle to give the interviewees the opportunity to add elements or to go more in depth [127].

The initial interview guide was developed in Dutch and then translated into French by the French-speaking interviewer. This draft version was adapted after feedback from the steering group and 3 pilot interviews (2 in Dutch, 1 in French). The major adaptation was the deletion of the section on choice of university because this part did not provide any useful information during the pilot interviews.

A translator, not involved in the project, performed the back translation. A few small (words) corrections were made to the interview guide following this back translation.

3.4.1.2 Participants

A purposeful sample of 24 (12 in Flanders and 12 in Walloon) seventh year medical students in Belgium was recruited. The choice of seventh year students allowed to recruit students at the end of their 'choice trajectory' i.e., interviewees able to provide an information on the whole choice process.

All medical faculties of seven Belgian universities° sent an e-mail letter to their seventh year medical students (total n = 768). The letter provided basic information on the study aim and tackled practical issues and info on compensation (2 movie tickets).

A balanced sample (see appendix 3.4.) was taken out of the total list of interested students (n = 102), based on a predetermined set of criteria:

- specialization choice: first choice is general practice / first and second choice are not general practice,
- gender: total sample contains approximately 50 % male and 50% female students,
- university: at least 2 students of each medical faculty because the academic culture also influences the specialty choice (see chapter 2).

3.4.1.3 Interviews

The selected students were contacted to arrange the interview. Three interviewers (two in Flanders (HB, LS) and one in Walloon (CD)) performed the 24 interviews. All conducted a pilot interview and another researcher provided a feedback. The interviewers agreed on the final version and on interview strategies.

The interviewer could probe areas suggested by the respondents' answers, picking up information and in this way exploring specific topics. This could be done by prepared questions or just by asking for more detail and depth.

Interviews were performed at the student's university and took between 30 minutes and one hour.

3.4.1.4 Analysis

All interviews were audiotaped and transcribed verbatim.

A grounded theory approach (constant comparison method) was used to analyze the data. Open coding is the first step in the analytic process. In the process of coding, pieces of text were identified and labeled. In a second step these open codes were grouped into concepts (axial coding) [128].

Two researchers coded (LS; HB) independently two Dutch interviews, followed by identifying primary codes and organizing a list of concepts (coding frame).

Four more Dutch interviews were then coded using this coding frame, and in this way performing a constant comparison of the concepts in the new interviews. Extra themes emerging from those 4 interviews were agreed upon in consensus.

The French-speaking researcher, who independently developed primary codes and a list of concepts, coded three French interviews.

During a meeting the 3 researchers compared themes and concepts and decided which topics should be integrated into the quantitative questionnaire.

It was agreed upon that the Dutch and French speaking researchers continued to use their own concept lists to code the remaining interviews. A constant comparison of concepts in each group was in this way guaranteed.

One researcher (HB) aggregated the concepts further into the final concept list. The two other researchers (LS, CD) independently checked and confirmed this concept list (see appendix 3.5.).

3.4.2 Quantitative survey study

This part triangulates the results of the qualitative part and offers further quantitative data, so triangulating data of the qualitative study. The same three sub questions were

° UA, UG, VUB, KULeuven, ULG, UCL and ULB

addressed. A transversal study was conducted in the entire population of 7th year medical students of Belgian universities during the academic year 2007-2008.

3.4.2.1 Quantitative instrument

The items of the questionnaire were derived from the literature review detailed above and from the interviews with students in the qualitative part of the study. The interview guide and the three sub-questions (factors influencing before and during medical school and attracting students to choose the GP profession) provided a basis to draft the questionnaire. The chronological order of the specialty process was the frame for the questionnaire as in the qualitative study.

To enable the students to oversee the total package of questions, the questionnaire was divided into five parts. Each part referred to questions from the qualitative study.

- Part I: Personal data

This part explores some socio-demographic factors[P] and analyses the student's choice for his/her university.

- Part II: Choice to study medicine

This part analyses the factors that influenced the students to choose for medicine study. Determining factors emerging from the qualitative study were included (question 12). It also explores if the students already had any idea about their future specialty when they began their academic studies.

- Part III: Choice of the discipline of specialty

This part investigates the specialty preferences. Questions 17 and 18 were added based on the qualitative results.

- Part IV: Contact with general practice

This part focuses on the role of the university in the decision making process for the specialty i.e., the influence of the curriculum and the contacts with general practice and patients. This part also analyses the student's perception about the profession of general practitioner [23, 129] and the factors that influenced this perception. A few questions originating from the qualitative results were added to the questions selected from the literature (question 23). In question 26 the personal GP was added as an information source on the image students have of a GP because that seemed important from the results of the qualitative part.

- Part V: Professional life

Finally, a self-assessment tool [130] explores the values and perception of the students (2 categories: "choose another specialty than GP"; "choose to become a GP") in relation with their future professional life. The final question explores the student's opinion about statements to make general practice more attractive in the future.

The preliminary instrument was developed in Dutch and the draft version was adapted after a feedback from the steering group and 12 students of a pilot sample. Those students were students who were, the year before, in their 7th year of medical study at the Ghent University. In particular, the initial questionnaire was too long. To increase the response rate we shortened and simplified the form. The final version was a multiple-choice questionnaire i.e., the students ticked their answers and the time to fill the questions did not exceed twenty minutes.

Subsequently, a French-speaking researcher (CD) translated the questionnaire into French and a translator not involved in the project performed back translation. A few corrections and additional clarifications improved the final version after this translation. The final versions of the questionnaire are in appendix 3.6. and 3.7.

[P] Some questions were adopted from the questionnaire in 'Career Preference of Medical Students and Career Choice of Recent Graduates' Marc Soethout (p. 156).

3.4.2.2 Participants

During a 2-month period (half December 2007 – half February 2008) the questionnaire was distributed among all seventh year students of all seven Belgian universities offering masters level (KULeuven, UA, UCL, UGent, ULB, ULG and VUB).

The VUB and ULG took care of the distribution themselves. At the KULeuven, UA, UCL, UGent and ULB a researcher of the team communicated with the students about the research, asked for their participation, made clear that the participation was on a voluntary basis and that anonymity was guaranteed. The response rate was between 90 and 39 % according to the universities. The initial balance between genders in the population of students was 40.9% men (n=314) and 59.1% women (n=454). The response rates in each gender group were respectively 52.5% for men (n=165) and 69.6% for women (n=316).

Table 1 shows the overall response rate equal to 62,9% (from 39.2 to 89.6% according to the universities). KUL and UCL are the universities that are most represented (respectively 30,6% and 22,4%).

Table 1: Response rate for each university

		KUL	UA	UCL	UGent	ULB	ULG	VUB	TOTAL
Total 7th year students inscribed	n	218	48	157	122	102	92	29	768
	(%)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)
response rate	n	148	43	108	87	40	38	19	483
	° in correspondence with the 7th year students inscribed in a university (%)	(67,89)	(89,58)	(68,79)	(71,31)	(39,22)	(41,30)	(65,52)	(62,89)
	° in correspondence with the total response rate (%)	(30,64)	(8,90)	(22,36)	(18,01)	(8,28)	(7,87)	(3,93)	(100,00)

Table 2 shows the response rate by specialty choice and gender. Nearly all students (87,2%) already knew for certain their further career path: 29,3% opted for general practice and 58,0% for other specialties.

Table 2: Response rate by specialty choice and gender

	TOTAL respondents	GP without doubt		other specialty without doubt		in doubt about further career path	
		man	woman	man	woman	man	woman
	n (%)	n (%)	N (%)	n (%)	n (%)	n (%)	n (%)
KUL	148 (100)	14 (9,5)	37 (25,10)	35 (23,6)	47 (31,8)	6 (4,1)	8 (5,4)
UA	43 (100)	4 (9,3)	3 (7,0)	12 (27,9)	17 (39,5)	3 (7,0)	3 (7,0)
UCL	108 (100)	5 (4,7)	28 (26,2)	26 (24,3)	40 (37,4)	2 (1,9)	5 (4,7)
UGent	87 (100)	7 (8,0)	21 (24,1)	15 (17,2)	39 (44,8)	2 (2,3)	2 (2,3)
ULB	40 (100)	0 (0,00)	5 (12,8)	10 (25,6)	12 (30,8)	4 (10,3)	7 (17,9)
ULg	38 (100)	3 (7,9)	8 (21,1)	6 (15,8)	9 (23,7)	2 (5,3)	7 (18,4)
VUB	19 (100)	2 (10,5)	4 (21,1)	4 (21,1)	8 (42,1)	1 (5,3)	0 (0,00)
TOTAL	483 (100)	35 (7,3)	106 (22,0)	108 (22,4)	172 (35,6)	20 (4,1)	32 (6,6)

3.4.2.3 Analysis

The aim of the questionnaire was to explore the factors that influence the students who choose a GP career and students who choose another specialty. To determine the bivariate relation between different factors and specialty choice we performed two-dimensional crosstabs with Cramer's V[q] test statistics for the nominal and ordinal variables and independent samples t-test statistics for the continuous and interval variables using SPSS 15.0. While construing the 6-point Likert scales in the questionnaire we paid attention to the equidistance. So, although Likert scales are no true interval scales, they were treated as one[r]; $P < 0.05$ was set as the level of statistical significance. 'Just because a test statistic is significant doesn't mean that the effect it measures is meaningful or important' [131] Therefore all the tables of the quantitative part report effect sizes. This is a standardized measure of group differences; it represents the strength of the relationship between the variables [132]. An $r = 0.1$ is seen as a small effect, 0.3 can be interpreted as a medium effect [131].

In total 423 students (87,2% of the students who filled in the questionnaire) had already made their decision: 141 (33,3%) wanted to become a GP and 282 (66,7%) preferred another specialty.

The results about the possible influences for choosing universities (questions 7 - 10 inclusive) are not discussed because these questions had a lot of missing answers and moreover almost all the students answered in the same way. In the results of the other questions mostly only the significant test statistics will be mentioned in the text that follows the tables, also some relevant non-significant statistics will be reported. To be sure that these significant tests statistics were not the result of the influence of gender and possible effects of differences between student population of official Dutch or French speaking Belgian universities, all the variables of the bivariate analysis were put in a binary logistic regression. The most important results of these multivariate analyses are discussed, but the tables with the global results are put in appendix 3.8.

3.5 RESULTS OF THE QUALITATIVE ANALYSIS

3.5.1 Factors related to study and specialty choice before entering medical school

CHOOSING A 'CARING' PROFESSION

The most prominent motivation to enter medical education is the desire 'to help people'. Some students considered other careers as a back- up. Others described this choice as being self-evident and corresponding to their personal characteristics and preferences.

> GF11 «Ja, ik had eigenlijk geen tweede keuze. Je zegt dan wel van: desnoods farmacie of diergeneeskunde, maar eigenlijk voor mezelf ging het altijd een tweede keuze zijn....maar ja met het toegangsexamen moet je een backup-plan hebben... »
>
> G6 « je crois que j'ai toujours voulu faire la médecine, je suis née avec » « Une
>
> passion » « C'est toujours resté. J'ai toujours voulu faire ça »
>
> SF12 «Ja, gewoon bij mijn karakter, omdat ik een zorgend iemand ben en ja met veel verantwoordelijkheidsgevoel en zo. En daarom vond ik dat het bij mij paste»

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[q] "Cramer's V is a measure of the strength of association between two categorical variables" (p.727) Field, A. (2005) *Discovering Statistics Using SPSS,* SAGE Publications Ltd.

[r] «It has become common practice to assume that Likert-type categories constitute inter-level measurement» out Jamieson 2004

CHOICE TO BECOME A DOCTOR : STUDENTS CHARACTERISTICS, ENVIRONMENT AND EXPECTATIONS OF THE TRAINING AND WORK

The student's profile (interests, own medical experiences, academic strengths) and environment (family, school teachers, own GP) influence the choice to study medicine. The perception about the medical curriculum and about the actual work of a doctor (science, interesting topics, and useful profession) and the prestige of 'becoming/being a doctor' were mentioned.

G12 « j'ai été dans le milieu médical parce que j'étais moi-même malade en étant enfant et donc, j'ai passé plus d'un an dans les hôpitaux et c'est un peu ça qui m'a attirée pour la médecine »

GF3 «...dan ben ik met mijn huisarts gaan praten....en die zei geneeskunde is niet moeilijk maar het is wel hard werken, maar je kunt dat wel. ...En dat was eigenlijk doorslaggevend... »

G6 « un besoin de reconnaissance. Ca devait être bien d'être à l'hôpital, de dire « je suis chirurgien » « ma famille, en disant « tiens, tu veux faire chirurgien, qu'est-ce que c'est bien, c'est grandiose »

IMAGE OF GENERAL PRACTICE BEFORE STARTING MEDICAL SCHOOL

Before starting medical school, most students (freshmen) had a limited idea (except for students with a parent who is a medical doctor) on what it means to work as a medical doctor in general or as a GP in particular.

In the beginning of their education the image/perception that the respondents (GPs and specialists) have of a general practitioner, comprised:

- work content: variety of tasks, relationships with patients,
- working conditions: solo GP with high availability and who works hard,
- professional identity: the GP has a central role, is a confident for the patients but some interviewees think that he has a lower prestige than other medical specialists and earns less.

SF3 « …De huisarts heeft de centrale rol in de medische wereld.»

G3 « on travaille seul » «je ne pensais pas que les médecins généralistes pouvaient travailler en groupe à cette époque-là »

S1 « le seul point négatif, c'était vraiment le fait que quand j'allais la voir, c'était pour un certificat médical… » « je n'allais chez elle que quand j'étais malade …j'associais médecine générale à petits bobos » « Le généraliste, c'est celui qui fait les bobos »

This general picture is based on contacts with their own GP, other GPs and the media (TV series, newspaper). The students who start with a specific specialty in mind, mostly think this specialty suits to them or they are attracted (a surgeon who saves lives, a hero).

SF7 « Ik wou graag iets heelkundig gaan doen. Het was vooral het spannende dat me aantrok. Je beeldt u een dokter in en je wilt dat heel graag doen. Voor mij was opereren echt zo ingrijpend met iemand zijn leven bezig zijn. Dat is natuurlijk ook alles wat je ziet in programma's zoals ER. »

3.5.2 Factors related to any specialty choice during medical education

PERCEPTIONS ABOUT THE DIFFERENT SPECIALTIES

The factors that influence many students' decision process concern their perception of the characteristics related to the different specialties. They describe:

- the work content and professional identity: variation of tasks, patient contact, technical aspects, intellectual challenge, level of professional autonomy,
- the working conditions in both settings (hospital, primary care): work climate, possibility of working in a team, work-life balance

SF13 «Inhoudelijk vond ik het (= huisartsgeneeskunde) nu ook niet heel bevredigend. Je werd met veel sociale problematiek geconfronteerd en uiteindelijk zag ik van serieuze pathologie maar 2 of 3 zaken»

G3 « j'avais vraiment envie de travailler à l'hôpital parce que c'est là que j'avais vu mon père travailler et c'est ce milieu-là qui me plaisait »

INFORMATION SOURCES: CURRICULUM, ROLE MODELS AND THE MEDIA

The information students use to decide upon their specialty choice originates mainly from lessons during their medical training and experiences during their clerkships.

The latter is the first real contact with the profession and therefore clerkships are seen to have an enormous impact on the decision process.

Students see role models (teachers, supervisors of practice training) during education and clerkships, but also in their private life (GPs in the family) as one of the most important information sources and factors influencing their decision.

Some students also describe the media as an information source.

G6 « dès que j'y *(general practice)* ai mis le premier pied, la première minute, je me suis dit « c'est ça que je veux faire ». Donc, le stage a vraiment été déterminant pour moi. Et il n'y a eu que quinze jours et il m'a amplement suffi pour me convaincre. »

SF7 «…de huisarts die ons gezin opvolgde…is dan gescheiden en had problemen met haar kinderen….door dat haar carrière zo zwaar doorwoog en haar privéleven daar onder leed. Ik denk dat dat een heel negatieve indruk op mij heeft nagelaten»

GF2 «Moest er bijvoorbeeld een figuur gelijk die prof van heelkunde verschijnen in de huisartsengeneeskunde die ook zo een indruk geeft dan zou die mij waarschijnlijk overtuigd hebben ten opzichte van die van heelkunde…ik ben er zeker van dat ik niet de enige ben waar dat zo een invloed heeft. Want dat is het enige beeld waar we ons aan kunnen vastklampen eigenlijk om een keuze te maken hé. Oké, ik had mijn vader *(die huisarts is)* ook, maar voor de rest, wij weten niet wat dat inhoudt hé. »

LACK OF A FIRM BASIS TO CHOOSE A SPECIALTY

In general, students report that they lack a clear base to build their career choice upon. They miss information and active support in their decision process. Furthermore many interviewees mention the low amount of practice training that comes too late. Because of that, students get no (or get it too late) good picture of the real profession and they mention that their view based on the teaching courses often does not match the experiences during clerkships. On top of that, the process of choice seems to be very dependent on the particular services during the clerkship: the hospitals and the doctors (role models) working in these services largely influence the choice of the future physician. Students describe both positive and negative experiences in terms of: seeing interesting pathologies, performing instructive procedures by themselves, having enthusiastic and competent teachers and residents, being respected as a student-doctor and the overall atmosphere at the service/practice.

S2 « Mais je me voyais spécialiste … mais je ne savais pas très bien quoi, parce que je ne savais pas, finalement, ce qu'étaient les différentes spécialités»

SF6 « Ik vond dat wel kort, ik vond dat wel. Eigenlijk voor iemand die eigenlijk bijvoorbeeld niet "huisarts minded" is, of het niet weet. En eigenlijk nog veel nieuwe indrukken moet opdoen…. En dan is zo'n kijkstage kan, het feit dat dat kort is, kan dan een vertekend beeld geven. »

GF2 «Ik vind de opleiding teveel theoretisch en te lang aan één stuk theorie. Wij zien niet waarom wij theorie moeten leren eigenlijk. Het is nu pas (stagejaar) dat ik dat begin in te zien…Een taal leer je toch ook niet eerst de theorie en dan de woorden en ga je pas daarna beginnen spreken; je moet dat tesamen leren»

G12 « A force de côtoyer les spécialistes, je n'avais pas envie d'être comme eux, en fait. » « j'ai fait un stage en premier doc en pédiatrie, comme c'était ça qui m'intéressait au début et ce stage m'a vraiment « dégoûtée ».

So, medical specialties remain a black box until the period of the clerkships, late in the curriculum. The lack of contact with the profession is even more stressed regarding the specialty of general practice.

HF9 «Ik ga huisarts worden, ik hoop maar dat het meevalt want ik heb er nog geen gezien; als het niet meevalt dan heb ik een groot probleem»

GF10 «…want ze vragen zich in Brussel af waarom beginnen er zo weinig mensen aan huisartsgeneeskunde , maar als je natuurlijk aan niemand dat vak voorstelt,…. »

PERSONAL AFFINITY

Many respondents cite that they feel (the perception of) their choice of specialty matches with their own personal characteristics and preferences. For instance, one could choose general practice because it answers to the personal preference of 'helping people' or not choosing family medicine/general practice because students perceive that teamwork does not exist in general practice.

SF4 «Op de stages had ik snel door dat medische beeldvorming één van de leukste dingen was, het fascineerde mij echt. …Het enige wat ik bij radiologie wel schrik van heb, is dat je geen patiëntencontact meer hebt. Maar anderzijds is dat ook een voordeel, ik ga niet wakker liggen van mijn patiënten. Ik ga misschien ook grote tumoren zien en ik ga daar even bij stilstaat maar ik ga daar niet van dromen 's nachts..»

3.5.3 Factors in the curriculum related to the choice for (or not) general practice

FACTORS RELATED TO CHARACTERISTICS OF THE PROFESSION

Work content and professional identity

Most students link general practice with good doctor-patient relationships, time to talk with the patient and a variety of tasks. Some students however mention the fear for the complexity of general practice work.

GF6 « Dat heeft mij altijd aangetrokken. De vertrouwensband. Dat is de sterkste component die mij aantrekt in de huisartsgeneeskunde, en ook het breed aanbod aan pathologie»

S9 « la médecine générale est une des médecines les plus dures parce qu'il faut un peu toucher à tout, il faut connaître un peu tout sur tout »

Others see general practice as less intellectual challenging than other specialties (e.g. less technical acts, diagnosing is work for specialists) and a lot of psychosocial problems. Some students mention the difference in prestige between general practice and other

specialties as an influencing factor. On the other hand, some students describe general practice as the key discipline in health care.

SF5 «...ik vind dat je als huisarts veel moet weten en van alles kunt maar nooit alles kan weten over een bepaald onderwerp en ge gaat altijd iets moeten vragen aan een specialist. En in dat opzicht vind ik dat je als huisarts minder uitstraling hebt dan een specialist en dat is toch ook één van de redenen waarom ik daar niet voor kies.....Daar is minder kennis van die geneeskunde vereist om een goede huisarts te zijn. Misschien is een slimme huisarts een hele slechte huisarts.....ge moet heel sociaal vaardig zijn en tijd vrijmaken om met die mensen een babbeltje te doen....»

S4 « je pense que la médecine générale est l'élément clef, la discipline la plus importante de la médecine parce que c'est la première ligne » « et aussi….pluridisciplinaire »

Working conditions and remuneration

Students hold conflicting views on organizational aspects. Some students link general practice to professional autonomy, flexibility and see it as easy to combine with a family life. Others feel general practice is a lonely profession which lacks teamwork and is demanding (long working hours, availability, and administration). A few students articulate both aspects.

Many students report thinking about the financial and/or social remuneration aspects. Only a few of them have a positive idea on these in general practice.

G12 « Puis c'est un métier qui bouge, on est dans son cabinet, on va en visite. J'ai bien aimé cet esprit dynamique »

GF9 « …De reden dat ik het eerst niet wou doen was omdat de huisarts solo werkt. Ik wou niet alleen werken. Dat alleen zijn, ik denk niet dat ik daarmee zou kunnen leven. Dat heeft huisartsgeneeskunde lang op een zijspoor gezet.. »

G10 « on prend les décisions seul et ce n'est pas toujours facile »

PERSONAL AFFINITY

Some students report their choice as a 'natural one', something that corresponds to their personality. Working with people, helping people, being responsible for a group of people is also linked with this personal choice. Some students also talk about being interested in treating the whole person and not just a 'part'.

GF8 « Ja, ik voelde me er (stage in groepspraktijk) goed bij denk ik, ja. Ik had het gevoel van ja, dat zie ik mij later wel doen. »

G6 « Des gens beaucoup plus proches des patients » « ils s'occupent du patient, mais aussi d'une communauté » « Le médecin généraliste est quelqu'un de plus humain, qui est attaché à plus de choses, à la personne en globalité »

Attraction for the job content

This personal affinity may be attributed to the job content, which students describe as 'general' (considering the whole person and following a person for a long life-period) in contrast with 'specialty' (more specific problems).

G3 « Parce que je trouve que quand on se concentre dans une seule spécialité, on oublie tout le reste … on est moins médecin » « C'est vraiment trop restreint. C'est beaucoup plus restreint qu'en médecine générale »

GF10 « …...en die appendices die liggen daar en die van de gal die liggen daar, ...dat ga jij als huisarts nooit zeggen. Nee je zegt dat is Jean en die woont daar in de straat en hij is getrouwd en die komt voor.... »

Attraction for the work climate

Finally, this match may also be linked with the work climate, which is perceived as being different in the hospital and GP setting. In the general practice setting a more familiar,

relaxed climate is described. Students consider the private practice setting to offer more professional autonomy than the hospital setting. The latter is more frequently associated with working in a team.

SF8 « …...ook omdat je in het ziekenhuis, ja, je zit altijd onder een chef en soms lopen er toch wel moeilijke figuren rond. Ik denk dat dat beeld van ziekenhuisgeneeskunde ook wel meegespeeld heeft. ....En ik denk dat je als huisarts toch meer zelf kunt beslissen 'hoe deel ik mijn dag in. Je meer uw goesting doen »

CURRICULUM AND ROLE MODELS IN MEDICAL SCHOOLS AND DURING EDUCATION

Lack of academic ambassadors of General Practice during medical education

Many students strongly emphasize the lack of inspiring GP teachers in the curriculum. Because of the preponderate presence of specialist teachers some students feel as if they are all considered and trained as specialists (they identify themselves with these specialist role models).

G6 « la formation était vraiment inadaptée pour la médecine générale. On se focalise en fait sur les spécialités. » « on ne peut pas avoir goût à la médecine générale avec les cours que l'on a. » « pas assez de médecins généralistes qui sont entrés à la Faculté pour nous donner le goût de la médecine générale » « Oui, en deuxième doctorat, nous avons un stage de quinze jours. Ca, c'est totalement insuffisant... Vraiment, ces 15 jours médecine générale par rapport à un stage de trois mois en chirurgie, de trois mois en gynéco…Je trouve qu'il faudrait avoir au moins un ou deux mois de médecine générale obligatoire. »

Furthermore courses taught by GPs are often considered as less interesting (e.g. organization of health care, psychosocial aspects). These seem to be assessed as 'general courses', which lack the intellectual challenges like the topics presented by medical specialist teachers.

Finally students stress the importance of 'professional' teachers who can fascinate their public. It is felt that the 'great specialists' do a better job in this respect.

Students feel they miss general practice ambassadors in the curriculum.

SF1 «Ze (huisartsen) gaven nogal weinig gestructureerd les. Ze hebben al zo weinig tijd waarin ze tijdens de opleiding iets mogen komen zeggen, als je dan nog zorgt dat de mensen met tegenzin naar de les komen, dan heb je wel een kans gemist. En ik ben zeker niet de enige (in het jaar) met dat gevoel. Het is vaak van 'het is weer een huisarts, het zal weer over organisatie zijn of zo' en dan was het al afgekeurd op voorhand door een aantal (studenten). Ook de onderwerpen, veel mensen vinden dan 'als het niet klinisch is, dan telt het niet en dan is het niet interessant'. Dus (het negatieve beeld) komt door de combinatie: soms van de onderwerpen en dan de manier waarop het gebracht wordt.»

S4 Des cours de médecine générale du Professeur XXX :« le cours théorique, c'est un petit peu trop de blabla autour de la fonction du généraliste, même s'il est important de savoir ce qu'il fait. »

SF6 «Het imago van een vak wordt een stuk gedragen door de prof, docenten, de cursus……Als een bepaalde prof het niet kan brengen, niet kan verkopen, ja dan zeg je 'dat ga ik niet doen'»

Lack of positive general practice experiences during medical education

Students of different universities had dissimilar amounts of general practice experiences. Some students explicitly mention the lack of general practice experience and clerkships. They get no clear view on what the profession entails during their medical training.

Almost all students strongly emphasize the role model function of the GPs they are attached to during the clerkships. It seems to influence their choice very powerfully.

They think it is very important to 'select' motivated and enthusiastic GPs and offer students the opportunity to work in different practices because in this way they come in contact with different sorts of practices (solo, duo, group), variety of populations and pathologies and different role-models.

GF10 « Ik heb een beeld, maar ik weet niet of dat het waar is. Allez, ik, ja ik denk het wel hé. Het is niet dat ik een fictief beeld heb, maar ge vormt u wel een beeld, maar ja, als ge nooit, ja op 5 dagen bij een huisarts. Ja ik heb een maand op interne gestaan. Op pneumo, een maand op cardio, een maand op oncologie. Dan vormt ge wel een beeld van wat zo'n oncoloog of een pneumoloog of een gynaecoloog of zo doet... Euhm, voor huisartsgeneeskunde, ja waar zou ik dat moeten halen? »

G12 « On n'a peut-être pas eu assez de stages, on a eu des stages trop tard. »

S1 « c'est très très fort PG dépendant et médecin dépendant, enfin le chef de stage dépendant »

NEGATIVE INFORMAL CULTURE REGARDING GENERAL PRACTICE

Some students feel that during medical education especially specialists do not promote (and even hamper/break down) general practice. In fact they confirm the image of general practice being less prestigious. The lack of general practitioner teachers and the small amount of time required in primary care/general practice during clerkships supports this feeling students have.

GF10 « …Vanuit de kandidaturen wordt geen reclame gemaakt voor huisartsgeneeskunde. In tegendeel eigenlijk. Het was zeker niet dat de huisarts in een positief daglicht werd gesteld. De huisarts was een hulp eigenlijk. In de klinische lessen werd gezegd 'de huisarts heeft het klinisch onderzoek al gedaan en nu is het aan jullie (*ze bedoelen 'specialisten'*) om de diagnose te stellen en de rest te doen »

A few students very explicitly report general practice training was considered as the 'waste bin': if you get not accepted as a specialist, you can always step into the general practice training. The opposite is not allowed.

Finally some medical students describe dealing with negative comments by peers on a general practice specialty choice.

S4 « on m'a conseillé quand même de m'inscrire en filière générale, filière mixte, pardon parce qu'au cas où je ne suis pas pris, au moins, je me retrouve avec quelque chose. Mais ce serait uniquement dans l'objectif de ne pas rien faire pendant un an et repostuler en pédopsychiatrie après. » « non parce que je veux faire la pédopsychiatrie »…« médecine générale n'est pas valorisée ; La publicité est paradoxale » « ceux qui sont mal classés seront en médecine générale » « c'est comme une punition. » « Les médecins généralistes sont des nuls ; les meilleurs vont en spécialisation. » « Ici, si on est bien classé, les profs demandent : quoi, tu ne veux pas te spécialiser ! »

GF11 «Ik vind dat in het zevende jaar de huisartsenrichting zo'n beetje in de richting van de afvalbak wordt geduwd. Als je het specialistentraject kiest, kun je altijd terugvallen op huisarts, je verliest uw jaar niet. Van huisarts kun je niet terug naar specialist....Nu is het zo van, probeer maar te specialiseren en als het niet lukt, wordt dan maar huisarts….Ik vind dat jammer, zo duw je de opleiding in een minderwaardige positie…»

GF11 «Mensen vragen 'wat ga je doen, stoppen of specialiseren. Ik zeg dan 'ik stop niet ik word huisarts! »

SH6 « Maar het imago huisartsgeneeskunde hangt wel in ons jaar . En dan bedoel ik echt wel, ik durf daar echt wel te spreken voor iedereen. Dat het soft is en dat het over communiceren gaat en over begeleiding en over psychosociale zever zoals dat wordt genoemd.....Het is een belangrijk aspect van de geneeskunde maar ge moet niet overdrijven »

G3 « Vous dites la médecine générale, vous voyez les têtes qui se décomposent en disant, ah bon, mais pourquoi, ça ne va pas ? En gros, pour beaucoup de gens, surtout à l'hôpital, la médecine générale, c'est pour ceux qui ne font pas assez de points pour faire des spécialités. Et ce n'est pas pour ceux qui ont cette motivation. »

3.6 RESULTS OF THE QUANTITATIVE ANALYSIS

3.6.1 Factors related to study and specialty choice before entering medical school.

The questionnaire had two domains i.e., baseline data of students and personal characteristics and motivation to choose medical education.

3.6.1.1 Personal Characteristics in relation with specialty choice

A major observation is that about one in four students has at least one parent who is medical doctor:

Table 3:Crosstab dichotomous and ordinal variables with respect to the personal characteristics and specialty choice seventh year students - Response rate by specialty choice and gender

	Students who choose another specialty than GP (%)	Students who choose to become a GP (%)	Cramer's V	P-value Cramer's V	n
Gender			**0,137**	**0,005**	421
Man	38,6	24,8			
Woman	61,4	75,2			
Official language at university			0,024	0,617	423
Dutch	62,8	65,2			
French	37,2	34,8			
What is your father's highest qualification?			0,112	0,512	421
Primary education	0,7	0,7			
Lower secondary	3,9	3,6			
Higher secondary	14,2	13,6			
Higher short-term non-university (max 3 years)	11,7	19,3			
Higher long-term non-university (max 4 years)	8,9	10,7			
University	58,7	50,7			
Other	1,8	1,4			
What is your mother's highest qualification?			**0,203**	**0,008**	420
Primary education	1,8	0,7			
Lower secondary	5,0	3,5			
Higher secondary	19,0	22,7			
Higher short-term non-university (max 3 years)	23,3	39,0			
Higher long-term non-university (max 4 years)	8,6	7,8			
University	40,5	24,1			
Other	1,8	2,1			
What is the profession of your father?			**0,222**	**0,000**	421
General Practitioner	6,4	12,1			
Clinical Specialist	13,6	1,4			
Public Health Physician	0,4	0,7			
Physician in some other function	2,5	0,7			
Other	77,1	85,1			
What is the profession of your mother?			0,145	0,066	419
General Practitioner	1,1	4,3			
Clinical Specialist	4,6	1,4			
Public Health Physician	1,1	0,0			
Physician in some other function	1,1	1,4			
Other	92,1	92,8			
Do you have a doctor or dentist in your immediate family (brother, sister, parent, uncle, aunt, grandparent)?			**0,101**	**0,038**	423
Yes	48,2	37,6			

This table shows four statistically significant differences between GP and other specialty students.

First the specialty choice is most associated with the father's profession (Cramer's V = 0.222). Having father who is GP increases the probability for choosing GP in the seventh year. The same relationship can be found for children of specialists. The relationship between the father's profession and the specialty choice of the student is still

statistically significant after controlling for effects of differences between students of Dutch and French speaking parts of the country. The binary logistic regression in appendix 2.8 (table 1) shows that if the mother is a GP the probability of choosing GP as a specialty is statistically significant in comparison with students whose mothers have another profession.

The second strongest relationship was observed with the level of education of the mother (Cramer's V = 0.203). Future GP students have a slightly lower proportion of mothers that graduated from university. This relationship remains statistically significant after controlling for gender effects or differences between students of Dutch and French speaking parts of the country. There can even be stated that having a mother with a higher secondary degree or a higher short-term non-university degree increases the odds for choosing the GP specialty with 2.4 or 3.3 (appendix 3.8., table 1).

A statistically significant gender difference with respect to the specialty choice can also be noticed. Female students are more likely to choose general practice. This seems to apply to the entire country.

A small, but a statistically significant effect can also be seen in the relationship between the presence of a physician or dentist in the family of the students and the choice to become a GP. It seems that students who have a doctor or dentist in the family are more likely to choose another specialty than GP. Controlled for gender and effects of universities this association disappears (appendix 3.8., table 1).

3.6.1.2 Values for the future professional life

Table 4 shows the results of a set of items that give information about what young students perceive/think of as important values in their future professional life.

Table 4:Statements (Likert scales) with respect to the values in the future professional life

	Students who choose another specialty than GP	Students who choose to become a GP	Effect size	P-value t-test	n
	Mean (95% CI)	Mean (95% CI)			
What do you think is important in your future professional life?					
Good working relationship with colleagues	5,4 (5,3-5,5)	5,3 (5,1-5,4)	0,062	0,207	418
Developing new skills and acquiring knowledge	5,3 (5,3-5,4)	5,1 (4,9-5,2)	**0,174**	**0,000**	417
A good reward	4,7 (4,6-4,9)	4,5 (4,4-4,7)	**0,114**	**0,021**	412
Being accepted by others	4,8 (4,7-4,9)	4,7 (4,6-4,9)	0,054	0,275	416
Possibility of taking initiatives	5,1 (5,0-5,2)	5,0 (4,9-5,1)	0,085	0,134	416
Regular salary increases	4,3 (4,2-4,4)	4,0 (3,8-4,2)	**0,128**	**0,009**	414
Developing friendships	4,8 (4,7-4,9)	4,8 (4,6-4,9)	0,024	0,621	414
Developing self-respect	4,7 (4,6-4,9)	4,8 (4,6-4,9)	0,019	0,735	418
Openness and honesty between colleagues	5,3 (5,3-5,4)	5,3 (5,2-5,5)	0,000	0,997	417
How do you rank the following in terms of your future professional life?					
A good salary	4,7 (4,6-4,8)	4,6 (4,4-4,7)	0,089	0,069	417
Prestigious job designation	3,8 (3,7-4,0)	3,3 (3,1-3,4)	**0,216**	**0,000**	415
Free days and holiday	4,7 (4,6-4,8)	4,8 (4,7-5,0)	0,065	0,259	417
Job security	5,1 (5,0-5,2)	4,9 (4,8-5,1)	**0,109**	**0,027**	417
Interesting work	5,6 (5,6-5,7)	5,5 (5,4-5,6)	0,117	0,068	419
Pleasant working conditions	5,5 (5,4-5,6)	5,5 (5,4-5,6)	0,006	0,897	418
Recognition	4,9 (4,8-5,0)	4,8 (4,6-4,9)	0,080	0,102	418
Career opportunities	4,7 (4,6-4,8)	4,1 (3,9-4,3)	**0,263**	**0,000**	416
Flexible working hours	4,8 (4,6-4,9)	5,1 (4,9-5,2)	**0,178**	**0,001**	416
Nice colleagues	5,3 (5,2-5,4)	5,2 (5,1-5,3)	0,051	0,296	416

FINANCIAL ASPECTS AND CAREER OPPORTUNITIES: DIFFERENCES BETWEEN GP STUDENTS AND OTHER STUDENTS

Both cohorts attach an importance to 'a good salary' but candidate specialists seem to attach more importance to 'regular salary increases' than future GP's.

Moreover, there is a statistically significant difference between both groups of students with respect to professional prospects. The value attached to 'Career opportunities' has the strongest association (0.263) with the specialty choice (higher for future specialists).

PRESTIGE: LESS IMPORTANT

Prestige does not seem to be very important for the students although a statistically significant difference can be found for both groups of students. Students choosing to specialize in family medicine/general practice are more oriented towards 'not important' whereas students choosing another specialty tend to value it as more 'important'.

INTERESTING WORK

All students report that having interesting work is the most valued in their future professional life. It has the highest score in both groups (5.6 and 5.5). There is a statistically significant difference between both students groups for the values 'developing new skills and acquiring knowledge' and 'a good reward' (the total of financial and social rewards): the group specializing in family medicine/general practice seems to value less both items.

GP STUDENTS VALUE MORE FLEXIBILITY THAN JOB SECURITY

An important item is that GP students value more 'Flexible working hours' than 'Job security'. The specialist group values 'Job security' more than 'Flexible working hours'.

Controlled for gender and university effects only the three strongest effects remain statistically significant i.e., 'Career opportunities', 'Prestigious job designation' and 'Flexible working hours'.[s]

OTHER VALUES FOR THE FUTURE PROFESSIONAL LIFE

All students value other psychosocial job characteristics such as 'Nice colleagues', Good working relationship with colleagues', 'Being accepted by others' and working conditions as' free days and holidays considerably. After controlling for gender and university effects, the relationship between 'being accepted by others' and specialty choice becomes statistically significant (odds ratio 3.213 [95% CI (1,048-9,847)] for choosing family medicine/general practice).

'Openness and honesty between colleagues', 'Pleasant working conditions', 'Developing self-respect' and 'Developing friendships' seem to be valued equally by all the students as shown by nil effect size.

3.6.1.3 Motivation to choose medicine

Table 5 displays some associations with the choice of GP or other specialty.

[s] The answering categories of the different future values were dichotomised. E.g. Totally unimportant, very unimportant and quite unimportant became 'unimportant'; quite important, very important and totally important became 'important'.

Table 5: Crosstab dichotomous and ordinal variables with respect to motivation to choose medical education

	Students who choose another specialty than GP (%)	Students who choose to become a GP (%)	Cramer's V	P-value Cramer's V	n
When did you choose to study medicine?					
I was already interested in medicine when I was a child	32,0	36,2	0,041	0,395	422
When doing my secondary studies	36,7	36,9	0,002	0,964	422
In the last year of my secondary studies	38,1	36,2	0,019	0,702	422
While studying another further education course	7,1	4,3	0,056	0,249	422
I don't know	0,4	0,0	0,035	0,478	422
What was one of the deciding factors in your choice of medicine?					
It was obvious, this subject fitted in with my personality	26,7	28,4	0,018	0,715	422
Dealing with people	13,9	36,9	**0,264**	**0,000**	422
Intellectual challenge	12,5	5,0	**0,118**	**0,015**	422
Combination of intellectual challenge and dealing with people	70,8	66,0	0,050	0,308	422
The prestige of the medicine study	17,4	8,5	**0,120**	**0,014**	422
Because I was a good student	18,6	16,3	0,029	0,557	420
My own contact with doctors	18,9	20,7	0,021	0,663	420
Media	1,4	1,4	0,000	0,997	422
General interest	54,6	62,4	0,074	0,128	421
Other	10,0	6,4	0,060	0,220	422
Who influenced your choice of medicine, either negatively or positively?					
Parent(s) who is (are) physician	20,1	16,3	0,045	0,352	420
Parents who aren't physician	36,2	29,8	0,064	0,190	420
Other family members	16,8	12,8	0,053	0,281	421
Friends / Acquaintance	23,7	20,9	0,031	0,521	418
Physicians who treated you or your family	10,7	17,0	0,089	0,068	421
Teachers out of secondary school	14,6	10,6	0,056	0,253	421
Nobody	35,0	33,3	0,017	0,734	421
Others	5,7	7,1	0,027	0,579	421
When you started your studies did you already have an idea of the specialization you wanted to do later?					422
Yes	27,8	48,2	**0,203**	**0,000**	

Four statistically significant differences can be identified. The biggest differences exist for the items concerning 'What was one of the deciding factors to start medicine?'

IMPORTANCE OF HUMAN RELATIONSHIPS FOR GP STUDENTS

Those who want to become a GP mention more often 'Dealing with people' (36,9% versus 13,9%, P-value < 0,000). This item has also the strongest correlation with specialty choice (0.264). By contrast students who chose another specialty than GP more often mentioned 'Intellectual challenge' and 'The prestige of the medicine study'. These two statistically significant differences however disappear after controlling for gender and effects of universities in a binary logistic regression.

It is remarkable that the scoring of 'intellectual challenge' as a determinant is rather low in both groups (only 12% and 5%). This result needs further explanation. These are the statistically significant differences, but are not the reasons to start medical education that are most important. For all the students 'the combination of dealing with people

and the intellectual challenge' is the prominent reason (respectively 70,8% and 66,0%). General interest (respectively 54,6% and 62,4%) is the second most mentioned reason.

DECISION TO CHOOSE GENERAL PRACTICE

In most cases either the students decided by themselves to study medicine or the parents influenced their children. The differences between groups were not statistically significant for the other persons who influenced the decision.

The moment when most students decided to study medicine varies, without any statistically significant difference between both groups.

There is one noticeable difference between both groups for the question 'Did you already have an idea of your specialty choice at the beginning of your study?' Students who want to become a GP were more likely to have this idea before beginning their studies.

Using a binary logistic regression, controlling for gender and differences between students of French and Dutch speaking part of the country, the statistically significant effect of the control variables on specialty choice can be noticed (appendix 3.8, table 3). Women and students in the Dutch-speaking universities have higher odds to choose general practice in their seventh year of education. Furthermore the statistically significant influence of 'Dealing with people' (odds ratio 3.895 [95% CI (2,064-7,350)]) as deciding factor and 'Already having an idea of the specialization at the beginning of the medical education' (odds ratio 2.512 [95% CI (1,553-4,065)]) on choosing family medicine/general practice must be mentioned.

Table 6: Crosstab: Started the medicine study with the idea of becoming a GP and definite choice in seventh year; n = 153

		Students who choose another specialty than GP	Students who choose to become a GP	Students who are still in doubt	TOTAL
Started the medicine study with the idea of becoming a GP	n	6	41	2	49
	(%)	(12,2)	(83,7)	(4,1)	(100,0)
Didn't start the medicine study with the idea of becoming a GP	n	65	24	15	104
	(%)	(62,5)	(23,1)	(14,4)	(100,0)
TOTAL	n	71	65	17	153
	(%)	(46,4)	(42,5)	(11,1)	(100,0)

Table 6 shows that a high proportion of students who start to study medicine with the idea of becoming a GP keep their idea through seven years of education (83,7%). A smaller proportion of students who started education with the idea of becoming a specialist (62,5%) had still this idea at the end of their studies.

3.6.2 Factors related to the specialty choice during medical education

The table below shows the factors that influenced the specialty choice during the curriculum.

Table 7: Crosstab dichotomous and ordinal variables with respect to their experience during medical education and specialty choice seventh year students

	Students who choose another specialty than GP (%)	Students who choose to become a GP (%)	Cramer's V	P-value Cramer's V	n
When were you absolutely sure about your choice to continue your studies?			**0,178**	**0,005**	403
Before I started studying medicine	5,9	7,6			
During theory training	21,7	12,2			
During clerkship	66,2	79,4			
I'm not sure yet about my choice	6,3	0,8			
Did you already have following experiences with general practice?					
Lectures	89,1	81,0	**0,110**	**0,025**	411
Tutorials	75,2	83,3	0,093	0,060	408
GP Clerkship in 1st or 2nd year	37,1	38,2	0,011	0,832	390
GP Clerkship in 3rd or 4th year	53,9	56,2	0,022	0,664	404
GP Clerkship in 5th or 6th year	57,0	63,5	0,062	0,211	400
Did the following experiences have an influence on your choice of specialty?					
Lectures about basic disciplines			**0,141**	**0,015**	418
Yes	53,9	44,2			
No	41,1	54,3			
No experience	5,0	1,4			
Lectures about general practice			0,074	0,315	418
Yes	35,8	40,3			
No	56,3	48,9			
No experience	7,9	10,8			
Lectures about specialties			**0,232**	**0,000**	418
Yes	69,2	51,1			
No	27,2	48,9			
No experience	3,6	0,0			
Tutorials			0,060	0,466	419
Yes	41,8	38,1			
No	51,1	56,8			
No experience	7,1	5,0			
GP Clerkship			**0,383**	**0,000**	416
Yes	36,5	77,0			
No	46,2	15,8			
No experience	17,3	7,2			
Has the image of the profession of GP changed/evolved since you started your studies?			0,041	0,405	418
Yes	75,8	79,4			
What, in your opinion, defined the image that you have today about GPs?					
Lectures	43,2	20,0	**0,229**	**0,000**	418
Media	10,8	5,7	0,084	0,086	417
Personal experience	61,2	61,4	0,003	0,956	418
Clerkship	73,4	84,3	**0,122**	**0,012**	418
Other	11,5	13,6	0,030	0,544	418
Who, in your opinion, defined the image that you have today about GPs?					
Family / acquaintance working in the medical sector	25,5	30,2	0,050	0,311	417
Family / acquaintance not working in the medical sector	10,8	19,3	**0,117**	**0,017**	418
Lecturers, assistants	52,2	39,3	**0,122**	**0,013**	418
Supervisor of practical training	58,6	80,0	**0,213**	**0,000**	418
Own general practitioner	42,4	36,4	0,058	0,237	418
Other	10,8	10,0	0,012	0,803	418

3.6.2.1 Importance of theory lectures

The P-value of Cramer's V (0.005) shows that there is a statistically significant difference between the students who choose to become a GP and those who choose another specialty. For the latter, theory classes also seem to play an important role for reaching certainty about their specialty choice (21,7%). After control for gender and possible

differences for students at French-speaking or Dutch-speaking universities (appendix 3.8, table 4) the influence of these moments, where students may become certain about their specialty choice, on making a career choice disappears.

3.6.2.2 Experiences with general practice: importance of GP clerkship

Focusing on the experiences students had already had with general practice, only 37,1% of the students wanting to specialize and 38,2% of the students who choose general practice declare that they had a GP Clerkship in their 1st or 2nd year of medical studies.

Teaching formats 'basic disciplines' and 'specialties' have a great influence on the students. They influence the future specialists on their motivation not to choose family medicine/general practice. The most impressive difference on specialty choice can be found in the 'GP Clerkship'; 77% of the seventh year students wanting to become a GP mentioned this in opposite to the students who want to specialize (36,5%). The association of 'GP Clerkship' on making their specialty choice in seventh year also appears to be the highest (Cramer's V = 0,383). Students who don't want to become GP also mention to have had less 'GP Clerkship' (17,3% - 7,2%).

The multivariate model (appendix 3.8, table 4) shows the importance of the 'GP clerkship' and 'Lectures on specialties'. When students mention that the GP clerkship influenced their choice of specialty, the odds of choosing family medicine/general practice as specialization increases with 8.248 [95% CI (3,758-18,103)]. When students mention that the lectures about specialties influenced their specialty choice, the odds ratio that students choose to become a GP is about 0.265 [95% CI (0,108-0,649)].

Who and what defined the image students have about GP's? All students seem to have been most influenced by the clerkship (73,4% - 84,3%) and their supervisor (58,6% - 80,0). Secondly they report the influence of personal medical experiences (61,2% - 61,4%) and thirdly of the lecturers and assistants (52,2% - 39,3%) and in accordance the lectures (43,2 – 20,0). All these influencing factors, except 'personal medical experiences' seem to have a statistically significant different association with the specialty choice. The students' own general practitioner also seems to have a considerable influence, equal for all seventh year students. Looking at these variables in a binary logistic regression and controlled for gender and differences between student population of Dutch and French speaking part of Belgium (appendix 3.8, table 4) the only statistically significant effect on becoming a GP can be found in the influence of family or acquaintances working in the medical sector on defining the image that students have about GP's. The odds ratios that students choose family medicine/general practice is about 2.120 [95% CI (1,060-4,241)] when family or acquaintances working in the medical sector are mentioned to be responsible for the image students have about general practice.

Table 8 shows the results of a number of statements[t] about the attitudes towards studying and some variables describing perception of medical education, in particular courses in general practice.

[t] Students were able to answer by means of a 6-point Likert scale where the first answering possibility was 'do not agree at all' and the sixth category was 'totally agree'.

Table 8: Statements (Likert scales) with respect to the medical training

	Students who choose another specialty than GP	Students who choose to become a GP	Effect size	P-value t-test	n
	Mean (95% CI)	Mean (95% CI)			
Statements about commitment to the study					
I am very personally involved in my studies.	4,9 (4,8-5,1)	4,9 (4,7-5,0)	0,027	0,576	420
My life at this moment revolves mainly around my studies.	4,7 (4,6-4,8)	4,4 (4,3-4,6)	0,100	0,040	421
Statements about professional orientation of teachers					
While I was studying most of my teachers were medical specialists (no GPs).	5,3 (5,2-5,4)	5,6 (5,5-5,7)	0,164	0,003	422
While I was studying most of my teachers were GPs.	1,8 (1,7-1,9)	1,7 (1,6-1,8)	0,059	0,229	412
During my studies, the majority of my teachers were working out of the curative sector.	2,4 (2,2-2,5)	2,1 (1,9-2,3)	0,128	0,024	390
To what degree do you agree with the following statements?					
I only realized what the profession of doctor implied when I was doing my clerkship.	3,5 (3,3-3,7)	3,5 (3,3-3,8)	0,016	0,743	419
I have done enough GP clerkships to be able to base my choice on them.	3,4 (3,2-3,6)	3,3 (3,0-3,6)	0,021	0,666	414
During the lessons, the GPs didn't give sufficient explanation about their own expertise.	3,4 (3,3-3,6)	3,5 (3,2-3,7)	0,019	0,693	413
I found that there wasn't any intellectual challenge when I did my GP clerkship.	3,0 (2,8-3,1)	2,3 (2,1-2,4)	0,269	0,000	387
I often get the impression that my teachers see GP studies as being an inferior choice of profession.	3,6 (3,4-3,8)	4,4 (4,2-4,6)	0,306	0,000	417
If I don't get a good impression of a GP it can be seriously demotivating when it comes to choosing to study to be a GP.	3,9 (3,7-4,0)	3,3 (3,0-3,5)	0,186	0,000	412

This table shows differences between both student groups in relation to their attitudes towards the learning processes, the teachers and the perception of the clerkships. The statements about their commitment to their study reveal that all students are strongly involved with their study. Students who want to become a specialist are more convinced that their life revolves mainly around their studies. However, this effect

disappears after controlling for gender and differences between student populations of Dutch and French speaking parts of Belgium (appendix 3.8, table 5)[u].

Both groups of students report that teachers were mostly medical specialists. The bivariate analysis shows a slightly different perception about the professional orientation of teachers, but the multivariate model (appendix 3.8, table 5) shows that this orientation of the teachers does not have any influence on (not) becoming a GP. Students have similar opinion about the way the lessons and clerkship provided a good base for their specialty choice.

The students do have different perceptions about the perception of GP image during their studies, the intellectual challenge they experienced during GP clerkship and how they were influenced by GPs. GP students have a stronger impression that teachers present family medicine/general practice as being inferior to other specialties. The second difference relates to the intellectual challenge of the GP clerkship. Students who choose general practice are, in general, more outspoken about the amount of intellectual challenge of the GP clerkship. Students who choose another specialty tend think about a lack of intellectual challenge of a GP clerkship. The last difference is the fact that students choosing to become a specialist are more influenced by a GP who gave them a bad impression than students wanting to become a GP.

The binary logistic regression confirms this last finding (appendix 3.8, table 5). Missing an intellectual challenge during GP clerkship and meeting a GP who did not give a good impression have a really demotivating influence on choosing the GP specialization: the chance on becoming a GP significantly decreases. On the opposite, the probability of choosing GP increases (odds ratio 4.127 [95% CI (2,329-7,314)]) when students had the impression that the teachers considered GP as an inferior choice of profession. The difference between female and male students is statistically significant (chance on choosing GP as specialty is higher with female students) but there was no difference between students from French- and Dutch-speaking universities.

3.6.3 Perception of the GP profession by the students

3.6.3.1 General practice: a lonely profession?

The table below shows the students' perception of different characteristics of the GP profession in Belgium. The strongest relationship (effect size = 0,400) can be found on the aspect of 'General Practice is a solitary profession' and specialty choice. Students who choose to become a GP do not seem to perceive the profession as a solitary one in contrast with the other students.

[u] Before putting the statements in a binary logistic regression the answering categories were dichotomised. E.g. completely disagree, disagree and disagree a bit became 'disagree' and agree a bit, agree and completely disagree became 'agree'.

Table 9: Statements[v] (Likert scales) with respect to the characteristics of the profession

	Students who choose another specialty than GP Mean (95% CI)	Students who choose to become a GP Mean (95% CI)	Effect size	P-value t-test	n
How do you see the profession of GP?					
As long as it is well organized, the profession of GP makes for a good combination with family life.	4,4 (4,3-4,6)	4,7 (4,5-4,8)	0,105	0,032	417
GPs have a lot of variety in their work.	4,6 (4,5-4,8)	5,2 (5,1-5,4)	0,325	0,000	417
GPs are first and foremost highly skilled practitioners.	4,5 (4,3-4,6)	4,6 (4,4-4,8)	0,062	0,202	419
The profession of GP is a difficult discipline because you have to know a lot about all different fields.	4,9 (4,8-5,0)	5,1 (5,0-5,3)	0,114	0,020	421
The profession of GP is difficult because you often have to deal with uncertainties.	4,7 (4,6-4,8)	5,0 (4,8-5,2)	0,174	0,003	422
The profession of GP allows you to work autonomously and I think that is an advantage.	4,4 (4,3-4,5)	4,9 (4,7-5,1)	0,211	0,000	420
GPs need to know a little bit about a lot of things (and other specialists a lot about few things).	4,3 (4,2-4,4)	4,2 (4,0-4,4)	0,049	0,440	420
GPs have a lot of work pressure.	4,7 (4,6-4,8)	4,7 (4,6-4,9)	0,006	0,898	419
GPs get a lot of respect from patients.	4,2 (4,1-4,4)	4,5 (4,4-4,7)	0,164	0,002	414
GPs need to be permanently available.	3,5 (3,4-3,7)	2,9 (2,7-3,2)	0,209	0,000	415
GPs have the privilege of working with patients in different stages of their life.	4,7 (4,6-4,9)	5,3 (5,2-5,4)	0,327	0,000	418
The financial aspect of the GP profession is appealing.	2,9 (2,8-3,1)	2,9 (2,7-3,1)	0,006	0,904	409
GPs need to be on call for a large number of days.	3,3 (3,2-3,4)	3,2 (3,0-3,4)	0,034	0,493	408
There is a lot of routine work involved in being a GP.	4,4 (4,3-4,5)	3,6 (3,5-3,8)	0,322	0,000	413
It is difficult for GPs to get help with their administrative work.	3,9 (3,7-4,0)	3,8 (3,6-4,0)	0,002	0,967	398
GPs need to follow a lot of refresher courses.	4,3 (4,2-4,4)	4,4 (4,3-4,6)	0,097	0,049	412
The profession of GP is highly respected.	3,4 (3,3-3,5)	3,4 (3,2-3,6)	0,008	0,876	413
Technology is not so important in GP practices.	3,6 (3,5-3,8)	3,2 (3,0-3,4)	0,169	0,001	411
GPs are subject a great degree to the pressures and demands of patients.	4,4 (4,2-4,5)	3,8 (3,6-4,0)	0,222	0,000	415
The profession of GP is a solitary one with little contact with colleagues.	3,7 (3,5-3,8)	2,7 (2,5-2,9)	0,400	0,000	412
GPs have a lot of possibilities to study in sub domains.	3,9 (3,8-4,0)	4,6 (4,5-4,8)	0,320	0,000	406
GPs have lots of opportunities to do scientific research.	2,7 (2,5-2,8)	3,4 (3,2-3,6)	0,306	0,000	412

[v] Students were able to answer by means of a 6-point Likert scale where the first answering possibility was 'do not agree at all' and the sixth category was 'totally agree'.

The multivariate model[w] (appendix 3.8, table 6) confirms the negative relationship between the perception the GP profession as a solitary one and becoming a GP (odds ratio 0.429 [95% CI (0,225-0,818)]).

3.6.3.2 Variety and routine in the work of the GP

Five intermediate effect sizes are also noticed (≥ 0,3); 'GPs have the privilege of working with patients in different stages of their life', 'GPs have a lot of variety in their work', 'There is a lot of routine work involved in being a GP', 'GPs have a lot of possibilities to study in sub domains' and 'GPs have lots of opportunities to do scientific research'. The future GP students do more agree on all but one of those statements: the perception about the routine work of a GP is more present among non-GP students. In the binary logistic regression only the three latter statements seem to be significant for the chance of becoming a GP. When students agree with the fact that there are future opportunities for GPs to study in sub domains and do scientific research, the odds ratios they really choose the GP profession rises up to respectively 2.578 [95% CI (1,155-5,753)] and 3.793 [95% CI (1,987-7,240)]. The idea that GPs have a lot of career opportunities is more present among students in the Dutch speaking part of the country. When students have the opinion that there is a lot of routine work involved in the GP profession, the chance is only about 19% (odds ratio 0.240 [95% CI (0,121-0,476)]) that they opted for GP.

3.6.3.3 Stress, autonomy, availability

Other small associations were found concerning the perception of the working conditions. In particular GPs are subject a great degree to the pressures and demands of patients' (effect size = 0,222), 'The profession of GP allows you to work autonomously and I think that is an advantage' (effect size = 0,211), 'GPs need to be permanently available' (effect size = 0,209) and 'As long as it is well organized, the profession of GP makes for a good combination with family life' (effect size = 0,105). Future GPs perceive a higher level of autonomy in the GP profession higher than students who chose another specialty. GP students are also more positive about the combination of work and family. In general, they do less agree about the fact that GPs need to be constantly available for their patients. Maybe the latter is connected with the findings that future GPs do not seem to experience the pressure and demand of patients in such a great degree as the other seventh year students and they experience more respect from patients (mean 4,2 and 4,5).

The multivariate model (appendix 3.8, table 6) confirms those findings. The odds ratio of becoming a GP when agreed with 'GPs get a lot of respect from patients' is about 2.609 [95% CI (1,111-6,126)] and about 0.471 [95% CI (0,242-0,916)] when agreed with 'GPs are subject a great degree to the pressures and demands of patients'.

3.6.3.4 Complexity of the work

Other small but statistically significant differences between students who choose to become a specialist and those who choose to become a GP can be noticed in the perception of the complexity of the work of a general practitioner ('The profession of GP is a difficult discipline because you have to know a lot about all different fields' and 'The profession of GP is difficult because you often have to deal with uncertainties'). On the average GP students experienced the GP specialty as more difficult. But these items had high scores in both groups.

3.6.3.5 Technology in the GP profession

The final difference to be mentioned is the perception about the use of technology in GP practice. Future GPs value technology as more important in the GP discipline than

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[w] Before putting the statements in a binary logistic regression the answering were dichotomised. E.g. completely disagree, disagree and disagree a bit became 'disagree' and agree a bit, agree and completely disagree became 'agree'.

students who chose another specialty. None of these statistically significant differences seems to hold in the multivariate model (appendix 3.8, table 6). One statement that is now statistically significant and was not in the bivariate model is 'the profession of GP is highly respected'. This statement has a negative relationship with the chance on choosing family medicine/general practice in the seventh year of medical education (odds ratio 0.484 [95% CI (0,262-0,894)]).

In summary, there are differences in the perception of the GP profession between the students groups. Students who choose general practice to specialize see the profession as more challenging, more complex and with more positive facets.

3.6.4 Measures proposed by the students to make the GP profession more attractive

Table 10 shows the student opinions on how to make the GP profession more attractive. Some of the items mention recent initiatives from the Belgian authorities.

Table 10: Measures[x] (Likert scales) to make the GP profession more attractive

	Students who choose another specialty than GP	Students who choose to become a GP	Effect size	P-value t-test	n
	Mean (95% CI)	Mean (95% CI)			
Measures to make the GP profession more attractive					
The work of a GP would be more attractive if the fee-for-service were replaced by a payment per patient (so-called "capitation" or subscription system).	3,4 (3,2-3,5)	3,2 (3,0-3,4)	0,061	0,233	378
There should be financing for practice support (practice assistant, secretary) for the GP.	4,5 (4,4-4,7)	5,1 (5,0-5,3)	**0,305**	**0,000**	406
Higher fees for consultations after 18:00 would be a good measure for increasing the appeal of the profession of GP.	4,4 (4,2-4,5)	4,4 (4,1-4,6)	0,001	0,982	405
The job of GP would be more attractive if the patients were strongly recommended that they should only visit specialists after being referred by a GP.	4,8 (4,7-4,9)	5,0 (4,9-5,2)	**0,113**	**0,042**	409
Because the profession of GP is the most cost-effective level of healthcare, the personal contribution for consultations with the GP should be scrapped.	3,1 (3,0-3,3)	3,3 (3,1-3,5)	0,058	0,247	395
The average income of a GP and that of a specialist should be of the same order.	3,9 (3,8-4,1)	4,8 (4,7-5,0)	**0,382**	**0,000**	404
Organizing continuity during the night and the weekend via doctors on call should make the job of GP more attractive.	4,6 (4,4-4,7)	5,1 (4,9-5,2)	**0,258**	**0,000**	407
Partnerships between GPs and other disciplines should be supported financially.	4,1 (4,0-4,3)	4,3 (4,1-4,5)	0,078	0,119	400
GPs should have a bigger say in the management decisions when their patients are taken into hospital.	3,6 (3,4-3,8)	4,1 (3,9-4,3)	**0,220**	**0,000**	407
Patients should be obliged to register with a GP so that the GPs know whom they are responsible for.	3,9 (3,8-4,1)	4,3 (4,1-4,5)	**0,139**	**0,005**	406
I would rather work as a GP in a salaried position than as self-employed.	3,0 (2,9-3,2)	3,3 (3,1-3,6)	0,090	0,079	384

[x] Students were able to answer by means of a 6-point Likert scale where the first answering possibility was 'do not agree at all' and the sixth category was 'totally agree'

The table also illustrates the effect sizes of the student opinions on how to make the GP profession more attractive.

3.6.4.1 Financial incentives

The strongest effect (0.382) concerns the item with respect to income. Students who study family medicine/general practice are more likely than the other students to state that the income gap between specialists and GPs should not be so large. The students wanting to specialize are not as enthusiastic as the future-GPs about the idea of a financial incentive for the practice support, but they also think it would make the GP profession more attractive. The same can be said about organizing continuity during the night and the weekend.

3.6.4.2 GP influence in policy decisions

GP-students are more in favor for 'a greater influence of GPs in the policy decisions when their patients are taken to hospital' (effect size = 0.220). Apparently student-specialists do not want the interference of the GP when a patient is admitted to hospital, even though they are also in favor of the obligatory registration of a patient with a GP.

3.6.4.3 Gatekeeping

The final statistically significant effect can be found in the proposition to make general practice more attractive by obliging people to go and see a GP before consulting a specialist. Although all students think that this measure will have a positive influence on the interest of the GP-profession, the GP-students value this measure more positively.

3.6.4.4 Results of the binary logistic regression

Controlling for gender and differences between student population of Dutch and French speaking parts of Belgium (table 7, appendix 3.8), four statistically significant relationships can be noticed[y]. They relate to the income, duty obligation, patient list and fee-for-service system:

- the chance that a student chooses general practice is great when this student is in favor of the idea that a GP should earn as much as a specialist (odds ratio 3.462 [95% CI (1,741-6,885)])
- the chance of a choice for GP is also great when the student thinks that continuity during the night and weekend should be organized via doctors on call (odds ratio 3.563 [95% CI (1,079-11,763)])
- the chance of a choice for GP is great when the student is in favor of a patient-list system with the GP (odds ratio 2.204 [95% CI (1,197-4,059)]).
- On the other hand the chance to study GP is smaller when the student is in favor of the so-called capitation system instead of the fee-for-service payment (odds ratio 0.479 [95% CI (0,278-0,824)]). Again being a female student reinforces these relationships.

3.7 DISCUSSION

3.7.1 General observations

This study offers a snapshot of the opinions and attitudes of the seventh year medical students in Belgium in relation to their future work. As shown by the statistics on GP

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[y] Before putting the statements in a binary logistic regression the answers were dichotomised e..g. completely disagree, disagree and disagree a bit became 'disagree' and agree a bit, agree and completely disagree became 'agree'.

workforce in the chapter above about one third of the population of the future workforce choose for general practice.

One limitation of this study is that it analyses the group of students in the seventh year: trends over time that may be new and not applicable to the present sample, were not studied. We did not include GPs in training although this group would have been interested in relation to our research questions. Within the time frame only a limited number of people could be interviewed and adding the GP's in training would have made our interview group to heterogeneous.

Although only 1 out of 7 students answered to the call to participate in the interview-study, a diverse sample of 7th year medical students was obtained and saturation of information was reached.

The use of quantitative and qualitative methodologies helped to triangulate the data. The quantitative findings underpin the qualitative findings, strengthening the validity of the results. Sometimes, the quantitative study gave more insight in the importance of different aspects (scores), because of the great sample size of the quantitative study (transversal study of all 7th year medical students, overall response rate of 62,9%)

Students opting for general practice and for another specialty hold different opinions for many domains addressed in this study. Furthermore we analyzed whether the differences where effects of differences between the student population of official Dutch or French speaking Belgian universities or due to a gender effect. Differences between the two language sub populations were hardly discovered, except for the motivation to choose medical education. The gender effect was more prominent.

3.7.2 Factors relating to specialty choice before medical school

Students went back in their personal histories and reported on a period of some seven to eight years before. Roughly one third of the students who reported that they began their medical education with a specific specialization in mind (153 out of 483) made the choice for general practice when starting their studies (41 out of 153).

The qualitative study shows that students hold vague and general ideas about the practice of medicine before they entered medical school. For instance the surgeon saves lives and the GP holds a central position in the health system, mostly working on his own.

3.7.2.1 Study medicine: helping people, prestige and intellectual challenge

Both populations of students reported the prestige of studying medicine. Both the qualitative and quantitative studies indicate that dealing with people and intellectual challenge, the fundamentals of medicine, highly motivated all students. In addition, caring for people, general interest and the correspondence with their own characteristics contributed to the choice of studying medicine.

There are considerable differences between both populations of students. The item 'helping people' for instance, seems to have been more decisive for GP students. Being a French-speaking male student weakens this positive relationship. 'Intellectual challenge' seems more influential for non-GP students, but this has only limited importance (12% and 5% of both groups mentioned it as reason to choose medicine). This is in line with literature findings describing a more pronounced tendency for altruism and social compassion attitudes and values in GPs [18, 20, 21, 22].

As in large scale Australian study, the quantitative analysis (bivariate and multivariate) shows that prestige and a variety of job opportunities are significantly more important for non-GP students.[26].

3.7.2.2 Keep the doctor in the family

A parent, often physician, frequently influenced the student to choose for medicine. Strikingly, about one out of four final year students in Belgium have one parent being a medical doctor. One third to half of the medical students have a doctor or dentist in

their close family. Students whose parents are physician tend to choose non-primary care/general practice specialties. This may be a reflection of the socioeconomic status, increased knowledge on the specialties, the relative status of primary care/general practice in the medical community and the family support for their choices [17, 21, 133] The multivariate model clarified the importance of the profession of the father and the importance of having a mother GP in relation with the future specialty choice. There is a negative relationship between having a specialist as a father and becoming a GP and a positive relationship between having a mother GP and becoming a GP. The educational level of the mother also plays a role: GP students have more often mothers with higher secondary degree or short-term non-university higher educational degree. The effect of the education of the father was not statistically significant, as already found in the literature [20, 37, 58].

Future GP students tend to be female: the literature shows indeed that female students seem to view the GP more positively than male students. [22, 24, 30, 31]

3.7.2.3 Decision to become a GP: few change during the curriculum

At the beginning of their studies about one third (29%) of future GP students already had the idea of becoming a GP. One fifth (17%) had another specialization in mind but changed their mind during education. The rest of the GP students started their studies without having any specific specialty in mind made their choice during their curriculum. The recruitment during the curriculum is therefore important, but a preference for family medicine/general practice at matriculation is a powerful predictor for the estimated numbers of students in general practice six years later [20, 21, 134]. It has therefore been recommended to use recruitment and selection processes to select students who will choose family medicine/general practice [135].

3.8 FACTORS DURING THE CURRICULUM RELATING TO SPECIALTY CHOICE

The role model of the GPs, the clerkships and the impact of general practice in the curriculum influence the choice for general practice. In Belgium as in other countries [18, 21, 42, 45, 47 77] not only the "official" curriculum but also the culture within the medical faculty of influence. The bivariate quantitative study shows that the specialty choice, most importantly for students opting for a specialty, becomes clearer during the process of medical education.

3.8.1.1 Perception of general practice during medical training

General practice is perceived as a difficult profession with a lot of uncertainties during the clinical decision making process. Many specialist students considered it as less intellectual challenging with a lot more routine work than the clinical specialties. It is also considered as a lonely working professional (especially by specialist students), having a high workload without any attractive financial aspect.

On the other hand the GP profession is appreciated for its variety in the work, autonomy and the privilege of working with patients in different stages of their life.

These attracting and discouraging perceptions are in line with the literature findings of the literature review [28, 61, 62, 63, 64, 65]. The only difference in this study is the complexness of the job which represents a positive aspect of the GP profession in the literature [54, 61, 64, 66] but is less clear in our findings and differs between both groups of students.

It is obvious that the GP profession deals with an image problem. Students who do not see the future opportunities of the profession tend to choose another specialty. This perception problem about the content and opportunities of the GP profession was already described by Coppens & Panhuyzen 2005 [136].

GP students and non-GP students hold different views on the GP profession. GPs tend to like the variety of work and tend to cope better with the uncertainties of the job, whereas the non-GP students rather observe the difficulty of uncertainties and the

routine work involved. We do not know to what extent this conflicting observation is based on a spontaneous reaction or comes from a real decision process for choosing a career. GPs deal with complexity.

3.8.1.2 Culture of medical faculties and lack of ambassadors for general practice

LATE CONTACT WITH GENERAL PRACTICE

Students argue that general practice as a discipline is not brought to the fore in the undergraduate curriculum. The first contacts with general practice are not frequent and come late during the curriculum. So, students have most interactions with medical specialist teachers. In this study only about one third of students have had contact with general practice clerkships in the first few years of the curriculum. Here differences between faculties may play a role. Studies suggest that primary care/general practice needs to have more than a teaching role, but should be a real role model in the medical school, in order to positively affect specialty choice.

IMPORTANCE OF ROLE MODELS IN GP

However, both studies show that role modeling is important to attract students in all specialties. Based on the interviews with students, role models (teachers, supervisors) during education but also in their private life (GP in the family, own GP) are the most important information sources and factors influencing the decision [18, 19]. The quantitative study pointed out that clerkships and supervisors mostly influenced GP students. However, using a multivariate model, only the influence of the family or acquaintances working in the medical sector seemed to be important for choosing general practice in seventh year of education. Most studies showed a positive association between a positive role model and the choice for a specialty, but negative experiences have even more impact for switching away from family medicine/general practice. [21, 28, 34, 51, 53 33, 54, 55, 58, 59, 60].

Unfortunately, there is a lack of valued professors of general practice in the curricula. The students therefore negatively perceive the image of the discipline. Courses in general practice are too general, too much focused on the bio-psycho-social model and the organization of the health care.

VALUES WITHIN THE MEDICAL FACULTIES

The culture of medical faculties with values oriented towards specialties reinforces the negative perception of general practice by the students. The transmission of values within the academic world may therefore be an important determinant for the choice of a future career. This finding is supported by other researchers who described the importance of a global academic commitment towards general practice [18, 26, 32, 42, 46 79, 47 77].

The quantitative results show that the hidden (informal) curriculum plays an important but paradoxical role. Future GPs are more sensitive but less influenced by it.

3.8.2 Factors attracting students to choose the GP profession in Belgium

About one third of the students, mostly female students, positively choose general practice as a specialty in the middle of the curriculum. In some universities however, students may still opt for a career in general practice after having been dismissed for specialization, in the second semester of the final year. Both studies highlighted the main reasons for the choice of GP.

3.8.2.1 Positive match

The qualitative study showed that the respondents identified a personal affinity. A few other studies already highlighted the importance of personal characteristics in the choice process: personal values [137], personal relationship styles [138] and interests and character [139]. Also in a Belgian study by Beullens, individual interest was found to be the

most important determinant of their specialty choice together with the characteristics of the profession.[23].

The autonomy, the variety of tasks, helping people, the holistic approach, many different patients, the continuity throughout life are many positive aspects praised by GP students. GP students also suggested the opportunity to combine general practice with a family life. In foreign studies, the latter is rather seen as a disadvantage of GP because of the imbalance [22, 26, 30, 66, 69].

GP students emphasize the relationships with the patients, where they find more respect than the non-GP students. The students also report the central position of the GP in the heath care system.

3.8.2.2 Job content: general versus focused

Students are aware, as in other countries, that general practice deals with many different patient problems, unexpected events, work under time pressure and work in your own practice [22, 30, 34, 41, 42, 43, 44, 47 77, 61, 62, 64, 66, 69]. General practice students have however a less pessimistic perception than non-GP students. Some of these aspects are a burden for the last ones and an opportunity for GP students. For instance, the conflicting views on the organizational aspects that already came up in the interviews also appeared in the quantitative analysis.

Based on the bivariate quantitative analysis, the greatest difference in perception between GP and non-GP students relates to the aspect of 'General Practice is a solitary profession'.[31] Future GP's share more the idea the profession allows them to work autonomously with positive contacts with colleagues [61]. However the difference in perception to work autonomously disappears when a multivariate analysis is used. Then the most impressive influences on making a career choice have to do with the career opportunities and the part of routine work linked to the profession.

All students report they feel the GP profession is complex and includes a great variety of tasks, next to the perception that the profession also involves a lot of routine work, with which future GP's seem to be more positively triggered.

3.8.2.3 Status and income

Students observe the income gap between general practitioners and medical specialists in Belgium. The desire for status and income are unevenly distributed among future GPs and other specialists: Both students' groups attach an equal importance to a good income but future specialists tend to find status and income more important. These findings are in accordance with the conclusions from the literature [24, 25, 26].

However, status and income are not the most important factors influencing the students' specialty choice in this study, as found in the former Belgian research by Beullens et al. Status and income are inferior to values as caring, giving advice, dealing with people. [23].

3.8.3 Suggestions for making General practice more attractive for medical students[z]

3.8.3.1 Influx of students

The influx of GP students in the medical curriculum is a strong predictor for the number of future GPs. In Belgium, the number of graduating medical doctors is subject

[z] These recommendations are based on students' own perceptions of the contemporary health care system, income, status, etc. which not necessarily correspond to the actual situation. As mentioned before, students lack adequate information of the different specialty professions.

to a numerus clausus and the selection process is either with a formal examination (with strong impact of positive sciences like biology and mathematics) or after the first year (with comparable filter). The GP students have a different profile than the future specialist students. They pay more interest to human matters than to scientific subjects. An optimal selection process oriented towards selection of students that like to deal with human aspects of medicine and who like the specific components of general practice (i.e. holistic care, uncertainties etc) should be taken into account.

3.8.3.2 Reframe the perception of the discipline during the core curriculum

Academic departments of general practice should strengthen their position in the faculties. Teaching general practice in the core curriculum is not optimal according to the interviewees. This finding should be compared with the perception of GP teachers. Moreover, GP teachers have to be involved in the first years of the curriculum, not only for the "psychosocial" view on the patient but also for the aspects linked to clinical care.

Furthermore, this study shows that clerkship experiences and role models are particularly decisive for the decision processes of the candidates. GP departments can do a better job for example by selecting the best practices for student training. Clerkships in family medicine/general practice should be obligatory for all physicians regardless of their future specialty.

3.8.3.3 Address the position and income gap of GP in the health system

It is obvious that future GP students value the position of the family physician in the health care system. The quantitative analysis reveals that according to the students, a patient list is needed, that future GP's value a gate keeping role for the general practitioners and impact on the management of patients in the hospital (secondary care), that they are in favor of support for the continuity of care ("general practitioner-posts" for out of hours care), and professional practice-support like for instance the "practice assistant".

Finally, future general practitioners are in favor of less discrepancy between the incomes of GPs and the incomes of other specialists.

3.9 SUMMARY: MOTIVATIONS OF 7TH YEAR STUDENTS TO CHOOSE (OR NOT) THE GP PROFESSION

The following factors were found to influence the specialty choice of the students before the medical school:

- the parent's medical profession and mother's highest educational qualification are predictors of the specialty;
- about one third to half the number of medical students have a role model either among their parents or near family;
- the combination of intellectual challenge and dealing with people makes medicine study attractive;
- about one third of the future general practitioners had the idea of becoming a GP when starting medical education: therefore selection processes at the start of the core curriculum may be important.
- During the curriculum, the following factors play a role on the specialty choice of the students:
- non-GP students perceive the GP profession as having difficult working conditions, few intellectual challenges and a lot of routine tasks,
- students do not have many contacts with general practice and general practice is offered late in the core curriculum,
- general practice teachers seem not to play the role of ambassador of the discipline,

- informal negative values on GP are communicated by the academic teachers of the faculty,
- high quality clerkships are essential for students to make their specialty choice,
- the complexity of general practice is an issue for the students, although their perception of this complexity varies according to the fact that they opted or not for general practice.

Some factors play a positive role to attract the students to the GP profession:

- a personal affinity becomes clear in the 7th year of the core curriculum. GP students opt for a large scope of knowledge while other specialty students are more interested in a more circumscribed area of knowledge,
- general practice students hold a more positive opinion than other students about the difficult working conditions of GPs (solitary, availability),
- however, all students perceive general practice as having less status, with a lower remuneration,

The students formulated suggestions in the interviews and quantitative study:

- the selection of students should take account of the particular profile of future GP specialists i.e. more oriented towards the human aspects of the profession and to the GP specialty (holistic view, all ages…);
- The image and position of general practice departments should improve in the faculties of medicine;
- The quality of GP teaching and of GP clerkships should improve as powerful factors to attract the students ;
- GP students propose to strengthen the position of general practice in the health care system including e.g., a gate keeping role, a remuneration equal to other specialties, solutions to guarantee the continuity of care.

4 CHAPTER 4: WHY YOUNG GENERAL PRACTITIONERS CHOOSE TO LEAVE THE PRACTICE: A QUALITATIVE STUDY

4.1 INTRODUCTION

The objective of this chapter is to explore the motivations of young GPs to leave general practice.

The description of the Belgian statistics in chapter 1 highlighted the increase of GP inactivity in the curative sector, in particular among GPs aged 30 to 49 years. A previous study also concluded that a significant proportion of qualified GPs never work in this profession or move out after a few years [13].

The literature review in chapter 2 identified the following factors contributing to the fact that GPs leave the profession:

- difficult working conditions: challenge of maintaining high-quality care, large amount of responsibility, lack of flexibility in working arrangements, heavy workload, increasing demands of patients and from the health system; stressors like night visits and the perception of working in isolation,
- life satisfaction: imbalance with family life,
- lower financial remuneration than comparable jobs,
- some positive attractors were also identified e.g. rewarding professional relationships with patients and colleagues, and the autonomy of the profession.

The identification of the motivations of a Belgian sample of GPs who left the profession will complete the literature review and contribute to the policy making for the retention of the GP workforce.

4.2 RESEARCH QUESTION

The main research question is to identify the factors that influence the decision making processes of young GPs and what is the interplay of these factors to leave the practice in the first decades of their professional career. Furthermore this study analyzed the suggestions that these GPs propose to improve the retention in the profession.

4.3 METHODS

The researchers used semi-structured interviews to collect the data. In contrast to a design starting from a theoretical framework, this study was conducted from a grounded theory perspective. Central in the interviews were the individual experiences and feelings, opinions and attitudes of the target population (so this overview is 'grounded in the data'). [128].

4.3.1 Qualitative instrument

The literature findings concerning the factors regarding retention were the starting point of the interview guide. [125, 140, 141, 142, 143, 144]. The use of the interview guide with pre-determined open-ended questions supported tackling the important topics in each interview by two different interviewers (HB, LS, CD) in both, Flemish and French, languages.

A standardized introduction was presented to the participants [128] and they filled a short questionnaire to get baseline data at the beginning of the interview.

The sequence of themes in the interview was designed to 'guide' the participants through their personal history and help them reflect upon elements that influenced their decision to stop working as a GP. Following themes were addressed:

- motivation to choose medicine/general practice (to get an idea of the personal context),
- expectations regarding the GP profession and experiences and feelings during training and as a trained GP,
- decision making process to stop working as a GP,
- current profession (because factors related to the new profession could play a role in the decision to stop working as a GP).

At the end of the interview, we also explored participants' suggestions to prevent young GPs from quitting their profession.

To ensure not to miss the topics identified in the literature whilst not steering participation, the interviewer went over a topic list at the end of the interview session (see appendix 4.1. and 4.2.). They were invited to briefly comment on it, when they felt necessary.

The initial interview guide was developed in Dutch and subsequently translated to French by the French-speaking interviewer. This draft version was adapted after feedback from the steering group and after one pilot interview in Flanders After piloting the French version minor corrections were made (words, omitting a question duplicating and previous question). The remaining interviews were performed following the final version (see appendix 4.1 and 4.2 for the interview in both languages).

4.3.2 Participants

All presidents of the Flemish regional bodies of GPs and FAG (Forum des Associations de Généralistes) were requested to list colleagues who left their GP profession in the past 5 years. Using this method we were able to collect 30 Flemish speaking and 45 French speaking potential candidates.

From this group of 75 GPs, 16 Belgian former GP's (8 in each language) were interviewed, 3 men and 13 women, aged between 30 and 44 years. Their practice experience ranged from 1 to 14 years and they left the profession between 6 and less then 1 year. (see appendix 4.3.)

The selection of these participants was based on the following criteria:

- participant not (much) older then 40 (we focus on the group of GP's in their first 10 years of practice),
- has worked as a general practitioner, so excluding doctors working only part-time along some other day time job,
- did not stop practicing more the approximately 5 years ago (so reasons for quitting are still clear in their mind),
- allowing a mix of new careers, because factors related to the attractiveness for these could play a role in the decision process to stop work as a GP.

Of the 75 potential candidates, 54 former GPs answered to these criteria and were asked to participate by telephone. Eighteen GPs could not be reached (wrong contact data, no reply). One GP was abroad and 2 GPs refused to participate because of a serious illness. Seventeen did not return the phone call and were not contacted again because the target number of 16 GPs was reached.

4.3.3 Interviews

After one pilot interview the interviewers agreed on the final version and on interview strategies. Two researchers (LS, CD) conducted the interviews. We allowed the

interviewer to probe areas suggested by the respondents' answers, picking up information and in this way exploring specific topics. This could be done by prepared questions or just by asking for more detail and depth.

The selected GPs were contacted to arrange the interview. Interviews were performed at the participants' premises and took between 45 – 90 minutes.

4.3.4 Analysis

All interviews were audiotaped and transcribed verbatim. The grounded theory approach (Constant Comparison method) was used to analyze the data. Open coding is the first step in the analytic process. In the process of coding, pieces of text were identified and labeled. In a second step these open codes were grouped into concepts (axial coding).

Two researchers (LS, HB) independently coded one Dutch interview following this procedure and a list of codes was developed. During the axial coding process, it appeared that codes concerning experiences during training and work as a general practitioner could be arranged following the concepts and sub-concepts in a topic matrix. Concepts and sub-concepts were added if new information was available. Separate concepts were developed for the motivation to study medicine and to choose for general medicine. Codes regarding experiences with the new profession and suggestions for the future were also aggregated in a concept list (appendix 4.4.). The French-speaking researcher (CD) also coded one interview in French and independently developed a list of codes and concepts. During a first meeting two researchers (CD, HB) compared all concepts and aligned their lists of concepts and coding.

This list of concepts was used and adapted if necessary during the analysis of the 14 remaining interviews. A constant comparison of concepts lead to the final lists of concepts related to the decision of young GP to stop their practice-work. During a second meeting 2 researchers (CD, HB) discussed these concepts and came to an agreement on the most prominent findings.

In a final step of the coding process, the concepts were further aggregated and structured by the 3 researchers (CD, HB, LS). A central concept 'being overwhelmed – overpowered by the job' was agreed upon and all other concepts were structured around this theme (see the concept frame in appendix 4.5.).

4.4 RESULTS

A remarkable observation during the interviews was that many interviewees showed their emotions of anger, greave and sometimes relief. Some of them even cried.

For many interviewees, the decision process was a very complex one, which greatly upset them. Some GPs are still dealing with emotional feelings and are ambiguous about their decision. Most of them have not closed the door for taking up a job in general practice in the future.

MG5 « quitter mes patients, ça n'a pas été simple… faire un brin de causette dans la salle d'attente avec eux »

HA1 « Ja, ik heb mij echt twee jaar moeten voortsslepen,… ik heb zo twee jaar aan een stuk eigenlijk heel veel opgekropt. En dingen die ik wilde vragen maar niet durfde vragen. Euh en uiteindelijk dan twee jaar later heb ik gezegd van: dit kan zo niet meer verder. »

HA 8 « Want mijn werk, dat, ik had het idee, ik doe dat goed. Ik doe dat met toewijding. Maar ik kon niet goed tegen die druk van thuis. Want ik had zoiets van, ja, ik heb geen andere oplossing. … Maar mijn kinderen, die begonnen dan echt, ja meer uiterlijk tekenen van gemis… dan is dat echt aan mezelf gaan knagen…»…«.Ik zat echt in een tweestrijd»…

4.4.1 Factors related to leaving general practice

The most prominent concept linked with leaving the GP profession in all the interviews is the feeling of being overwhelmed / overpowered by the job. This feeling is the result of a combination and interaction of other variables. The latter can be categorized in 5 groups: working conditions, private life, patients, colleagues and personal characteristics. Besides these principal concepts, additional factors like financial remuneration and disappointing job content play a minor role. The consequences of being overpowered in turn influence the private and professional life.

MG1 « c'est quand même trop dur » « On ne doit pas s'oublier non plus en temps qu'être humain » « c'est aussi quand même physiquement très difficile. » « Il faudrait quand même qu'on puisse un peu souffler »

HA5 « Het zal alleen maar moeilijker en moeilijker worden, voor mij hoeft het niet

meer. Dus, ja, om meerdere redenen. Ten eerste, het vele werk hoeft dan niet. Eh, dat, inderdaad, dat altijd aan dat koordje hangen, dat ben ik ook beu. … En dan altijd die rompslomp in zo'n groepspraktijk, het hoefde allemaal niet meer; ik was het ….een beetje het vechten en het opboxen een beetje beu, eigenlijk. »

4.4.1.1 Working conditions in imbalance with the private life

JOB CONTROL

A very important factor is the pressure of being constantly available, on-call and working at difficult times (evenings, nights, unexpected times) resulting in a lack of clear limits between professional and private time.

GPs who start working in an existing duo or group practice, experience a lack of control over the organisation of their work (are told when to see which patients by the senior) and they report a the long hours on-call and low number of patient turnover.

MG7 « les contraintes d'horaire, c'est lourd. Vous êtes à la merci d'un imprévu toujours. Mais, bon, ça c'est la profession »

HA2 «… ik zat gewoon een hele dag soms te wachten met de telefoon naast mij, als ik dan een keer naar winkel ging of naar de boekenbeurs ging, ja , dan had ik prijs, bij wijze van spreken. Dan werd ik gebeld, terwijl ik anders uren zat te wachten en dat stoorde mij ook enorm op den duur. Ja, je zit altijd maar te wachten en dan 's avonds, als dan mijn man thuis kwam, dan kon ik weer weg en dan was ik maar om elf uur thuis. Ik vond dat geen leven meer op den duur. »

HIGH WORKLOAD AND THE PRESSURE OF EMERGENCIES

Another major variable is the heavy physical and psychological workload. Working long hours, night and weekend duties are experienced as a burden. Feeling insecure about dealing with emergencies (reported as lack of training) has an additional negative effect.

MG2 « les trois-quatre-cinq dernières années où ça a commencé à être un petit peu lourd au niveau charge de travail »

MG7 « ce qui me stressait beaucoup, c'était les gardes et les urgences… avec des patients qu'on ne connaissait pas, moi, ça m'a toujours fatiguée, stressée, devoir prendre des décisions pour des gens qu'on ne connaît pas .. . Je trouve que là dans les cours, il y a un manque»

HA3 «Ja de wacht, heb ik altijd heel, ja ik vond wel dat dat erbij hoorde, maar ik was altijd heel zenuwachtig. … Dat ik daar echt wel heel euhm, ja het heel moeilijk mee had. Ik was ook, goh in de week vaak van wacht. Ook 3 nachten in de week, en ik vond dat wel zwaar. … het acute vind ik eigenlijk niet zo leuk, of ik heb nooit het gevoel gehad dat ik daar voldoende getraind ben geweest om mij daar op mijn gemak bij te voelen. Dus misschien speelde dat altijd wel een rol in mijn achtergrond. Van als er echt iets ernstig gebeurt, weet ik niet of ik ga weten wat ik moet doen en het juiste ga doen. »

For some GPs working in a single-handed practice, the main raison to stop working as a GP is this combination of high workload during the day with a lack of a well organized system of deputizing services during the night and the weekends.

MG4 « c'est principalement pour ça que j'ai arrêté la médecine générale parce que vous ne dormez pas de la nuit, vous êtes habillé dans votre lit, il y a la peur de ne pas trouver l'adresse, la peur de ne pas savoir faire un diagnostic correct, la peur de ne pas être à temps, c'est vraiment très, très anxiogène. Vous allez chez des gens que vous ne connaissez pas, vers des maisons que vous ne connaissez pas, avec des gros diagnostics … Là vous êtes appelés sur des infarctus, des embolies pulmonaires, il faut être efficace, correct et être sûr de soi. Donc, moi, ça me génère un très, très gros stress .. je ne saurais plus faire de garde.»

AUTONOMY: TWO SIDES OF A COIN

The autonomy of a GP has two aspects. On the one hand being your own boss and working independently according to your own ideas is seen as positive. On the other hand, working in a team is missed (sharing responsibility, availability and interactions with colleagues).

MG1 « faire son bonhomme de chemin comme on l'entend »

MG8 « Maar dat was wel een reden bij mij, een motivatie om te zeggen, ik wil echt zo snel mogelijk een eigen praktijk. Ik heb altijd een heel onafhankelijke, grote drang van onafhankelijkheid. En, en het op mijn manier te doen. En ik vond het wel een beetje storend … dat men mij altijd zag als euhm, euhm, ja de, hoe moet ik dat zeggen, de, ik ga niet zeggen, niet voor vol aanzien. »

MG6 « je n'avais pas d'interlocuteur… une solitude dans les traitements qui devenait assez difficile »

HA7 « En het derde punt (reden om te stoppen) is het feit dat huisarts een eenzaam beroep is. Ik heb wel patiënten maar het zijn geen collega's. Je kunt niet met patiënten praten over je eigen leven of over een diagnose »

GP WORKING CONDITIONS: CONTRAST WITH THE NEW PROFESSION

During the interviews GPs describe characteristics of their new professional activity as very contrasting with the demanding characteristics of being a GP (mainly described as offering clear limits between work and private time).

HA1 « En de uren dat ik op spoed ben, dan ben ik daar ook. En dan werk ik daar ook. En dan, maar euh de rest, als ik thuis ben, ben ik ook thuis»

HA2 I:« En, wat is er voor u daardoor eigenlijk echt veranderd? Wat heb je daar gevonden wat je hier niet…» HA «Vooral respect. Euh…en betere financiële middelen (lacht). Eh, en een beter leven gewoon. Nu kan ik mijn gezinsleven combineren met mijn werk euh….»

MG8 « les idées classiques, je peux reprendre les enfants, je pourrai m'en occuper. Au niveau de l'organisation, c'est plus facile »

HA4 « Dat voel je wel duidelijk, dat ja mijne man veel relaxeer zijn werk kan doen, mijn kinderen toch elke dag weten hoe het gaat verlopen. Terwijl dat vroeger al eens anders was en dan nog op het laatste moment een of ander oplossing moest zoeken. Dat is helemaal weg en dat is echt wel de moeite al op zich. »

HA8 «Euhm, druk, ik voel mij echt euhm, ik heb geen druk meer van tijd. Ik had het gevoel dat ik voor de eerste keer de tijd eens aan mijn zijde had. Terwijl dat ik ervoor altijd tegen de klok, altijd euhm, altijd vliegen. En zag mij altijd lopen en rennen en. »

MG1 « je ne suis plus réveillée la nuit »

MG6 « Là, on a un peu de recul, on n'est plus dans une urgence. Donc, oui tout ce stress professionnel en moins «

4.4.1.2 Patient contacts: rewarding or a burden?

Although many GPs find the contact with patients and their families rewarding and stimulating, some mention the way patients may be 'demanding'. Some GPs also experience the lack of respect of some patients as a problem and this is putting weight on their decision making process.

MG4 « la médecine en tant que telle, vraiment pratiquée, avoir le contact avec les patients, aller chez les gens …. Ça ça me donnait un grand bonheur. Ce n'est pas la relation-patient qui m'a fait fuir cette profession. » « On a vraiment une relation au patient très très intense parce que c'est un peu le type d'une maison médicale, on soigne du tout venant, il n'y a pas de discrimination, on soigne aussi bien des gens riches que des gens pauvres, des gens blancs que des gens noirs, où il y a vraiment une grande mixité, une grande richesse culturelle humanitaire. C'est plus que de la médecine pour moi ».

MG1 « les gens ont un manque de respect très important vis-à-vis du médecin… on est obligé de s'en occuper… se lever en pleine nuit pour des gens super exigeants qui auraient vraiment attendre, ou qui sont saouls, franchement, c'est une partie du métier que j'exècre. »

Even a good relationship with patients may have a negative connotation for some GPs who became too emotionally involved and had difficulties (because they were not prepared adequately during their education) keeping themselves at a distance. This strongly adds to the feeling of being overwhelmed by their job as a GP.

HA7 « Ik volgde toen best wel, toen, een aantal mensen die er onder zaten of gezinsproblemen, hadden of een vrouw met kanker, als ze dan belde: ik wil nog eens komen praten. 'ja , kom maar af', om half tien, tien uur. Dat zijn dingen die je beter niet doet. Maar die ik inderdaad ook wel deed. Ja, heel, dat zijn dingen die het heel zwaar maakten. Tussen de andere dingen door. En ook daar, misschien moeite om uw grenzen te trekken en ja, dat is ook een stuk persoonsgebonden. Dus de verwachtingen, ja. Verwachtingen naar goh, psychologische ondersteuning, mensen verwachten dat echt veel. »

4.4.1.3 Impact of personal characteristics

According to the interviewees, the way they cope with this negative feelings, is influenced by their personal characteristics. The desire to do things perfect, being insecure makes it more difficult to deal with the responsibility for patients lives and with the complex and the many competences needed to cope with the job. Also being empathic is felt by some GPs as presenting a risk for getting to (emotionally) involved with patients.

MG5 « je trouve que la barre est mise très très haut... et je ne suis pas la reine de la confiance en soi … je pense vraiment que c'est la première ligne, et qu'effectivement, il faut être pluri compétent, vraiment. Mais je me pose la question, peut-on vraiment être pluri compétent en sérénité intérieure»

HA4 « Ik denk voor een stuk zowat angst om iets te missen of iets verkeerd te doen. ….. En dat ik ook altijd zo wel, ik vond dat dikwijls ook dat ik dat niet zo heel goed deed. Ik was dikwijls ook wel wat onzeker over mijn werk en zo. Ik vond dat op den duur te belastend. Gewoon… ik heb het er nog altijd moeilijk mee. »

HA6 « Wel moeilijk, omdat ….ik ben vrij perfectionistisch ben, dus dat is natuurlijk wel heel moeilijk. Dus dat je beseft, het is zo breed. Ik heb van het begin heel veel bijscholingen gevolgd,op alle domeinen, omdat ik het gevoel had van: dat kan ik niet, dat kan ik niet. »

4.4.1.4 The relationship (or lack of) with colleagues

UNEQUAL PARTNERSHIPS AND DISAGREEMENTS

What also adds to the balance are differences in opinion with colleagues. This is mostly a problem in duo or group practices and conflicts mainly concern disagreements on practice policies, for instance whether the practice acts on evidence based medicine or not.

The young GPs working in a group or duo practice (started/build up by their colleagues and/or being the training practice) also describe an unequal partnership, they feel they were kept in an 'assistant' role and did not get the opportunity for personal and professional development. They also lacked control over the organisation of their work. Young GPs find important to be able to work autonomously. Some factors contribute to this situation: generation gap, gender issues and a senior doctor's wife involved in the practice organisation.

HA4 « Dat je in de opleiding toch al meer zo, over antibiotica gebruik en zo meer evidence-based meekreeg. Was daar eigenlijk weinig van terug te vinden. Of omdat dat direct opviel dat er veel te veel van onderzoek gebeurde naar labo's en EKG's. Allez, dat dat toch zo helemaal niet overeen kwam met wat dat ge in de opleiding had gezien. »

HA6 « En de moeder (in de praktijk van de arts en zijn zoon) werkte wat mee, financieel en administratief en de telefoon….. Dus je komt daar echt in zo'n gezinnetje, dat rond de praktijk draait. Je komt daar met uw eigen ideeën. … Dat lukte allemaal niet zo goed, zelfs na jaren, dat we daar met drie jonge artsen gepasseerd waren…»

HA1 « Ja. Want vaak denk ik van: had ik nu echt alleen gewerkt, en had ik mijn goesting kunnen doen, zou ik het anders gedaan hebben dan het nu is? …, ik heb vaak naar mijn hoofd gekregen: het is mijn praktijk en jij hebt daar niets aan te zeggen… eigenlijk had ik het gevoel dat hij nog altijd solo werkte, en dat ik er was, gewoon voor de dingen, ja, één: die hij niet graag deed. Dus op het einde had ik dat gevoel, de laatste twee jaar. »

LACK OF A NETWORK AND COLLEGIALITY

Furthermore, the lack of solidarity, collaboration both within group practices as between colleagues working in the same region is mentioned. Young GPs feel lonely and experience a lack of support and opportunities to exchange experiences, discuss difficult cases and share responsibility.

MG2 « je n'ai pas eu d'écho, je n'ai pas eu de soutien des autres collègues de la région »

MG6 « je n'avais pas d'interlocuteur… une solitude dans les traitements qui devenait assez difficile »

HA2 «... Ik zei 'seg (naam), je bent mijn collega niet, je bent mijn concurrent'. Hij zei: 'dat is ook zo, zo zie ik dat ook.' »

HA6 « …. Dus een weekwachtdienst is daar ooit ter sprake gekomen maar daar was zoveel kritiek op van mensen die zeiden: ook al voer je het in, we gaan toch nooit ons bandje opzetten, toch allemaal voor ons zelf. Dat geeft een 'ambetant' gevoel, als je zegt: ik wil een weekwacht,maar ik ben de enige die het bandje gaat opzetten, dus…. »

ROLE OF GENDER AND GENERATION DIFFERENCES

These conflicts and lack of solidarity may be partially linked to the different 'work ethos' between older and younger GPs (generation differences). Older GPs allow their patients to claim a constant availability and are described as having another vision on working together.

MG7 « Et cela, dans la région, avec les anciens médecins, il n'y a pas de solidarité … Il n'y a pas de volonté de collaboration»

HA2 « Ja, ja. Als ik terugdenk aan de maandelijkse bijeenkomsten met de Kring. Je werd daar gewoon als jonge huisarts gewoon niet opgenomen in de groep. »

HA5 « …dat is al een hele andere generatie als wij, die hebben inderdaad al een heel andere optiek. Die beginnen zelfs niet meer als wij van 'Nu hebben wij onze praktijk en daar doen we alles voor'. … Ik heb ook nog wel van: 'je moet toch wel voor je praktijk zorgen en voor uw mensen'. Maar ik heb toch wel al een beetje van: 'Toch niet 24 uur'. ….. En dan zat er ook nog ene van 70 en die hebben nog een hele andere filosofie…die kwam ook altijd uit zijn bed en die 'huh, die kunnen dat niet, die jonge gasten kunnen niets en zij konden alles; Ja, uiteraard zijn vrouw loste alles op, ze hadden ook geen gsm. …., je bent dan niet bereikbaar. Mensen nemen dat ook aan, dat je niet bereikbaar bent. Dat kun je nu niet meer verkopen, plus dat de Orde ook zegt dat je bereikbaar moet zijn. Pff. »

4.4.1.5 Consequences for private and professional life

Some GPs feel exhausted, empty and have the impression they have no 'energy and mental space' and time left for other domains in their life. They describe an imbalance between the job and their family life resulting in conflicts and the feeling of failing their children, partner and parents. Some GPs also mention the impact on doing not enough effort for their professional development. There are no resources (time nor energy) left to keep up with skills and knowledge. In Belgium continuing medical education is mostly organized in the evenings and during the weekends and is not remunerated. This creates tension between the desire to deliver high quality work and having intellectual challenges and the opportunity to do so.

HA5 « …. Dan begin ik mij schuldig te voelen want ik ben altijd maar in de weer voor een ander, voor mensen, die je natuurlijk wel kent maar toch, dat is toch een ander niveau en dikwijls voor dingen dat je denkt: 'waarvoor ben ik daar nu weer mee bezig?'. En de mensen die u dan nauw aan het hart liggen, dus uw echtgenoot, uw familie, uw ouders, die moeten dus hun plan trekken….»

MG7 « la vie de famille, la présence de petits enfants … ça m'a traversé l'esprit de reprendre mais avec un conjoint qui est pris tout le temps, ce n'est vraiment pas possible… une meilleure qualité de vie»

HA3 «Maar ik had, ik was eigenlijk zo een beetje de zin verloren. …Eigenlijk begon ik dan zo ineens te ontdekken van, eigenlijk al het negatieve begint mij zo zwaar door te wegen. En ik had echt het gevoel van, daar niet meer te kunnen insteken, wat ik daar wou insteken. Ik had dan zo een heel deel bijscholingen gevolgd. … En ik dacht, help, ik wil hier iets veranderen. Maar ik kan dat niet veranderen. Ik heb daar geen tijd voor, geen middelen voor, geen ja.»

HA 5 « Wat wil je dan, als je 24 op 24 uw continuïteit moet verzorgen, dan komt dat ding op de eerste plaats en als jij, ja, zegt van om 20:00h 's avonds 'ik zal naar huis komen', en om vijf na acht belt er nog iemand, ja, dan ga je niet naar huis, dan ga je dat dan doen. Ja, dat komt altijd op de eerste plaats. En al de rest moet zich daarnaar voegen».

MG8 « Parce que j'avais, j'ai toujours les deux enfants. C'est vrai qu'en tant que femme, ce n'est pas facile…On n'est jamais « tranquille ». On ne peut mettre son répondeur qu'à partir du soir, donc quand je revenais avant de partir, par exemple, je les récupérais vers 17H. Je revenais, il y avait encore des appels, il fallait ressortir, c'était vraiment difficile »

4.4.1.6 Additional factors: recognition and gap between theory and practice

Additional factors may reinforce the decision but on their own they are not principal reasons for leaving the practice as for example::

- the lack of recognition, both financially, by patients and by the society (respect) is mentioned by some participants as a frustration as did the large (and growing) amount of administrative tasks,

MG6 « Qui,…parce que j'avais l'impression de travailler pour gagner juste ma vie et en plus de donner tellement de moi, de mon temps pour pas grand-chose »

HA3 « wat dat mij had kunnen helpen dat is dat ik, denk ik, meer tijd kreeg, en dan bedoeling ik, denk ik, vergoede tijd kreeg. Om een aantal dingen toch al is dat maar 1, 2 uur in de week om een aantal dingen gewoon eens terug te kunnen lezen, herpakken of bijscholen. Euhm en misschien ook, en dat hangt er dan wel mee samen, dat er een heel aantal, goh, die administratieve "rompslomp". Uiteindelijk werd ge daar gewoon zot van bij wijze van spreken. »

- some participants mention the gap between theory and practice, between the reality and the image they got about family medicine during training as a disappointment (a lot of older patients, psychological problems, difficulties to set own limits, deal with demands of patients, lack of variation),

HA5 « … dat was puur klassieke geneeskunde dat we kregen. Wist ik veel dat er nog allemaal zo psychische toestanden ontstaan en dat je nog moest komen, mensen die ruzies hebben en dat je met de politie moet komen omdat er ene agressief in de cel zit te roepen. Of dat er ene op het dak zit te roepen en dat de politie hem er niet af krijgt en dan moet jij hem maar afkrijgen… »

MG1 « ce n'était certainement pas celle que j'avais imaginée… Ce que ça nous demande en efforts physiques, en efforts psychiques on doit vraiment donner beaucoup et je ne pense pas qu'on se rende compte de ça »

4.4.2 Suggestions of participants for retention in general practice

4.4.2.1 Working conditions

PROMOTING GROUP PRACTICES AND GP NETWORKING

The majority of suggestions that the participants formulate are linked with improving their perceived difficult working conditions. Promoting working in group practices is a first suggestion. Working in a team allows physicians to share responsibilities, discuss difficult cases and diminish the pressure of being constantly on-call.

MG7 « encourager et développer la solidarité inter-médecins et décourager cet esprit un petit peu de solo »

MG8 « travailler en groupe… Ne fut-ce que pour discuter des cas… ne fut-ce que pour les enfants, pour les gardes, c'est plus facile »

HA6 « Ik denk, in een groepspraktijk is het leuk, als je elkaar goed kent, om dat een beetje door te spelen aan elkaar. Want ik was bijvoorbeeld niet zo orthopedie-minded, infiltraties (lacht), ik speelde dat ook wel door aan mijn collega. En dat is zo wel het leuke in een groepspraktijk, dat je dat onderling kan…»

The availability of well-organised regional deputising services (weeknights and weekends) is another important suggestion. A group of GPs indicate that the existence of these services could have prevented them from quitting.

MG6 « ça aurait pu me faire durer plus longtemps. Un rôle de garde de semaine avec une équipe peut-être que j'aurais tenu plus longtemps »

MG3 « postes de garde « habituer les gens à se déplacer aussi, donc, à ne pas être assistés sur le plan médical »

HA3 «En dat je, wacht, ik vind dat die erbij horen. Ook soms dat sommigen zeggen, de wacht moet afgeschaft worden. Ik vind niet dat dat kan. Maar dat je daar ook een omkadering, even goed in neemt. En dan denk ik dat die wachtposten daar wel redelijk in de buurt komen. »

SUPPORT IN PRACTICE ORGANIZATION AND CME

Interviewees regard financing practice support (administrative and nursing duties) and the organisation of continued medical education during working hours as additional supportive measures to prevent young GPs from being overpowered by their job.

MG2 « simplifier un petit peu les démarches administratives »

HA1 « Wat moet de overheid doen om dat beter te doen verlopen? Om het beroep aantrekkelijker te maken? Meer ondersteuning. En ik heb het dan echt van een secretaresse, of iemand die secretariaatswerk en een beetje medisch, allé, een beetje verpleegkundig werk kan doen. Euh maar dan ook echt controleren dat het daarvoor gebruikt wordt. …Ja. Dus dat is één van de suggesties, om daar meer aandacht aan te geven. Want hoe vaak ik 's morgens bloed getrokken heb, ik denk,dat is iets, dat kan een verpleegster doen. »

HA6 «bijvoorbeeld wat ik denk, die bijscholingen die zo superbelangrijk zijn, … dat daar een vergoeding voor wordt voorzien of een systeem, dat toch meer in de dag kan gepland worden, nu kan dat organisatorisch niet, maar dat is een zware belasting. »

4.4.2.2 GP training: clinical competence, handling conflicts and management task

Some participants offered suggestions regarding the GP training. During vocational training, GPs need more training for dealing with emergencies and should be better prepared for coping with difficult patients and keeping an emotional distance. GPs also suggest a better guidance for specialty choice during education and would like more GP clerkships to get a better idea of the real profession as a family physician. Finally GPs would welcome better information on financial issues and pitfalls when stepping into a duo or group practice. Also training in how to deal with conflicts between colleagues would be welcomed. By some, it was felt that these measures could prepare starting GPs for the challenges of the job.

MG3 « un très fort décalage entre les études et la pratique qui a duré un an puis une reconstruction progressive en intégrant toutes les dimensions relationnelles de la médecine générale, …Les cinq, six premières années ont été vraiment très intéressantes à ce niveau-là, très dures en même temps. Pour remettre en cause des éléments qu'on avait appris, vraiment réinsister, réinvestir le côté relationnel de la médecine générale qui est fort négligé en formation»

HA1 « Dus misschien kan de overheid daar iets aan doen, om duidelijkheid in die contracten te geven. Duidelijkheid over wat moet daar in staan. En misschien, ik weet niet, jongeren stimuleren om als jongeren samen te werken. Ik denk dat jongerenbeter met jongeren samenwerken»

HA3 « Ik denk soms, als wij een opleiding zouden gehad hebben gelijk ze nu meer gegeven wordt. Met wat meer aandacht voor het persoonlijke. Dan had ik er misschien al achter gekomen voor dat ik er ooit aan begonnen ben. Dat het misschien toch geen goed beroep voor mij was. Hoe interessant ik het ook vind. »

HA3 «Begeleiden, he. Vooral in … juridisch of op financieel vlak, want dat zijn toch dingen die de opleiding helemaal niet geeft. Bijvoorbeeld, als je drie wratjes wegsnijdt, hoe vraag ik aan de mensen op de correcte manier mijn geld. »

4.4.2.3 Recognition, remuneration and support

A few GPs mentioned other suggestions related to the retention of family physicians:

- To change financial conditions: special "nomenclature" for long consultations, target payment instead of fee for service only,

MG7 « il faut un petit peu mieux valoriser, justement, le travail qui n'est pas strictement dans l'examen du patient… fait du bénévolat entre guillemets pour une bonne partie de l'activité »

HA3 «Als ik nu zou, mijn ideale praktijk zou kiezen. Zou ik zeggen, bediendestatuut. Niet prestatiegericht, maar dus gewoon euhm, proberen daar wel een verdeelsleutel in te vinden. Dat je euhm, betaald wordt voor de uren die je werkt. Dat daar uren in zitten om euhm, ja ik denk zoals in elke job een beetje. Dat je tijd en ruimte hebt om uzelf te verbeteren. Dat ge bijscholingen tijdens uw uren kunt doen. En niet euhm 's avonds laat of op een zaterdagmorgen, ik denk dat dat voor mij de voornaamste dingen zijn. »

- To sensitize patients regarding their demanding attitudes and overcoming the image of GPs having to be constantly on-call. This is seen as a task for the government but also for the GPs who should 'educate' their patients properly,

MG6 « je crois que c'est surtout l'attitude des gens qui doit changer aussi, par rapport à leurs demandes, aux claquements de doigts

HA8 «Ik vind dat, dat er, dat het beeld dat van overheid uit moet geschetst worden van een huisarts meer een, een euhm, ja, dat we van dat beeld af moeten van de permanente beschikbaarheid. Nu dat is al wel geëvolueerd, ik bedoel, dat is niet te vergelijken met 30 jaar geleden. Maar ik vind dat ook wel, dat beeld vanuit de overheid zou moeten euhm, gepropageerd worden naar de mensen toe. Met campagnes, net zoals dat ze campagnes hebben om te vaccineren. Dat ze campagnes voeren, met, met probeer uw huisarts niet te belasten na dat uur. »

- To deal with the lack of support for GPs after graduation. The participants demanded support when conflicts arise in a practice or a region and for GPs who feel 'burnout',

HA8 «Nog een andere maatregel die ik euhm, bijvoorbeeld zoals ik u al zei. Zo'n een soort van netwerk van gespecialiseerde artsen die in die materie zijn gespecialiseerd zoals bijvoorbeeld burn-out of, of. En, en dat openlijk ook laten kenbaar maken aan de collega's. Van kijk, als je zit met dat gevoel of met dingen, die mensen, dat zijn collega's, dat zijn geen mensen uit uw kring. Die zijn daarvoor opgeleid. Een erkende structuur, een orgaan, waar dat je bij terecht kan. »

- allow more GPs to graduate.

MG1 «…maintenant qu'ils se trouvent un peu en personnel réduit, et qu'ils seraient bien contents maintenant de partager le gâteau… l'âge moyen est quand même très élevé et la relève n'est pas assurée. Il faudrait plus de médecins généralistes sur le terrain .. je pense vraiment qu'il faudrait, dans les dix à vingt ans, une nette augmentation des installations de cabinets »

4.5 DISCUSSION

4.5.1 Methodological issues

Generalizing these results may be hampered by the nature of the selection process of the participants.

First there is an imbalance between genders (more women). This is explained by the recruitment procedure. Less of men than women were identified by the snowball process used during the identification process of potential respondents (30men versus 46 women). Moreover, the response rate of men was far below the response rate of women: they were still GPs, left abroad or refused to participate. This study gives therefore less information on the reasons why men leave the profession and these could be gender specific. However, the proportion of GP women is now higher than the proportion of GP men and they may be more vulnerable to leave the profession for family reasons (including maternity leaves).

Secondly, one may argue that the interviewed GPs who left the profession are not a representative sample of the GP population who now consider leaving general practice

or still going on practicing despite of their unhappiness to stay in the profession. However, the respondents highlighted some weaknesses of the current system.

Participants also followed different training programs (appendix 4.6). In Flanders, most interviewed GPs were trained in teaching practices during vocational training and then started working in a duo or group practice. Only one GP started a solo practice. In the French speaking part, young GPs started solo and were supervised by a senior GP during their first years of practice. Only two participants worked in a group practice. This had an implication on the interviews: the French interviews contain only limited information on the vocational training period and more information on working in single-handed practices. In contrast, the Flemish interviews contain more information on working in the training practices and on interactions with senior GPs.

Notwithstanding these methodological restraints, the results offer a snapshot on the perceived reality and help to get a look on the elements that influence Belgian GPs to leave the profession. Furthermore they suggested policy options for the retention of the GP workforce.

4.5.2 Findings

The participants were able to reflect upon their reasons to stop work as a GP. We were surprised to observe so much emotional discomfort like grief and anger. Although some participants had stopped several years before, their choice was not yet unambiguous.

4.5.2.1 Factors affecting retention

HIGH DEMANDS OF THE GP PROFESSION

This study shows that stopping working as a GP comes after a great deal of distress. Most participants did not make a positive shift towards another career. These participants were not able to cope with the high demands of the profession. These high demands encompass many factors that interact with one another: working conditions (work organization, work load, continuing medical education, high responsibility, dealing with emergencies), relationship with patient and colleagues and the family balance. These stressing agents were also described in relation to retention in the international literature [34, 65, 72, 118, 121, 122, 124, 141, 144, 145]

INFLUENCE OF THE PERSONAL GP CHARCTERISTICS

How individual GPs give meaning to and cope with these high demands may be influenced by their personal characteristics. Although face valid, this is a finding not widely addressed in literature. Rather demographic factors such as age, ethnic origin and gender are described as influencing retention [118, 120, 121, 122, 123]. Other personal characteristics as being insecure, a perfectionist, having difficulties in dealing with responsibilities, handling conflicts and keeping an emotional distance, were not described in this way. They may be important co-factors influencing the decision to leave the practice.

So, apart from the participants who stopped because of some positive reason (i.e. finding an attraction for another career track), the question arises as to how intra-personal factors balance with structural ones. Intra-personal factors may for instance be due to not being able to communicate properly and effectively with colleagues and this may in turn lead to not being able to exercise power on ones own situation. General practice is full of the unexpected (e.g. emergencies) and at least some participants could not deal with this. A high workload and the complex work content of general practice could be harder to cope with for persons who are more insecure and find it important to do a perfect job.

LACK OF JOB CONTROL

For some participants the lack of control on their job was missing, may be partly because the practice did not offer enough structure. Indeed if the practice offers large

availability of services in time and the number of GPs in the practice is small, patients can call for attention at practically any time. This lack of job control was also linked with the family balance. In general, the lack of flexibility in working arrangements, long hours and difficulties in finding a locum are factors linked with job control described in the literature [65, 72, 118, 121, 124].

Job control linked with an unequal partnership with colleagues and disagreements on practice policies is also a new finding in our study. This is an important finding because the existing evidence links positive relationships with and support from the professional community with retention [72, 80]. Furthermore partnership arrangements could be a mediating factor between external workload pressures and individual general practitioners' experience of work [140].

FEW STATEMENTS ABOUT FINANCIAL ISSUES

In contrast to the international literature [72, 118, 120, 121, 122] financial issues are not a main raison to stop working as a GP. However, in relation to a high workload and availability it adds weight to the balance.

NEED FOR SWITCHING TO ANOTHER CAREER

Some GPs showed that at the time of stopping they were in need of a next step in their career track and they had solid and positive grounds for choosing. As holds for society in general, highly trained professionals may feel the need to change after a period of time of working and build up a flexible, modular career. This finding corresponds to the literature: opportunities for braking career whilst being guaranteed later return and job rotations could prevent GPs form leaving [146]. However, in Belgium GPs tend to stay in their initial practice: financial constraints (for example ownership of premises) prevent them from changing between practices or jobs.

4.5.2.2 Policy options proposed by the interviewees for increasing the GP retention

Based on the suggestions of the participants, three domains for action can be identified: the general health services level, general practice organizations and medical training.

GENERAL HEALTH SERVICES LEVEL

First, working conditions (including financial remuneration and patients' attitudes) should be tackled at the general national health services level. Supportive measures (promoting group practices, deputizing services, providing practice support, resolving the problem of too much availability) seem to be important. For instance, deputizing services start at 5 pm and local authorities provide means for building premises for group practices.

Working conditions (workload, flexibility of working schedules, job enrichment) are also found to be relevant in the literature but policies in this field have still to be implemented and evaluated. Intra-personal factors possibly interact with structural ones and different sub-groups of practitioners with different needs regarding working conditions exist.

From our data it seems that financial issues are not of foremost importance, indicating that these measures alone may not be effective to attract and retain GPs. So, like in other countries [147] Economic retention incentives seem not to be effective in the long run.

SUPPORT OF GENERAL PRACTICE ORGANIZATIONS

General practitioner organizations have a task in providing appropriate support for GPs experiencing difficulties and in this way prevent them from burn out. They may play a role in sensitizing patients regarding their demands and attitudes.

ROLE OF MEDICAL SCHOOLS FOR COPING WITH STRESSORS AND FOR KWOWING ABOUT THE FUTURE PROFESSION

Finally, some aspects should get more attention from the medical schools. Clinical competences are useful for coping with the stress of emergencies. Other information should also be useful e.g., information on practice organisation, financial issues and preparing for starting to work in a group practice are determinants for a successful professional career.

Universities also have a responsibility in supporting students during their specialty choice, and offering a realistic view on the job of a GP. This idea is linked with literature findings which state that attracting and appropriate training the right people [57, 87, 148] informing and counseling about marked and career opportunities [147] are effective policies for retention. Young graduates need 'now how assistance rather then money' to start their practice.

A last task for medical training institutes could be the organisation of continuing medical education and support for GPs. Now the link with the University of training is often cut after graduation. In the literature the latter is found to be moderately effective for GP retaining GPs [149].

4.6 SUMMARY: MOTIVATIONS OF GENERAL PRACTIONERS WHO LEFT THE PROFESSION

A major finding is that many GPs who left the profession experienced feelings of grief and distress. The following factors were found to have influenced their decision:

- The high demanding characteristics of the GP profession, in particular linked to the patients' demand;
- The perception of lack of job control;
- Some GPs wished to make a positive choice for another career track;
- Financial issues were not mentioned as a major reason for leaving the profession.

During the interviews the former GPs formulated the following suggestions to prevent GPs from leaving the profession:

- Supportive measures as for example group practices, deputizing services;
- A specific support for GPs who experience difficulties
- Improving the medical training of future general practitioners in the faculties: in particular for coping with stressors (e.g. emergencies) and for getting a better view of their future professional life.

5 CHAPTER 5: POLICIES INFLUENCING THE ATTRACTION, RECRUITMENT AND RETENTION OF GENERAL PRACTITIONERS (GPS)

5.1 OBJECTIVES

Chapter 4 showed some of the reasons why GPs leave the practice, in particular the high demanding characteristics of the profession and the perception of lack of job control. The former GPs formulated the suggestions to prevent GPs from leaving the profession: supportive measures as for example group practices, deputizing services; a specific support for GPs who experience difficulties and finally suggestions to improve the medical training of future general practitioners in the faculties.

This chapter reviews the international literature in order to highlight policies able to improve GPs attraction, retention and recruitment: what can be learned about the effectiveness or impact of policies implemented to improve attraction, recruitment and retention?

5.2 LITERATURE SEARCH METHODOLOGY[aa]

The literature search focused on publications and reports on existing policies and on the evaluation of effectiveness on these policies (offering opportunities for evidence-based outcomes). The researchers separated political debates (such as the October 2007 strike of French residents), policy analysis and discussions, policy implications of research not related to policy evaluation, commentaries, editorials and opinions (offering opportunities for intellectual and ideological appeal).

For theoretical considerations (cf. Bilodeau et al 2006 [16]), three categories of policy studies are presented (attraction-recruitment-retention). As in the study of factors affecting GPs attraction, recruitment and retention (cf. chapter 2), a substantial body of the policy literature concerns issues in rural practice. Consequently, excluding rural practice-related papers from the literature review would have resulted in a very small number of sources. Keeping rural literature may also be justified by the following reasons. Firstly, some policies, e.g. medical education programs designed to attract and recruit rural practitioners, also address more of less explicitly issues of primary care physicians attraction and recruitment. They may therefore be inspiring sources. Secondly, the issues of GPs attraction-recruitment-retention are not only matters of global GP-to-population ratio, but can be examined under the hypothesis of a heterogeneous density of GPs, i.e. a problem of balance of GPs distribution between areas in industrialized countries such as Australia, Canada, and USA. Finally, a shortage of GPs cannot be excluded in the forthcoming years in specific Belgian areas.

5.2.1.1 Attraction: the role of Universities

US MEDICAL SCHOOLS PROGRAMS

The USA provides some literature about the role of universities in modulating the supply of GPs. During the 70s and 80s, the absence of regulation of the GP market led to the notion that training more medical students would expand the number of primary care physicians (PCPs, which include GPs, internists, pediatricians and obstetricians). This resulted in an oversupply of specialists and a shortage of PCPs in the early 1990s that, together with the movement towards managed care, compelled policymakers to revisit the issue of physician supply.

[aa] The literature search methodology has already been extensively explained in chapter 3.

US federal and state policies

In the 1990s, US federal and especially state policies were designed to mandate medical schools to "produce" more PCPs, which resulted in proportions of PCPs graduates reaching 25 to 35% in 1995, short of the 50% target however [150]. The particularity of these state policies is that they were not intrusive, they were unfunded mandates and mostly signals to hold medical schools accountable for producing more PCPs [150].

Generalist Physician Initiative

Private initiatives were also launched, e.g. the Robert Wood Foundation, which provided financial support to the Generalist Physician Initiative (GPI) in 13 universities (1991-2001), targeting the supply of family practitioners, general internists, and general pediatricians [26, 48, 151]. Several aspects of the GPI are close to what was observed in Belgium with the development of Academic Centers of General Medicine. The Generalist Physician Initiative helped catalyze educational reform in medical schools that had had little educational change in two to three decades. Those changes included:

- elevating generalist faculty into major leadership roles,
- instituting new administrative structures to coordinate generalist activities,
- increasing the number of generalist faculty.

Some changes the schools carried out to promote general practice were for example:

- changing the admissions process to target more students with GP potential, along with increasing the number of GPs on admissions committees,
- developing high school and college undergraduate recruitment programs,
- redesigning undergraduate medical education to include the primary-care community experiences, GP-oriented clinical medicine courses and GP clerkships.

The Generalist Physician Initiative increased output of GPs by approximately 39% during the course of the program, from a baseline of 26.4 % of graduates in 1988-1991 to 36.7% of graduates in 1999. By 2000, there had been a decline in GP graduates to 32.8 percent of all graduates, so the final increase was 24 percent. Note that this trend in increased production of GPs may not be attributed solely to the GPI and that it is not either stable: national data show that after the mid-1990s peak, the number of PCPs is leveling off in the mid-2000s [152]. The causal effect of the GPI is then questionable, and other incentives and determinants of career choice by physicians should be considered.

Specific US initiatives for rural and deprived areas

Since there is little evidence to support the idea that distributional issues would resolve by themselves, several education programs were developed in parallel by US medical schools to attract and train future GPs, with an accent on rural practice and underserved communities for some initiatives. Programs were initiated in the 1970s and the 1980s and are still operating (see Geyman et al 2000 [153] and McDonald et al 2002 [154]). Some of these programs were evaluated. See the following references : [50, 56, 57, 87, 89, 94, 119, 122, 123, 148, 155, 156, 157].

All these programs concern small numbers of physicians (about 30 to 100/year). Common features of these programs include:

- selection of students with rural background, with service orientation and interests in family medicine,
- education in community medicine,

- student support by family physician faculty advisers,
- family medicine clerkship in a rural location (third year),
- internship in family medicine,
- small amount of additional financial aid (loans),
- administrative support for locating/opening their own practice.

All these programs succeeded in producing long lasting above average proportions of GPs and other PCPs (50 to 65% of graduates), and in fostering graduates entering rural practice (20 to 50% of GPs and PCPs). Rabinowitz and colleagues repeatedly evaluated the Jefferson Medical College Physician Shortage Area Program (PSAP). In a follow-up study from 1978 to 1986, Rabinowitz [148] found that PSAP graduates were approximately four times as likely as non-PSAP graduates to practice family medicine (55% vs. 13%), to practice in rural areas (39% vs. 11%), and to practice in underserved areas (33% vs. 8%). PSAP graduates were also approximately 10 times more likely than non-PSAP graduates to combine a career in family medicine with practice in a rural (26% vs. 3%) or underserved area (23% vs. 2%). Overall, 85% of PSAP graduates were either practicing a primary care specialty or practicing in a rural or small rural or underserved area [148]. The retention rates of PSAP vs. non-PSAP physicians were assessed after 22 years [87]. Program retention remained high, with the number of PSAP graduates practicing medicine at the time of the study equal to 87% of those practicing between 5 and 10 years previously. It was concluded that rural-raised individuals are more likely to practice in rural raised areas and that the combination of rural background with the specialty of family medicine is a cumulative effect [87]. Further analysis by Rabinowitz et al. (2001) [94] found that in the initial study between 1978-1986, out of the 144 PSAP graduates who were in rural primary care, 86 (59.7%) were still practicing in rural primary care in 1999. Independently, participation in the PSAP was a significant predictor of retention (OR, 4.7; 95% CI, 2.0-11.2; p< .001), whereas taking a rural preceptorship was not (OR, 1.2; 95% CI, 0.5-2.8; p< .74). A last study [57] showed that 68% (26/38) 1978-1986 PSAP graduates who originally entered rural practice were still practicing family medicine in the same rural area.

Identification of the effectiveness of isolated components of such programs is difficult since they are complex interventions designed in specific medical schools by specific leaders.

However not all such initiatives do succeed (see [51, 53 33, 68, 135, 153, 158]).

AUSTRALIA: MEDICAL SCHOOLS PROGRAMS FOR ATTRACTION IN RURAL AREAS

Similar programs exist in Australia for attraction in rural areas (e.g. the General Practice Rural Incentives Program-GPRIP, Kamien 1995 [159], Kamien and Cameron 2005 [160], McDonald et al 2002 [154], see also Dunabin et al 2003 [161] for a review).

5.2.1.2 Recruitment: medical education, economic incentives, recruiters and French initiatives

Literature about recruitment is almost entirely dedicated to distributional issues, i.e. the geographical inequities existing in the availability of GPs, especially between rural and urban areas. The main policies used to address this issue are: improving physician preparedness to work in physician shortage (including rural) areas through medical education, economic incentives to support to starting general practice (grants, subsidies, and other assistance), and the use of recruiters. The last section is devoted to recent (2003-2007) policy development surrounding the issues of regional disparities in the availability of physicians in France.

IMPROVING PHYSICIAN PREPAREDNESS TO WORK IN SHORTAGE AREAS THROUGH MEDICAL EDUCATION

Exposing medical students and residents to the rural experience provides them with the opportunity to experience a broader range of disciplines in wider community settings

and to identify with the positive aspects of rural practice. In the USA, programs in this field are generally linked with medical curricula, as seen above in the "attraction" section. For example, rural preceptorship is part of RMED programs [50, 157] (preceptorship means "a period of practical experience and training for a student that is supervised by a specialist in a particular field", in contrast with residency, which is "a period of time, after completing an internship, during which a doctor receives special training in a particular type of medicine"). Original programs were developed to meet the needs of urban lower economic and minority communities. For example, the Urban Family Medicine Residency Program of the Ohio State University [85] was established to improve access of population to health services. The program admits about 2 residents for training each year. Other programs may be relatively autonomous from medical schools, such as the Appalachian Preceptorship Program of the East Tennessee State University, started in 1984 [106]. This 4-week summer training served 225 medical US and foreign students between 1985 and 2004. Rural training tracks (RTT) (in Geyman et al 2000 [153]) are residency programs developed in the 1980s: the first year of residency occurs in a large urban teaching center and the second and third years occur in small family practice groups in a distant rural community, implying a major move. It is not sure if RTT are effective and if they cost less or more as traditional family practice residencies.

According to Pathman et al 1999 [109], US physicians who are prepared to be rural physicians, particularly those who are prepared for small-town living, stay longer in their rural practices. Residency rotations in rural areas are the best educational experiences both to prepare physicians for rural practice and to lengthen the time they stay there. Preparedness would therefore be seen as a retention rather than a recruitment policy.

ECONOMIC INCENTIVES

US federal financial incentives

US federal financial incentives were created to address inequities existing in the availability of GPs between rural and urban areas. The first one targets graduate students with funded scholarship and obligated service (the National Health Services Corps - NHSC, 1972). The second one targets medical schools with funding (Title VII of Public Health Services Act, 1976).

Funded scholarship coupled with obligated service

Funded scholarships are a controversial measure. They address the issue of recruitment in physician shortage areas with less emphasis on retention: when GPs complete their obligated service, they are able to move into other areas. Generally, the shift is from rural to urban areas. The National Health Service Corps (NHSC) is a major US government initiative aimed to address the shortage of physicians in rural and underserved areas [162]. Since its introduction in 1972, the NHSC has placed more than 15000 physicians in rural areas at a cost of more than $ 2 billion. The feature of the NHSC Program is the provision of financial support to health professional students in exchange for obligated service in selected rural and underserved areas. For each year of financial assistance received, students incur 1-year obligated service as a NHSC physician [162]. The hope is that once NHSC assignees will have completed their obligated service, the experience will encourage them to remain beyond the period of obligation. Probst et al 2003 [163] showed that NHSC alumni (i.e. physicians who once served in the NHSC) are more likely than non-NHSC to have high Medicaid patients and practice in areas with health professions shortage and high percentage of minorities and people living in poverty. It cannot be excluded that students with specific profiles are self-selected to the program, but no information was found about this.

Some recipients of the scholarship have described the NHSC obligated service as a "period of servitude". Therefore, the length of time a NHSC physician remains in their assigned practice, beyond the obligation period, is crucial in the evaluation of the program.

Nobody casts doubt upon the merits of the NHSC but its effectiveness is questionable [162].

Title VII of the Public Health Service Act

The other US federal financial incentive, Title VII of the Public Health Service Act (1976), authorizes a myriad of programs for students and institutions to improve the geographic distribution, quality, and racial and ethnic diversity of the health care workforce.

Title VII funding of departments of family medicine at U.S. medical schools is significantly associated with expansion of the primary care physician workforce and increased accessibility to physicians for the population of rural and underserved areas [164 1372 , 165]. Between 1978 and 1993, 2268 Title VII grants were awarded to 120 U.S. medical schools for family practice predoctoral programs, departmental support, and faculty development. Grants to departments of family medicine in these three programs totaled $290 million over this 16-year period, with an average annual grant amount per institution of $127500. In a comprehensive analysis of Title VII funding between 1978 and 1993, approximately 180 000 medical school graduates were followed to evaluate their practice specialty and practice location in the year 2000. Students who attended schools that received no family medicine Title VII funding during their four-year tenure chose family practice at a rate of 10.2 percent. On the opposite, students who attended schools that received that funding for one or more years of their enrolment chose family practice at a rate of 15.8 percent. Additionally, Title VII funding was associated with higher rates of practice in whole county primary care health personnel shortage areas (1.2 versus 1.5 percent) and practice in a rural area (9.5 versus 12.7 percent). A causal relationship is difficult to ascertain: it is unclear whether some characteristics of medical schools (e.g. location, students' population) are associated with receiving Title VII funds. In their cross-sectional study on GP location in year 2000, Krist et al (2005) [149] show that Title VII funding of medical students as well as medical schools is associated with an increase in the family physician workforce in rural and low-income communities, and is temporally related to initiation of funding. Krist et al. 2005 [149] observed increases by 2% of the number of GPs in underserved communities, which is, according to the authors, "a substantial increase as regards access to healthcare".

US state programs offering financial incentives

Many US state programs [166] furthermore provide financial support to physicians and midlevel practitioners in exchange for a period of service in underserved areas. These programs may contribute to the US health care "safety net". Pathman et al (2000) [166] identified 82 eligible programs operating in 41 states, including 29 loan repayment programs (funds to repay educational loans of graduates and practitioners in exchange for service), 29 scholarship programs (funds to students for tuition, fees and living expenses, with expected service after training), 11 loan programs (loans to students for tuition, fees and living expenses, with reimbursement or with exchange for service after training), 8 direct financial incentive programs (funds for residents and practitioners in exchange for service), and 5 resident support programs (funds for residents with expected service after training). The three common features of state programs are a mission to influence the distribution of the health care workforce within the state, an emphasis on primary care and the reliance on annual state appropriations and other public funding mechanisms. In 1996, an estimated 1306 physicians and 370 midlevel practitioners were serving obligations to these state programs, a number comparable with those in federal programs. The authors conclude that these state programs constitute a major portion of the US health care safety net.

Pathman et al 2000 [166] observed than among physicians who train as GPs, the high costs of medical education in the USA appear to promote among future GPs national physician work force goals by prompting participation in service-requiring financial support programs and perhaps through increasing student borrowing. These positive outcomes for GPs should be weighed against other known and suspected negative consequences of the high costs of training, such as discouraging poor students from medical careers. Obviously, this is a context-dependent conclusion.

Australia: General Practice Rural Incentives Program

In Australia, elements of the General Practice Rural Incentives Program (GPRIP, started 1992) include relocation incentive grants, training grants, and remote area grants (Humphreys et al 1998 [104], McDonald et al 2002 [154]). GPRIP has not been evaluated thoroughly to date. Holub and Williams [167] noted however in 1996 that there was an increase in GPs practicing in rural areas.

Canada

In Canada, all provinces offer medical education grants and subsidies for starting family practice to sustain rural healthcare workforce [168]. A prominent example is the Alberta Rural Physician Action Plan (RPAP), an independent not-for-profit company established in 1991 by the Government of Alberta and providing a provincially-focused comprehensive, integrated and sustained program for the education, recruitment and retention of physicians in rural practice ("education pipeline" strategy) [76, 169]. Figures are impressive : in rural Alberta, physician-to-population ratio increased from 1:1021 to 1:956 between 1995 and 2001 [170].

Belgium: Impulseo programs

The Belgian Impulseo I and II programs (2006) may be considered as a financial help allowed to GPs starting a family practice. The programs provide a loan (maximum 15000 EUR) to young GPs starting their family practice. A subsidy (20000 EUR) can be allowed to GPs opening a family practice in "urban positive action zones" or "shortage areas", defined as:

- an area with less than 90 GPs for 100.000 population, or
- an area with a population density less than 125/km² and less than 120 GPs for 100.000 population.

The Impulseo program also allows for additional assistance:

- a 30000 EUR loan for self-employed GPs,
- a free administrative assistance during the first 18 months following the start of family practice.

This strategy launched in 2006 has not yet been evaluated.

UK: effect of salary on recruitment

The effect of salaried contract on recruitment has been tested in UK. A pilot study was conducted by Williams et al. 2001 [171] on 46 "personal medical services" sites concentrated in deprived areas, with salaried contracts (contrarily to the status of independent contractor of a GP principal). The hypothesis is that a salary contract counteracts the disincentives to GP recruitment linked with caring for poor families in deprived communities, high workload, out-of-hours work, and management responsibilities. Two hundred ninety one applications were received and the median time to recruitment was 6 weeks. The study shows that salaried contracts offer positive incentives to recruitment: a fixed salary (about £ 44000 for a full-time), flexibility of working hours, reduced management and out-of-hours duties. The fact that most applicants were GPs with a previous experience as registrar (resident) (26%) or locum (31%) suggests that newly qualified GPs prefer to delay entry into principal posts, as seen, in France, in the study by Levasseur et al. (2006) [147] (see below).

France

- Such initiatives as NHSC and other incentives are pragmatic attempts to address recruitment issues, but it is difficult to assess their relevance in the absence of information on career concerns of young medical graduates. An interesting qualitative study on recruitment, performed in Brittany (Région Bretagne) by Levasseur et al (2006) [147], provides insight into difficulties faced by 27 interns and newly graduated physicians, having recently or intending to open their own

family practice after a short (2-4 years) period of postgraduate locum. The authors describe the decisions and trajectory of individual medical graduates, their professional and private aspirations (especially their vision that job is but one element of life, and their wish to save time for personal and family life and leisure). The authors also notice that young graduates do not appreciate the working conditions of family medicine, but they do not have any clear «vision" of what is family practice, neither for themselves, nor for the role of family practice within the health system.

Levasseur et al 2006 [147] also report that the decision to start family practice is individualistic. Moreover, the profession is not structured as a political force.

Use of recruiters

Another recruitment strategy is to use "recruiters". For example, the Robert Wood Foundation's Southern Rural Access Program (SRAP) consists in the use of granted recruiters to assist rural communities in assessing healthcare needs and recruiting primary care providers. Recruiters were shown to be able to find primary care providers to fill vacancies, at a cost of $ 50000 for 5 years to secure one provider [78].

OTHER INITIATIVES

Faculty support

An original UK project labeled "GP Assistant/Research Associate scheme" [111], tested the hypothesis of a beneficial effect of career development on inner city recruitment (and retention) of young GPs. The project consisted in associating young general practitioners to research and teaching projects of the Department of General Practice and Primary Care at the Guy's, King's and St Thomas School of Medicine in London (UK). A qualitative study of 34 stakeholders and 14 GP Assistants showed enthusiastic support for this project, which allows professional development, managing multiple roles, and developing new knowledge. Empowered GP Assistants felt competent and able to initiate changes in Primary Care Groups/Trusts where they practice.

Immigration

In the USA, a system of waivers for J-1 visa holders ("exchange visitors", i.e. postgraduate medical students in this case) is applied to foreign-trained physicians: in exchange of 1 to 3 years obligated service in rural or underserved areas, medical immigrants and their families may obtain a visa to stay in the country [73]. Data from University of Kentucky show that immigrant physicians are not transient and tend to practice in the regions where they were originally placed [73]. Similar systems are applied in Australia and Canada. Research indicates that International Medical Graduates (IMGs) make an essential contribution to rural areas in the United States and Canada. This is highlighted by the prediction that without IMGs, 1 of every 5 "adequately served" US non-metropolitan counties would become underserved [172]. Brotherton et al 2005 [152] show that trends suggest that the US primary care medical workforce of the future will include more IMGs (about 25% of the total).

The use of IMGs raise ethical issues : [1] discrimination against foreign physicians and [2] deepening physician shortage in countries of origin [173]. The image of a "medical carousel", in which doctors seem to be continually moving to countries with a perceived higher standard of living, is used to describe physician behavior. Pakistani doctors move to the UK, UK doctors move to Canada, and Canadians move to the USA.

Migration between developed countries is not negligible [140].

GP substitution by other health professionals

In the USA, managed care makes acceptable the use of nurse practitioners or physician assistants to replace (missing) GPs, while it seems this is not the case in Canada [174] and Europe, for reasons of poor cost-effectiveness and competition on a fee-for-service market.

Recruitment issues and recent (2003-2007) policy development in France

Regional disparities in the availability of physicians and other health professionals, termed "recruitment issues", are also present in European countries, such as France, UK [175], Norway, and Germany.

In France, recent reports (Rapport Descours (2003) [176], IRDES (Bourgueil et al 2006 [177]), Rapport Juilhard (October 2007) [178]) address these issues. The Rapport Descours (2003) [176], concerned with health professions, and the Rapport Juilhard (October 2007) [178], more concerned with physicians, propose general measures.

These suggestions are similar to what can be learned from developed countries with a history of (rural) physician shortage, e.g. US, Australian [154, 161] and Canadian initiatives [168].

In France, Bourgueil et al (2006) [177]observe many State and Regional legal levers to entice physicians into practicing in shortage areas. Most of these opportunities are financial and fiscal; some of them are not applicable, due to lack of enforcement legislation. Medical residents do not know them. In their survey of regional committees of the "Observatoire national de la démographie des professions de santé" (ONDPS), Bourgueil et al 2006 [179] propose a "pipeline strategy".

In October 2007, a French Government proposal to limit the choice of practice location by newly graduated physicians resulted in medical residents going on strike. As in Ontario [174], such measures are seen as highly unpopular. Interns and residents Unions and French analysts (Yann Bourgueil, Libération, 6/10/2007 [180]) criticized the project, arguing that they would be no more effective than US NHSC programs, since they address recruitment issue but not attraction and retention issues. Moreover, focusing on practice location choice deters policymakers and stakeholders from discussing more essential questions: the missions of primary care and general practice, its place in the health system, its organisation and financing, and its interdependencies with specialized medicine and hospitals. New generations of medical graduates are trained by academic hospitals, so this is a euphemism to say that primary care is not well known among medical students. The issue is worsened by the context of feminization of the medical profession and personal aspirations emphasizing a better balance between private and professional life. Bourgueil concludes that the primary care system should be made more coherent and more visible.

5.2.1.3 Retention: creating incentives and more satisfaction to make general practice stable

In industrialized countries, literature about retention is also almost entirely dedicated to distributional issues, i.e. the geographical inequities existing in the availability of GPs, especially, but not exclusively, between rural and urban areas. Policies used to address this issue are economic incentives, physician preparedness to work in rural areas through medical education, continuing medical education, locum relief, increasing GPs job satisfaction (or not dissatisfying GPs), and various other programs.

ECONOMIC INCENTIVES

It may be surprising that recruitment strategies proved to be effective retention strategies. Pathman et al 2004 [181] studied the effectiveness of loan repayment and obligated service. Compared with young non-obligated GPs, physicians serving obligations to state programs practiced in demonstrably needier areas and cared for more patients insured under Medicaid and uninsured (48.5% vs. 28.5%, P <0.001). Service completion rates were uniformly high for loan repayment, direct incentive, and resident-support programs (93% combined) but lower for student-targeting service-option loan (mean, 44.7%) and scholarship (mean, 66.5%) programs. State-obligated physicians were more satisfied than non-obligated physicians, and 9 of 10 indicated that they would enroll in their programs again. Obligated physicians (n=434) also remained longer in their practices than non-obligated physicians (n=723) (p = 0.03), with respective group retention rates of 71% versus 61% at 4 years and 55% versus 52% at 8 years. Retention rates were highest for loan repayment (funds to repay educational

loans of graduates and practitioners in exchange for service) and direct financial incentives (funds for residents and practitioners in exchange for service).

In Quebec (Canada), a well-known economic incentive is the increase of fee rates (fee tariff) by 15% for physicians practicing in rural regions, and a decrease by 30% for those who practice in university regions [168]. This incentive is also operating in most other Canadian provinces, with variable adjustments. In UK, specific allowances and deprivation payments (increase in capitation rates) also exist for GP practicing in underserved, either urban or rural "designated" areas, i.e. where there is a ratio of GP-to-population lower than 1:3000. This a compensation for higher workload and poorer working conditions, rather than a retention incentive.

PREPAREDNESS

As shown above, preparedness by medical education would be seen as a retention, rather than a recruitment policy [109].

LOCUM RELIEF

A common factor associated with rural practice is the lack of access to locum relief programs. In Australia, Locum Relief Programs were developed to address the problems of significantly higher workloads and fewer holidays for rural GPs compared to their metropolitan counterparts. Generally, research into locum relief programs measure GP attitudes towards the service provided, instead of trying to show a effect on recruitment or retention. In Australia, the inadequate access to locum relief has been addressed since the mid 1990s, with the introduction of a national Rural Locum Relief Program [154]. The program was established to provide locum coverage and give greater support for junior practitioners who would not otherwise work in rural areas. In Canada, locum relief programs also exist in most provinces [168]. The problem is that locum relief supposes an adequately staffed workforce. Implementation and effectiveness are challenging. For example, locum looks appealing from the viewpoint of GPs who benefit from a temporary relief. However, things may not be all rosy from the viewpoint of GPs providing locum services. Which GP would accept to build a career on something very far from ideal, and would relinquish a stable environment, continuity of care and close physician-patient relationships? In our opinion, providing locum services is not appealing in the long-term for highly qualified professionals and cannot be satisfying for those who did not choose it.

CONTINUING MEDICAL EDUCATION (CME)

One of the key strategies to retain GPs in rural areas is to increase on-going medical training accessible to rural GPs [182]. Continuing medical education (CME) addresses the professional needs of GPs by providing postgraduate studies to develop clinical skills, and socialization issues. Although CME does not appear to significantly impact on recruitment, the positive evaluations by rural GPs suggest that CME does influence retention, but there is no evidence to support these claims [154].

INCREASING GPS JOB SATISFACTION (OR NOT DISSATISFYING GPS)

In organizational psychology, job satisfaction is an immediate antecedent of personnel turnover intention and behavior [183] and therefore a predictor of retention. The difficulties with literature on job satisfaction is to deal with factors common to every workers (e.g. stress), which do not add much to knowledge for the present project, or with highly context-dependent determinants of job satisfaction, which are not transferable to other settings and contexts. Part of literature on job satisfaction is devoted to empirical testing of theoretical models, which does not usefully contribute to the present literature review (e.g. the methodologically nice study by Landon et al. [122]). Finally, most studies on job satisfaction are surveys, in which doctors are asked why they are satisfied or not or why they stay or leave general practice. This approach may lead to "self-serving bias" in attribution theory, i.e. people only partly understand the reasons behind their behavior.

In a survey of job satisfaction among US GPs and specialists, Pathman et al 2002 [120] conclude that to promote retention, physicians and their employers should avoid physician dissatisfaction in particular. Practice managers and employers (Health Maintenance Organizations -HMOs) concerned with maintaining a stable physician workforce should address relative dissatisfaction among physicians, particularly with income and community relationships. Physicians looking for stable employment should seek positions that they feel offer appropriate compensation and are located in communities to which they can connect. Once there, they should devote time and energy building ties in their communities.

The importance of community relationships also appears in a survey of US rural physicians by Pathman et al [184]

Satisfaction with working conditions is in the same way a determinant of retention. In their qualitative study of UK GPs, Fairburst and May (2006) [125] show that physician-patient relationships are major sources of job satisfaction among GPs, and that quality of relationships is linked to professional identity. In their interesting survey study of a representative sample of over 1000 GP principal *leavers* in UK, Young, Leese and Sibbald (2001) [65] show, except for normal retirement, that high clinical and administrative workload, high patients expectations, work-life imbalance, and lack of working hours flexibility are reasons for leaving the profession. These findings, with a companion qualitative study, result in the following proposals that might have prevented GP principal from leaving : more flexible salaried contracts, part-time and family-friendly jobs, and career development including opportunities for breaking career whilst being guaranteed later return, dual careers and job rotations with other health disciplines (see also the literature review by Young and Leese, 1999 [146]. So, UK National Health Service "one-size-fit-all" contract might negatively affect retention.

Differences in preferences of 900 principals and 388 sessional GPs regarding working conditions [185] highlight this. Note that "sessional GPs" are doctors who are working in general practice but who do not hold a contract with a health authority or board to provide general medical services for a registered population. In this survey, all GPs preferred a job with longer consultations, no increase in working hours, but an increase in earnings. A job with outside commitments (for example, a health board or hospital) was preferable; one with additional out-of-hours work was less preferable. Sessional GPs placed a lower value on consultation length, were less worried about hours of work, and a job offering sufficient continuing professional development was less important. Authors conclude that recruitment and retention of GPs may improve if the least preferred aspects of their jobs are changed, and if there is an enhancement of the positive aspects of working, such as patient contact. (see also Geneau et al. 2007 [123].

Caution is required when interpreting studies on "job enrichment". For example, the study of Boggis & Cornfort (Health Policy 2007) [186] on GPs with special clinical interests (SCIs) shows a wide acceptability for GPs (flexible career structure) and patients (satisfaction with reduced delays). However trade-offs are presents. Firstly, such initiatives are developed as a response to waiting lists. Secondly, the effects of GP specialization on their gatekeeper role, continuity of care, workload, and relationships with hospital specialists are unknown (Sibbald, in Saltman et al 2006 [2]). Policymakers should try to carefully forecast consequences of such a solution for the problem it is intended to solve.

OTHERS

-Re-entry [187]

-Delaying retirement [124]

-Community integration [16, 95, 120, 170, 184, 188, 189, 190]

5.3 SUMMARY: LITERATURE REVIEW ON POLICIES INFLUENCING ATTRACTION, RECRUITMENT AND RETENTION OF GENERAL PRACTITIONERS

This section presents a summary of the literature review, with an emphasis on what can be inferred about effectiveness of policies and programs on attraction, recruitment or retention of GPs.

5.3.1 Attraction

Medical schools play outstanding roles in the attraction of GPs. Academic culture, importance of general practice in the medical faculty, curriculum, exposure to general practice and role models influence the choice to start a career in general practice.

Many policies, designed by governments, or private initiatives and programs developed by medical schools are coherent with this observation. These policies may include structural changes (e.g. elevating GP faculty into major leadership roles, increasing the number of GP faculty, instituting new administrative structures to coordinate GP activities, changing the admissions process to target more students with (rural) GP potential and relationships-driven personality, redesigning undergraduate medical education (e.g. GP-oriented clinical medicine courses, exposure to general practice and role models) and financial assistance (loans, grants).

Most of these initiatives were successful, although success is variable, in producing long lasting above average proportions of GPs and other primary care physicians (PCPs), and in fostering graduates entering rural practice, e.g. the Generalist Physician Initiative program (GPI). Nevertheless, it is not sure whether the development of Academic Departments of General Medicine (as in the GPI program) can be solely responsible for an increase in GPs "production".

The best-described and most effective policies designed to "produce" future GPs and reduce geographical disparities are global ("pipeline") policies to attract students with rural background or with strong interest in family medicine, and training them within appropriate medical curriculum (e.g. the Jefferson Physician Shortage Area Program (PSAP)). Nevertheless, it was shown that specific policies inspired by such programs, but merely targeting applicants with rural or underserved area background, or exposing students early to primary care practice are not necessarily effective.

Other positive factors for attraction are psychosocial factors (relationships with patients and professionals, variety of tasks generating intellectual challenge...) and factors related to professional identity (autonomy) and lifestyle (flexibility of work).

Conversely, factors deterring students from a GP career are poor working conditions and the perception of a lack of prestige and salary compared to the specialists.

5.3.2 Recruitment

Literature about recruitment is almost entirely dedicated to distributional issues, i.e. the geographical inequities existing in the availability of GPs, especially between rural and urban areas.

Rural origin is one of the most frequently studied factors for the recruitment in rural area. Consequently, some high school and college undergraduate schools developed premedical recruitment activities targeting future GPs with rural background.

In addition, the role of the medical school is again, underlined, mainly preparedness and role models proposed to the students. Programs who prepare (=preparedness for rural practice) to be rural physicians, particularly for small-town living, lengthen the stay in the rural practices. Residency rotations in rural areas are the best educational experiences both to prepare physicians for rural practice and to lengthen the time they stay there. Preparedness would therefore be seen as a retention rather than a recruitment policy.

Practice location is also strongly influenced by the preferences of GP spouse, especially when a choice has to be made between urban and rural area. Spouse pay attention for themselves and their family to aspects such as job opportunity, community links, community environment, housing, services, schools, and leisure.

The main policies used to attract GPs in rural area are economic incentives to support starting general practice (grants, subsidies, loans) :

- Funding medical schools for expansion or maintenance of health professions education and training (e.g. US Title VII funding) is moderately effective. As far as we are informed, cost-effectiveness of such programs was not evaluated.
- Subsidies (grants) for starting family practice are used to sustain rural healthcare workforce (Australia, Canada), but it is not sure if they are effective or cost-effective. Young French GPs judged such initiatives irrelevant.
- Financial support to medical students (grants, loans) in exchange for a period of service in underserved areas (US federal National Health Service Corps and similar state programs) is moderately effective, at least in the short-term. Surprisingly, it was found that loan repayment in exchange of obligated service was an effective retention policy. Cost effectiveness was not evaluated.

Another recruitment strategy is to use "recruiters". For example, the Robert Wood Foundation's Southern Rural Access Program (SRAP) consists in the use of granted recruiters to assist rural communities in assessing healthcare needs and recruiting primary care providers.

Other initiatives exist to give young graduates an administrative support for locating/opening their own family practice.

5.3.3 Retention

Three factors arise from the review of literature for the retention of GPs, both in rural or undifferentiated areas.

The difficult working conditions (e.g. workload, flexibility of working schedules) and work-family balance (e.g., to save time for personal and family life and leisure) influence the decision to quit the profession, in particular in rural areas but policies in this field have still to be implemented and evaluated.

Low income is a second factor. In the literature, general practitioners working in rural areas felt being less favored than their urban counterparts. But, economic retention incentives, such as increasing fee rates for physicians practicing in rural regions (Canada), and specific allowances and deprivation payments (UK) does not seem to be effective in the long-term. GPs may feel inadequately compensated for higher workload and poorer working conditions or environment.

Another, but broader, economic incentive is community development that could play a role in retention of the GPs. Some GPs suffer from a lack of professional support (e.g., specialty support, educational opportunities, and support from local hospitals or community health staff) or a lack of community support for private life (e.g. availability of leisure and cultural activities, quality of school for the children, spouse's well-being).

Many other programs and policies have been developed but their effectiveness has not been tested yet. Salaried practice, continuing medical education, locum relief, and professional development putting "inactive" GPs back into practice, delaying retirement, and community integration are among those programs. Implementation and effectiveness are also challenging. Providing immigrant visa to International Medical Graduates (IMGs) in exchange of a variable period of obligated service is effective, at least in the short-term, but this however raises issues of discrimination against IMGs and ethical issues.

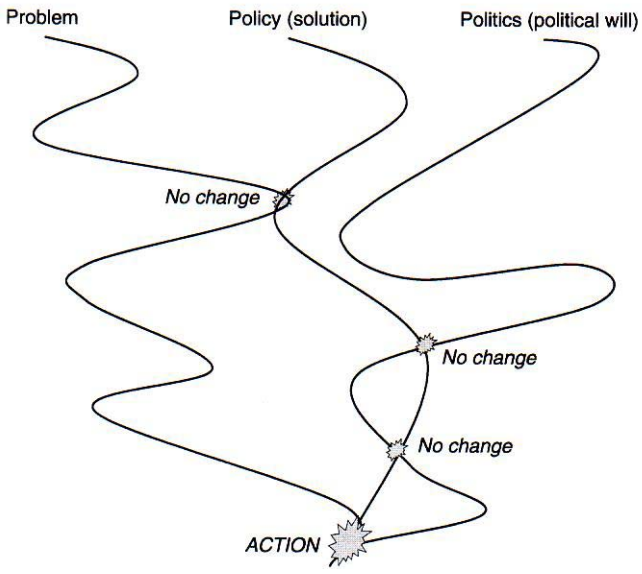
6 CHAPTER 6: WHAT ARE THE POLICIES TO BE IMPLEMENTED IN BELGIUM TO IMPROVE ATTRACTION, RECRUITMENT AND RETENTION OF THE GENERAL PRACTITIONERS: A STAKEHOLDERS' ANALYSIS

6.1 INTRODUCTION

The previous chapter identified in the international literature the policies influencing attraction, recruitment and retention of general practitioners. However, the transferability of such policies in Belgium may be questionable. For example, many policies target urban/rural medical densities differences. Although those differences exist in Belgium, they may be not that important than in the US. This last part of the study identifies policies that could be implemented in Belgium to improve the GPs' career. The stakeholders will appraise them.

What makes good policies can be assessed following different perspectives. Broadly, two paradigms are contending : the rationalist perspective and the pluralist theory [191].The former states that decisions are made through a rational process by considering all the options and their consequences especially on the costs [192]. According to the latter perspective, rationality involves many considerations (and not only cost-effectiveness) and power is widely distributed into the society so that no one has enough power to enforce a specific solution whatever its cost-efficiency in solving the problem. As figure 1 suggests, policies do not get onto the agenda according to some logical series of stages but when the 3 streams of problems-identification, solutions and political power intersect [193].

Figure 1: Kingdon's three stream model of agenda setting



Source Adapted from Kingdon (1984)

This pluralist paradigm applies to primary care in Europe. Governance in primary care is strongly rooted in self-regulation and mechanisms of network interaction [2].

Belgium is no exception. Health professions, at different levels, have a strong role in developing policies : this can be seen through the numerous executive and consultative bodies (particularly within the Social insurance institution RIZIV/INAMI) in which medical representatives sit along with government bodies and are allowed to wield considerable influence on the policy process [194]: National Committee of Physicians and Sickness Funds, Committee for Medical Evaluation and Control, Planning Commission , National Council for Hospital Facilities, etc. Belgium is clearly a country which provides many opportunities to interest groups to influence or block a policy. Although this could be sometimes considered as a hurdle to policy changes [195], the Belgian situation is clearly that of pluralism. This situation makes stakeholder analysis an important tool for developing solutions in Belgium.

This chapter aims at assessing the political power side of the problem and the political feasibility of policies for improving GPs' attraction, recruitment and retention through a stakeholders' analysis. Stakeholders are defined as "persons or groups that have interests in an issue, including those with some role in making a decision or its execution"[192]. A stakeholders' analysis can be defined as "an approach, a tool or set of tools for generating knowledge about actors to understand their behavior, intentions, interrelations and interests; and for assessing the influence and resources they bring to bear on decision-making" [196]. This stakeholders' analysis will help to understand the interests and influence of individuals or groups both within and outside the organization of general practice.

6.2 OBJECTIVES

This stakeholders analysis has four objectives:

- To describe stakeholders' understanding of the challenges faced by general practice in Belgium;
- To identify the policy options more likely to be supported aiming at improving the GP's career;
- To identify the criteria and factors making the stakeholders more likely to support or oppose some policy options;
- To identify implementation details of the policy options more likely to be supported.

6.3 METHOD OF THE STAKEHOLDER SURVEY

6.3.1 Design

This survey used a multi-criteria analysis (MCM) [197], a tool to support decision among different options and several criteria (see appendix 5.1.). It aims at combining comparability between interviewees while accommodating each respondent's perspective. MCM has been used in the health sector for obesity prevention [198] or selection of anti-psychotic drugs [199].

Multi-criteria analysis has the following characteristics [197]:

- To identify alternative ways to solve a problem (GPs' attraction, retention and recruitment): policy options.
- To suggest criteria allowing the appraisal of those policies: policy criteria.
- To score each option on each criteria.
- To weigh each criteria in order to reflect its relative importance.

6.3.2 Development of the questionnaire

The questionnaire was developed through several processes: review of previous instruments, cognitive testing (see appendix 5.4, 5.11 and 5.12), expert reviews and broader testing. Once the lay-out and content of the questionnaire was decided, cognitive testing was used to improve the wording, understanding and organization of the questions. Cognitive testing is a method that improves the link between the underlying concepts and the questions [200, 201]. This method is fully described in the appendix 5.4. This cognitive testing was carried out with different profiles of persons: some were GPs with a practice (=3), some were GPs without any practice (=2), some did not work in general practice but had a general knowledge of the themes (=3). Several experts, who had used the same methodology in their works before, revised the questionnaire and gave their advice about specific problematic points. A few qualitative interviews were also conducted to have a deeper insight into the content of the policies and to improve the formulation of the policies in French and Flemish. Finally a broader testing was carried out with 10 persons.

6.3.3 Identification of policy options

The policies have been identified in several steps (see appendix 5.2). First, the extensive literature review carried out in the first part of the study identified several policy options and factors that may contribute to improve retention/recruitment of GPs. These policy options were then screened according to the Belgian context. This was done in the second part of the study, particularly through qualitative interviews of leavers and medical students. Finally, the list of policies was compared to recent policy reviews carried out either by the European Observatory [2] or by the Belgian Institutions: the KCE report 72B on medical supply [7], the Visitatie Report [202], or the study related to General practice Emergency study [203], as well as policies being currently under discussion or being developed in Belgium, such as the DMG, Impulseo I, Impulseo II, the numerus clausus, etc. After a long process, the researchers identified 24 policies, grouped in four themes (for the list in French and Flemish, see appendices 5.11 and 5.12):

- Teaching and training policies (4 policies):
  - To select the students of medicine by taking into account their social and communication competencies in addition to their knowledge in exact sciences.
  - To develop a clinical activity linked with the Academic Centers of General Practice**.**
  - To integrate a general practice approach in the general practice courses of the Master (including the courses of the specialty), by learning the priority problems from a public health perspective or by associating specialists and general practitioners
  - To organize compulsory training courses in general practice for all the students of the Master
- Financing and payment policies (5 policies)
  - To increase the consultation fees of the general practice
  - To allocate a fixed price per patient in addition of the other act remunerations (for example : global medical file)
  - To diversify the remuneration modalities of the general practice by combining wage-earning and act remuneration
  - To improve the financial incentives for the installation in geographical zones less covered

  - To diversify the remuneration modalities of the general practice by remunerating the realization of objectives or the quality of the taking care of the patient

- Work organization and work-life balance policies (5 policies)
  - To allow or to encourage an evolving career associating ambulatory curative medicine and other activities like research, teaching, public health, hospitals, …
  - Not to penalize the work of general practitioners with regular working hours or who are working part-time (for example, by modulating the accreditation rules)
  - To organize provincial groups of professional GPs responsible in the replacement
  - To finance the GPs for their accreditation activities during the week and the day
  - To replace the individual duty obligation by a professional service like "SOS médecins" and/or secured duty places
- Health care organization policies (10 policies).
  - To remove the Numerus Clausus
  - To tend towards a more equitable geographical distribution, by improving the incentives to work in less covered areas.
  - To support the creation of local agencies in charge of promoting the attractiveness and the retention of the general practitioners according to the local needs (for example: in partnership with the Circles)
  - To create another training of nurses in advanced practice to back the general practitioner (for example, in the follow-up of the chronically ill patients)
  - To encourage the delegation of some clinical tasks to other existing health professions (nurses, physiotherapists…)
  - To encourage the delegation of some social, tax activities, administrative or computer tasks to administrative staff
  - To encourage the GPs to have a common infrastructure or a common secretariat
  - To encourage the GPs to work together (by having the same patients or not)
  - To financially discourage the excessive or the premature recourse of the second line
  - To reinforce the role of the GPs in the multi-field dialogue.

6.3.4 Development of policy criteria

The criteria are the objectives the decision-maker wishes to complete through the policies. These criteria are the dimensions on which the options are to be assessed. Several sources of information helped to identify those criteria:

- the literature review carried out in the first part of the study,
- the criteria suggested by the GPs themselves as collected in the qualitative interviews mentioned in part 5,
- the criteria used in previous priority settings in the health sector [204, 205, 206, 207, 208, 209] or in multi-criteria analysis [198, 199].

Several group-discussion sessions allowed to finalize the following list of criteria (see detailed list in appendix 5.3.):

1. Policy efficiency in improving GPs' attraction, recruitment and retention,
2. Cost-benefit of the policy from a societal point of view,
3. Acceptance by the other health professionals,
4. Accessibility of care delivered by a GP from a geographical and financial point of view as well as the patient's freedom of choice of a GP.

6.3.5 Development of the scoring and the ranking

Two indicators describe the rating of the policies i.e., a rank and a score.

The rank varies between 1 and 5: it is equal to 1 if the stakeholder chooses it as his/her first choice policy, 2 for his/her 2nd choice, 3 for his/her 3rd choice, 4 if a policy was not cited and 5 if it was discarded. The lower the value of the rank, the better the policy.

The score represents the prioritization of the policies in relation with the 4 criteria[bb] (a score >4 implies a positive effect averaged on the 4 criteria, a score <4 indicates a negative effect, a score of 4 indicates no-effect). The criteria were weighted according to the standardized weight the stakeholders gave to them. Thus the score equals:

$$score = \sum_{i=1}^{4} StdWeight_i * Criteria_i$$

$$StdWeight_i = \frac{Weight_i}{\sum_{i=1}^{4} Weight_i}$$

The reader should note that the three differences between the rank and the score:

1. Each stakeholder was requested to make a choice within each topic: the rank does not allow a cross-topics priority and is more useful for a within-topic prioritization;
2. Within a topic, the rank is more useful to compare substitute policies. Indeed, if two policies are complementary, the question of choosing one or another is not that relevant. If two policies are substitute than choosing one makes sense. The rank is thus more useful to compare substitute policies than complementary policies;
3. The score is a weighed compound of 4 criteria ratings reflecting an "objective performance" while the rank indicates a preference. The score could thus, theoretically, depart from the ranking for two reasons : 1 in a specific topic or policy, a stakeholder has an idiosyncratic preference, either because other criteria (not considered in our study) have an influence on their preference, or because faced with a specific choice, their weighting depart from their overall weighting, either because they stick to a policy whatever its performance; 2 Some innovative policies were starting to be implemented so that choosing an already decided policy made less sense than opting for something new, despite its good performance. This could be the case, for example, for the policy related to geographical distribution (Impulseo I).

[bb] The four criteria are (1) the policy efficiency in improving GPs' attraction, recruitment and retention, (2) the cost-benefit of the policy from a societal point of view, (3) the acceptance by the other health professionals and (4) the accessibility of care delivered by a GP from a geographical and financial point of view as well as the patient's freedom of choice of a GP.

6.3.6 Open-ended comments

In order to have a more precise explanation of the quantitative results on the policies, the stakeholders had the possibility, during the scoring and ranking of the policies, to orally express themselves on their choices. The interviewer took notes of those comments in order to analyze those comments afterwards.

6.4 IDENTIFICATION OF STAKEHOLDERS

This part presents the main steps of the elaboration of the list of stakeholders. The first section concerns the identification of the stakeholders and is divided into three parts: [1] the definition of groups to which the stakeholders belong, [2] the different steps in the gathering and the validation of the names, [3] the description of the final sample of stakeholders.

6.4.1 Groups of stakeholders

To compile the list of stakeholders, a particular attention has been devoted to individuals or organizations that could either accept or block policy adoption. The list has been drawn on the basis of previous studies in primary care [210, 211, 212, 213] as well as in relation with general classification of stakeholders in health studies [214]. Four stakeholders groups have therefore been first defined as the policymakers, the interests groups, the media and the GPs themselves. According to Buse [192] the interest groups themselves can be divided into two subgroups: the sectional and the cause groups. The result is the definition of five stakeholders groups (see appendix 5.5. for more details):

- The policymakers, who are individuals being formally in charge of decision-making. This part of the list has been elaborated thanks to the recent review of the Belgian health care system [194]. The policymakers are members of the federal bodies e.g., the Federal Public Service of Health, Food Chain safety and Environment, the National Health INAMI/RIZIV, the Committee for health and social affairs, etc.
- The sectional group (unions), whose goal is to enhance the interests of their members. They are constituted of the medical unions, the GP professional organizations (e.g. SSMG, Domus Medica), the specialists' professional organizations (paediatricians, gynecology), and the students associations.
- The cause group (universities), the goal of which is to promote a particular issue or cause. They are constituted of e.g. the medical faculties, the academic departments of general practice, the medical teaching consultative bodies.
- The media, including the following journals: le Journal du Médecin/ De Artsenkrant, le Généraliste/de Huisarts, Huisarts nu en de Standaard (this last newspaper has been added because the name of the journalist responsible for health topics was cited by some stakeholders).
- The GPs. Because the project aims at developing policies to improve the retention of GPs who are in the practice, a sample of presidents of GPs' circles and/or training supervisors has been drawn. On one hand the presidents of GP circles are an interesting bridge between grass roots' GPs and policymakers: they play a central role in the organization of the general practice at the local level. On the other hand, the training supervisors make the link between the teaching and the practice worlds.

6.4.2 Gathering and validation of names

The selection of the stakeholders has been done according to their power to influence options. This power has been evaluated according to two types of resources i.e., tangible and intangible resources [192]:

1. Tangible resources include, with respect to their group, position in the formal decision hierarchy, size of the budget, number of members, votes, position.
2. Intangible resources include expertise, legitimacy knowledge and networking position (access to the media and policy makers).
3. The list was elaborated according to the following steps 196:
4. Researchers working in academic and public health institutions as well as other sources of information (e.g. professional bodies) proposed a broad list of 252 names of stakeholders according to the previously proposed criteria of power.
5. A researcher checked the validity of each proposal through phone calls to the institutions and knowledgeable people. Those phone calls confirmed the person's role and status.
6. Reviewing and completing the list was the focus of several meetings involving all researchers.
7. They selected a list of 155 names based on :
   - The most influential and/or knowledgeable persons within institutions (after contact with those institutions),
   - A balance between different institutions from the same nature.
8. After a new check of the list, 7 leaders from different professional and public health organizations have ranked the 155 names. The ranking has been done according to the tangible and intangible resources mentioned above using an ordinal scale. The possibilities of responses for each stakeholder were the following: yes (=this person is influential), no, I have no opinion, I don't know this person. The rankers also had the possibility to comment about the names of the list in order to correct the last mistakes that left. The Fleiss' extension of kappa has been computed ("generalized kappa"-formula in appendix 5.6). The Kappa had a value of 0.44 when including all rankers (Table 11: Reliability of the scoring of the stakeholders: kappa (details in appendix 5.7). That low value confirms that the rankers came from various backgrounds in order to ensure a wide knowledge of all potential stakeholders.

Table 11: Reliability of the scoring of the stakeholders: kappa

Type of analysis	Kappa	F test	P value
All raters	0.44	4.76	0.00
FR raters	0.48	1.84	0.00
NL raters	0.57	3.93	0.00

The researchers selected the stakeholders having a score of ≥ 4 (i.e. chosen by at least four raters over 7) i.e., 45 persons. The distribution of the stakeholders in each group was balanced as follows:

- policymakers (n=19 i.e. 42%),
- sectional groups (unions) (n=15 i.e. 33%),
- cause groups (universities) (n=10 i.e. 22%),
- media (n=1 i.e. 2%).

The selection of stakeholders who got a score equal to 3 was based on the ranking they got by rankers from the same language community. The selection of the first 12 (out of 20) gave a whole sample of 67 stakeholders.

1. This provisional list was sent to two last persons who have a sound knowledge of the stakeholders working in the GP and political field. They suggested a few other names and two stakeholders were further added.
2. The researchers also sent a letter to the INAMI/RIZIV, the Public Health Federal Service and the Sickness funds to inform them about the survey and to ask for possible additional names.
3. Each stakeholder was asked during his/her interview to suggest other names as in classical snowball sampling 215. The interviewee could recommend a maximum of three persons in each group of stakeholders 216: policymakers, unions, universities, media and sickness funds (this last group has been taken apart from the policymakers because they do not have the same status as policymakers).
4. This last procedure allowed to check the validity of the list and to select new stakeholders who were not mentioned beforehand but were cited by several interviewed persons.

6.4.3 Sample size, stratification and participation rate

Six from the 78 stakeholders contacted refused to participate either due to a lack of time or for private reasons. One person did not completely fill the questionnaire and was not taken into account. The remaining 71 stakeholders were stratified as follows:

Table 12: Stratification of the stakeholders

Groups	**N**	**%**
Policymakers	28	39.4
Unions	20	28.2
Universities	16	22.5
Media	7	9.9
Language	**N**	**%**
Dutch-speaking	39	54.9
French-speaking	32	45.1
Age groups	**N**	**%**
20-30	3	4.2
31-40	4	5.6
41-50	21	29.6
51-60	34	47.9
61+	9	12.7
Gender	**N**	**%**
Men	56	78.9
Women	15	21.1

The initial protocol of this project planned to interview 70 stakeholders from the first 4 groups. Moreover, the protocol included interviews of 30 GPs to focus on the most interested group on the field. This sample size had been defined according to logistical constraints and previous stakeholder survey sampling [198, 217, 218, 219, 220].

Those GPs have been selected according to their status (president of GP's circles and/or training supervisors), their gender and their language (reflecting their location - North or South-). A balance between those elements has been reached.

Thirty-eight GPs (n=38) were contacted. Seven (n=7) refused to participate either for a lack of time or for private reasons. The characteristics of the 31 interviewed GPs are the following:

Table 13: characteristics of the interviewed GPs

Type of GPs	%	**N**
President or secretary of a regional GPs' circle	64	20
Presidents of circles and clerkship supervisors	23	7
Clerkship supervisors	13	4
Language	%	**N**
Dutch-Speaking	48.4	15
French-Speaking	51.6	16
Age groups	%	**N**
31-40	6.5	2
41-50	29	9
51-60	61.3	19
61+	3.2	1
Gender	%	**N**
Men	61.3	19
Women	38.7	12

The overall participation rate was 88% (71+31/78+38).

6.5 DATA COLLECTION METHOD

This section is divided into four parts:

- the method of interview,
- the training of the interviewers,
- reaching the stakeholders,
- unfolding of the interviews.

6.5.1 Face-to-face interview

This study used a CAPI (computer-assisted personal interview). However, MCM is a rather sophisticated technique and it was necessary to provide help to the interviewee by an interviewer. He/she was reading and whether required, explained the questions while the interviewee was answering on the laptop [200].

6.5.2 Training of the interviewers

The 102 interviews had to be conducted within a period of maximum three months (from May 2008 until July 2008). Five interviewers followed a standardized training to interview all stakeholders in the same way. The training simulated interviews following the interview guide (see appendix 5.9. and 5.10).

6.5.3 Reaching the stakeholders

A letter signed by all main researchers, invited the stakeholders to participate. A few days later, phone contacts confirmed their agreement to participate and fixed the time for the interview. If the selected stakeholder did not want to participate, he/she was asked to name a proxy.

6.5.4 Unfolding of the interviews

The average duration time of the interview was 49 minutes: 20% lasted less than 40 minutes, 30% lasted between 41-60 minutes and 50% lasted more than 1 hour. During the interviews, the interest of the stakeholders and their understanding of the questions were observed and rated by the interviewers. Most of the stakeholders (87%) had a good to a very good interest for the questionnaire and a good to a very good understanding of the questionnaire (83%).

6.6 RESULTS OF THE STAKEHOLDERS SURVEY

The results are presented in sections. The first section describes how the stakeholders understood the challenges faced by the GP in terms of attraction, recruitment and retention. The second section describes the rating of the policies and help to pick the best one according to the multi-criteria analysis. The last sections detail the policies most likely to be implemented and the new policy options according to the stakeholders.

The results of the sections are presented globally for all the stakeholders, independently of their groups, age groups and genders. The next chapter on the preferences will make some distinctions between different groups.

6.6.1 Which challenges does face General Practice in Belgium?

Overall, the interviewees found that specialty medicine faces a more favorable situation than general practice except for the work interest (Table 14: The stakeholders' perception of the specialty medicine: percentage of those who find that the situation is better in specialty medicine. There is a wide consensus among stakeholders that specialty medicine faces a more favorable situation than general practice regarding attraction after 7 years (93%) and remuneration of the working hours (94%). For most interviewees (79%), the likelihood to stay in the profession is better in specialty medicine than in general practice. Three out of five stakeholders (62%) stated that the working conditions in specialty medicine were better than in general practice. According to half of the stakeholders, specialty medicine and general practice face a similar situation for the balance between work and quality of life (51%). Finally, the interest of the work is lower in specialty medicine than in general practice (34%).

Table 14: The stakeholders' perception of the specialty medicine: percentage of those who find that the situation is better in specialty medicine (n=102)

	% saying that the situation is better in specialty medicine
1. Remuneration of working hours	94.1
2. Attractiveness after 7 years	93.1
3. Chances to stay in the profession	79.4
4. Working conditions	61.6
5. Compatibility working hours with quality of life	51.5
6. Interest of the work	34.0

There were few differences between Dutch- and French-speaking interviewees (Table 15) and no test was statistically significant (highest P value for the remuneration of the working hours (p=0.06)

Table 15: Differences of perception in relation with the stakeholder's linguistic regime: percentages (n=102)

	Location	
	Dutch-speaking	French-speaking
	%	%
1. Remuneration of working hours	98.1	89.6
2. Attractiveness after 7 years	96.3	89.6
3. Chances to stay in the profession	75.9	83.3
4. Working conditions	66.0	56.5
5. Compatibility working hours with quality of life	49.1	54.3
6. Interest of the work	39.6	27.7

6.6.2 What are the most important policies for each topic?

This part presents the results of the most important policies in the stakeholders' point of view to improve GPs attraction, recruitment and retention. For each topic, this analysis is made in 2 steps:

1. Description of the average ranks and scores,
2. Qualitative comments regarding the relevance or the implementation of the policies.
3. The influence of the criteria on the policies

As explained in the method, this analysis is presented by topic of policies: teaching and training, financing, work-life balance and health care organization.

6.6.2.1 Teaching and training policies

The literature study and the study on the students showed that teaching and training are very important issues in order to attract GPs. Two policies were singled out in the teaching topic (Table 16: Preferred teaching and training policies: mean ranks and scores

- The integration of a GP approach in all master courses got a mean rank of 1.81;
- Next the compulsory clerkship in General Practice with an average rank of 1.91.

Table 16: Preferred teaching and training policies: mean ranks and scores (n=102)

Teaching and training policies	Mean rank	Mean score
1. Integrate a GP approach in all Master courses	1.81	5.56
2. Compulsory clerkships in GP for all medical students	1.91	5.55
3. Better selection of the medical students according to their social and communication skills	2.63	5.06
4. To develop a Clinical Academic activity for general practice	3.51	4.33

The integration of a GP approach in all master courses had a mean score of 5.56 as the compulsory clerkships in GP for all medical students.

The reasons evoked by the stakeholders for preferring the integration of a GP approach in all the master courses is the fact that it will improve the GP status among specialists and students together with a better knowledge of each others' work. A multidisciplinary approach of health problems is a goal to attain and this policy is perceived as a good support regarding this purpose. The interviewees take this opportunity to talk about the lectures that should be renewed: a more practical approach, a good balance

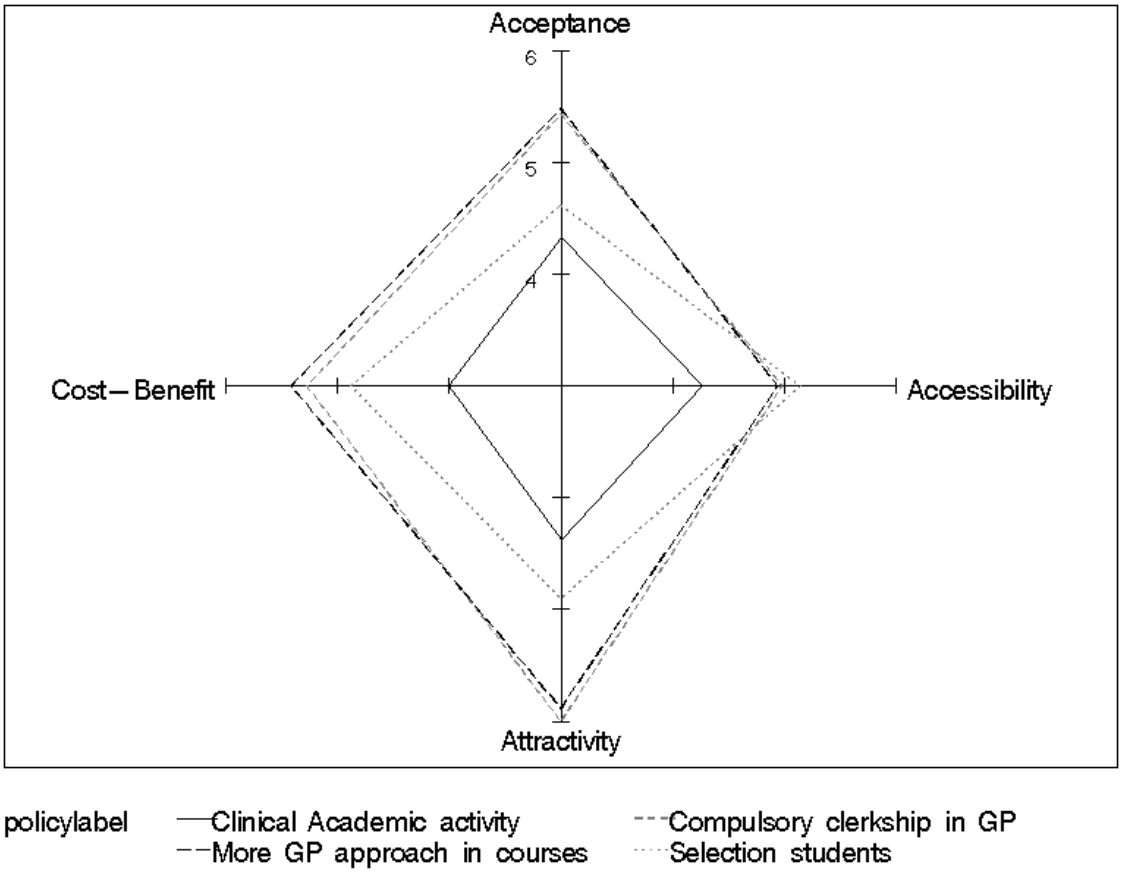
between the various specialties, targeted lectures, some lectures given by GPs for a better matching with the GP profession.

The fear of some respondents is however that the courses would be too much GP orientated and not all courses can integrate a general practice approach.

The most discarded policy is the development of a Clinical Academic activity for general practice. This policy got a mean rank of 3.51 and a mean score of 4.33). The reasons for rejecting this policy is that family practice cannot be performed in a hospital, far from the patient's home. It would be better to develop the training practice with GPs who are trained to coach students.

The next figure (figure 2) shows that a teaching policy involving more GP approach in the master courses as well as a policy making compulsory a clerkship in the GP's Master was considered as more efficient in at least 3 criteria out of 4 than the other two policies (a better selection of students or the development of academic GP activity). Indeed, they performed better in attracting medical students; they had a better cost-benefit performance and were more likely to be accepted by other health professionals. A better selection of students was also well performing on accessibility of care, maybe because a selection of future GPs would be more favorable to patients. However, this policy was under-performing on the other 3 criteria. Developing an academic GP practice is clearly not a good strategy; indeed, it is under performing on the four criteria.

Figure 2: Criteria of teaching and training policies: radar by policy



In the open-ended questions, some respondents take this opportunity to insist on policies that were mentioned previously and they develop three main themes i.e., the quality of the lectures, the importance of a multidisciplinary approach and more knowledge of the profession.

The lectures are mentioned in different ways. Suggestions about their content included e.g., a much earlier contact with patients through first line courses, a more practical

approach of psychology and communication, new lectures about forensic medicine, patient's rights, the structure of the health system, developing the clinical feeling as well as the critical thinking. Suggestions regarding the duration of the lectures i.e., shorter and more targeted, were also made.

The second theme in the open-ended comments is the multidisciplinary approach that seems important for all stakeholders with various suggestions of studying together during the first years of studies in order to develop a sense of health community.

Finally, the knowledge of the profession is the third theme mentioned: lectures about administrative work, difficulties and how to react, participation to meetings of professionals are proposed.

6.6.2.2 *Financing policies*

The literature review showed that financing policies have an important place in attracting the young professionals in the practice. In this study, the competition was very tied regarding financing policies. Most policies had a rank between 2.34 and 2.71 (table 17). However, one policy recorded a higher preference: the capitation in addition to other fee-for-service got a mean rank of 1.90. This policy has, however, a mean score of 4.97 and comes next to "incentives for the installation in an underserved geographical area" which got a mean score of 5.14.

This difference can be explained by the fact that capitation is rather new in the Belgian context despite having a smaller score than the Impulseo related policy (incentives for the installation in an underserved geographical area).

Table 17: Preferred financing policies: mean ranks and scores (n=102)

Financing policies	Mean rank	Mean score
1. Capitation in addition to other fee-for-service	1.90	4.97
2. Increase the consultation fees	2.34	4.08
3. Incentives for the installation in an underserved geographical area	2.47	5.14
4. Target or quality of care payment in addition to other fee-for-service	2.66	4.73
5. Combining wage-earning and fee for service	2.71	4.33

The qualitative comments show that capitation seems interesting to get the patient's loyalty and to improve the GP's central role in the health care system. However; the fixed price should not be paid by the patient but directly by the Sickness funds directly. This measure should be enlarged to the on-call duties too. In addition, fear of control is mentioned. Other measures are suggested: a fixed price for the duty and a decrease of the price of the drugs.

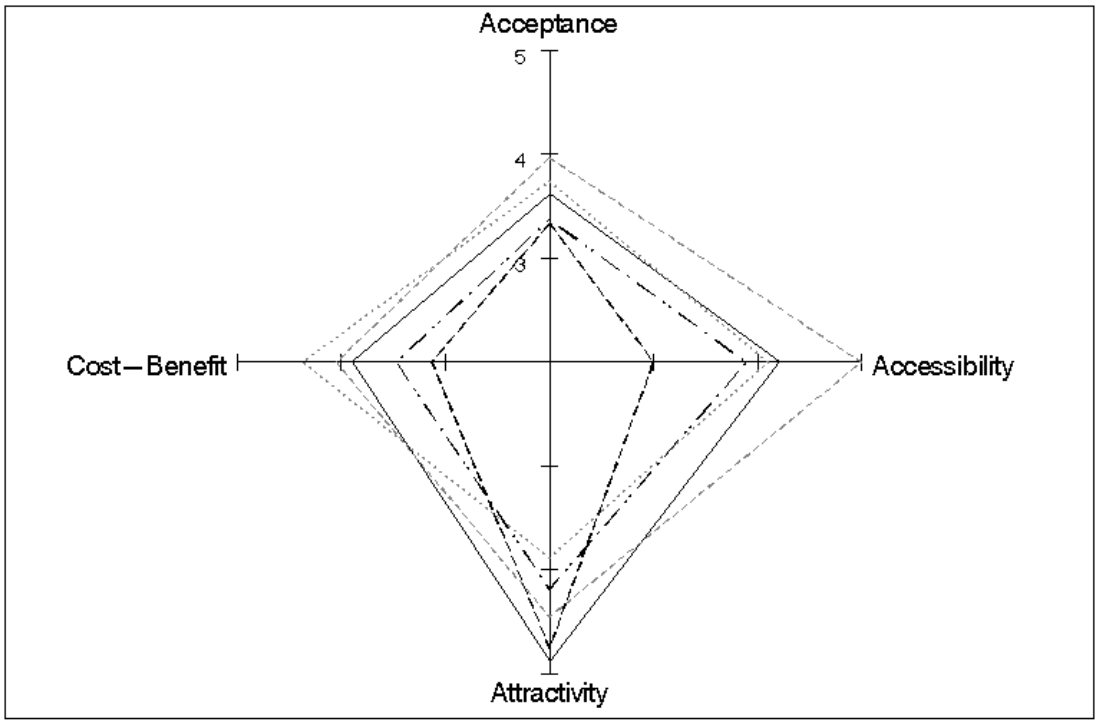
The policy that got the highest mean rank (2.71) and was thus the most discarded was the combination of wage earning and fee for service (mean score of 4.33).

The term "wage-earning" was shocking for most interviewees: this idea is against their conception of an independent profession paid through fee-for-service. Moreover, they did not understand how this could be implemented in practice. Finally, for a few of them it is far too expensive for the society. Others think it is a current tendency because it will offer economic comfort to the GP and allow him to better practice medicine. However, the patients should not pay the out-of-pocket expense too much though they should not believe the care is totally free. Diversifying the payment is a good solution for most of the respondents, combining a fixed price for practicing, a fixed price per patient (global medical record for example) and some additional payments for special acts. Some interviewees suggested other forms of remuneration linked to continuous training, to computing and to be on duty.

Choosing financing policies was more complicated as shown by the less contracted scores and ranking of these policies compared to the learning policies. Figure 3 helps to explain these results. Capitation in addition to other fee-for-service and the increase of the consultation fees were both good for improving the attraction-retention of GPs and

the accessibility of care. But they scored less in terms of cost-benefit and acceptance by other health professionals. The stakeholders were thus less keen with increasing fees because they feared that higher fees would mean higher out-of–pocket expenses for the patients, thus less accessibility. Conversely, target payment and incentives for underserved area had a good score from a cost-benefit point of view but only the latter was good at granting sufficient accessibility. This last one had an average score on attraction and performed less well on cost-benefit. This figure shows that, for financing policies, the stakeholders face some trade-off, particularly between attraction and accessibility, and between attraction and cost-benefit.

Figure 3: Criteria of financing policies: radar by policy



When prompted for other financing policies, stakeholders made suggestions confirming previous policies or policies included in the organisation topic (see below). Administrative work should be lowered (revision of the "nomenclature") and quality of medical work must be improved by a better organisation between members of the profession

The patient is always a major preoccupation: he has not to carry the cost of improvements. GP's social status in general and his financial security were also mentioned.

6.6.2.3 Work-life balance policies

The support of a career with new professional opportunities is the most important policy according to the stakeholders. This item got a mean rank of 1.91 (Table). The second most important policy is the suppression of the individual duty obligation with a mean rank of 2.1. Note, however, that the range of the scores for this topic was quite reduced: all policies fall in a very short interval of less than half a point (between 4.3 and 4.7) and that none of them has a score above 5. They overall positive effect is thus quite mixed.

Table 18: Preferred work-life balance policies: mean ranks and scores (n=102)

Most preferred work-life balance policies	Mean rank	Mean score
1. Support an evolving career	1.91	4.69
2. Suppression of the individual duty obligation of on-call	2.10	4.48
3. Not to penalize work with regular schedules	2.23	4.40
4. Compensate GPs for their continuous teaching activities	2.83	4.17
5. Groups of professional GPs for on-call	3.01	4.26

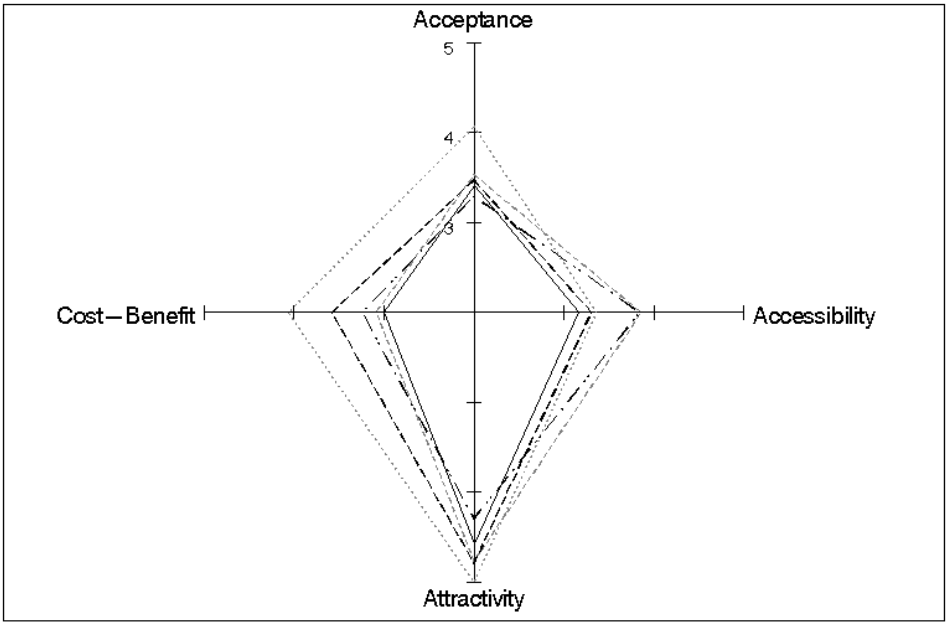
The respondents made positive open-ended comments about evolving career: it will make their work more diverse, allow them to meet specialists, improve the link between teaching and practice, and allow for taking a break and thus avoiding burn-out. Suggested improvements concern the group of women who should be the special target of this policy. Some interviewees notice that new professional activities are only feasible for those working in group where colleagues can assure the continuity of care. This policy should also concern the possibility to do preventive health care activities without being penalized. The risks that lie behind this policy are the decrease of practicing and consequently of available GPs as well as their decreased knowledge of the profession that is linked to the number of acts.

The most discarded policy is the setting-up of professional groups of GPs for on-call duties (mean rank 3.01 and mean score 4.26). This policy triggers bipolar comments.

The positive ones refer to the experience in France and see this suggestion as interesting for the training of the young GPs. The negative comments put the emphasis on the patient's confidence in his/her GP and on the fact that the GP on duty will not know the patients ("mercenaries" was the term used). It would be better to organize duty and replacement between local GPs.

Supporting an "evolving" career and allowing GPs to have regular working schedules were only positive for the attractiveness (Figure 4: Criteria of work-life balance policies: radar by policy.). The reason could be that the stakeholders do worry that those measures would jeopardize the accessibility of care.

Figure 4: Criteria of work-life balance policies: radar by policy.



Additional stakeholders' suggestions for the balance between work and quality of life relate to the security of the work: a better social status, a health center for the GPs, less control from the insurance institutions. Two suggested policies concern the use of information technology. On one hand, it should improve the availability and selection of scientific information. On the other hand, the sharing of patient's data should optimize the decisions regarding their care. Good relationships between colleagues and the group practice seem the best ways for improving the quality of life. Most stakeholders acknowledge that the society is changing as well as the profession and that the GPs should have the possibility to organize their profession to meet their private and professional goals.

6.6.2.4 Health care organization policies

The most important policy concerns the GPs working together, with a mean rank of 1.91 and a score of 5.68 (table 9). It is important to note that working together may not necessarily imply working in the same place. Indeed, sharing medical records is more appropriate and effective than sharing a common infrastructure whilst the patients should also keep a privileged link with one GP. Indeed, our results show that sharing a common infrastructure comes at the sixth place and has a mean rank of 2.30 and a mean score of 5.50.

The delegation of administrative activities is also very important for the respondents with a mean rank of 2.03 and a mean score of 5.40.

The improvement of the role of the GP in the multidisciplinary team is slightly less important than the delegation of the administrative activities with a mean rank of 2.04 but more important when linked with criteria with a mean score of 5.54.

The positive open-ended comments provided for the GPs working together suggest that it will increase quality of life, satisfaction in the work and multidisciplinary approach due to the practice with colleagues. However, this type of practice should not be an obligation: the solo-GPs should not be penalized.

Regarding the delegation of the administrative activities, it seems more than necessary to decrease them to give more time to GPs to perform medicine. However, the interviewees think it would be better to decrease the work than to add help.

One of the conditions behind the improvement of the role of the GP in the multidisciplinary team is the fact that it should be paid. Furthermore, the time for the meetings and their conditions (face-to-face, phone or email) should also be clear.

Table 19: Preferred health organization policies: mean ranks and scores (n=102)

Most preferred health organization policy	Mean rank	Mean score
1. GPs working together	1.91	5.68
2. Delegation of administrative activities	2.03	5.40
3. Improvement of the role of the GP in the multidisciplinary team	2.04	5.54
4. Delegation of specific clinical tasks to other health professions	2.12	4.82
5. Limitation of the excessive use of the second line	2.19	5.09
6. GPs sharing a common infrastructure	2.30	5.50
7. Creation of a nurse-assistant master	2.60	5.01
8. Incentives for working in underserved areas	2.66	5.27
9. Removal of the Numerus Clausus	3.39	3.89
10. Support of a local resource agency for GPs	4.00	4.27

Some respondents are positive about the most discarded policy (to support a local resource agency for GPs) but negative comments are more important and concern the administrative characteristics and burdens of these agencies. The suggestions go in the way of reinforcing the existing structures, for example the GPs' circles, to perform this mission.

Fostering GPs to work together and improving its role in the multidisciplinary team are two major strategies according to the 4 criteria (figure 5). Limiting the use of the 2nd line is a good strategy for improving attraction and cost-benefit: but it is poorly acceptable by the other health professions and performs badly regarding accessibility. Scrapping the numerus clausus and creating local resource agencies were mostly two ineffective strategies on the four criteria (figure 6). The delegation of either clinical tasks or administrative tasks as well as the organization of a new master course for nurse-assistants had mixed results: although their effect on attraction would be good, they were judged as a poor cost-benefit measure.

Figure 5: Criteria of organisation policies: radar by policy.

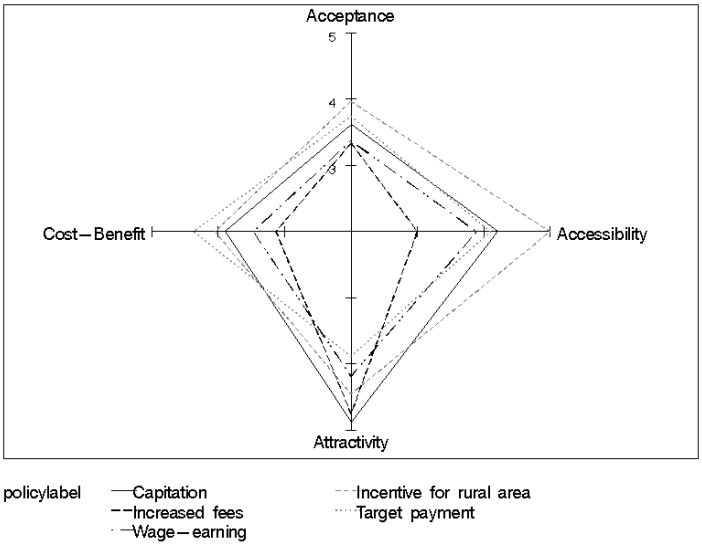
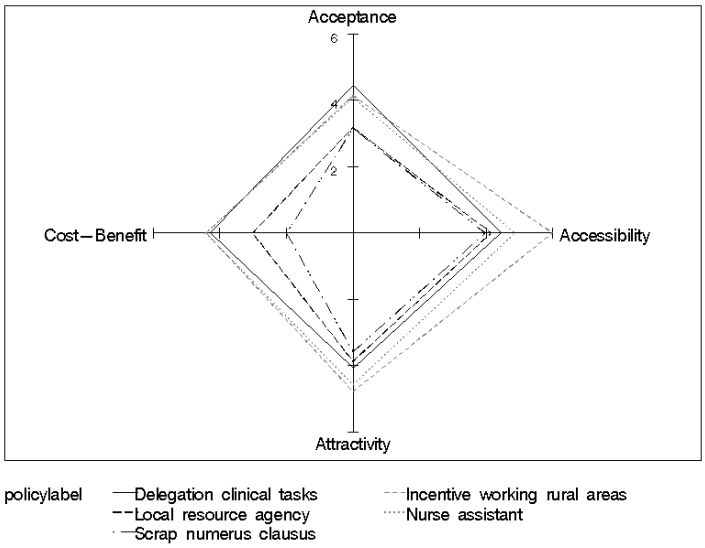


Figure 6: Criteria of organisation policies: radar by policy.



6.6.3 Summary: what are the policies more likely to be implemented according to the stakeholders?

This chapter displays an overview of the scores and the ranks of all policies to identify the most recommended by the stakeholders. The policies are shown by topic with their scores (figure 7) and ranks (figure 8) displayed on X-coordinates.

Among all policies, the most important one concerns the GPs working together (mean score of 5.68). The other organization policies that follow this one are also related to team-working: delegation of tasks, increased role in the multidisciplinary work and sharing of a common infrastructure.

The second most important policies are recruitment policies: the integration of a GP approach in all Master courses had a mean score of 5.56. This second most important policy is directly linked with the third one, which is the compulsory clerkship in general, practice for all medical students.

Financing and work-life balance policies received much lower scores.

For a difference between groups of stakeholders (see lines in figures 7 and 8), see appendix 5.8.

Figure 7: Policies rated by stakeholders: mean scores

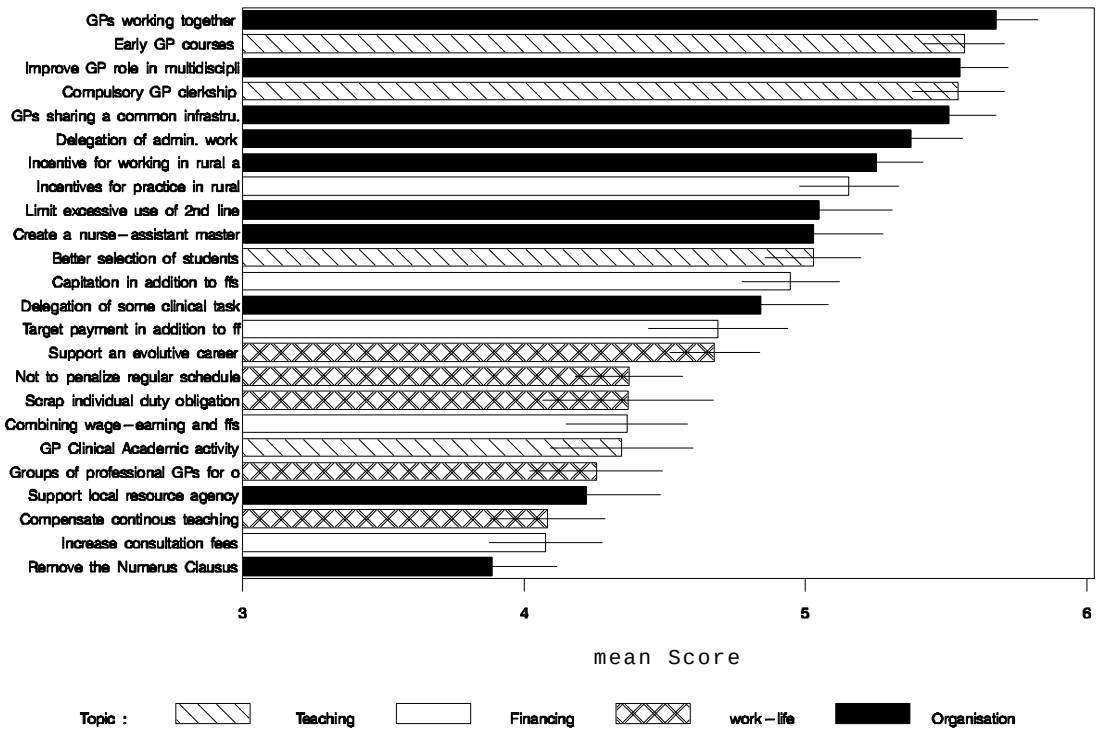
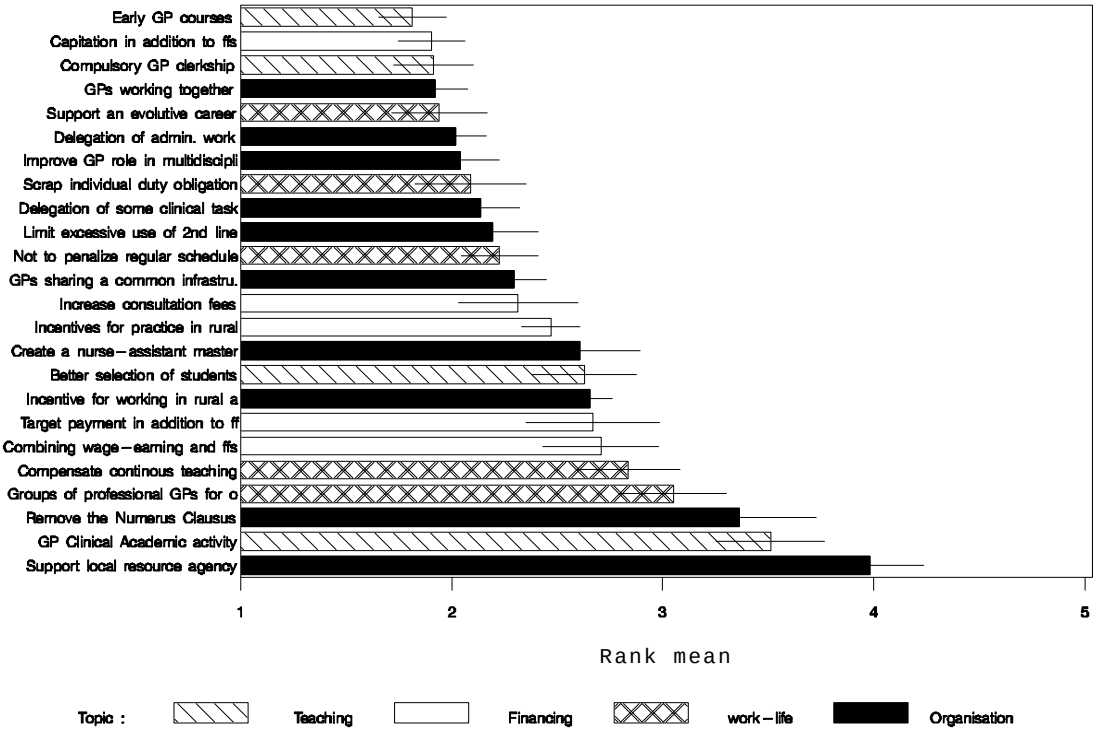


Figure 8: . Policies rated by stakeholders: mean ranks



6.6.4 Summary: new policies according to the stakeholders

Some major themes emerged in the new policies mentioned by the stakeholders:

1. The society is changing. The patient should be educated to use properly the health care system. The young GPs privilege their private life to a career and are not ready to accept any patient's will. The current tendency to work in group practices seems a solution for most problems including duty, continuity and training.
2. Medicine is changing with a growing bulk of information. This implies a modification of the lectures, of the continuous medical education and of the selection of the information by the GP to decrease the workload. The organization of the profession should be under the responsibility of the GPs themselves: the promotion of some spots to install a practice, the follow-up of the duty service, the links with hospitals, specialists and other health care professionals from the first line.
3. The GP's role in the health care system is crucial: he knows best the patient. However, the increasing need for scientific knowledge urges for a multidisciplinary approach (during training, during practice and in all aspects of collaboration).
4. Money is not essential although it is necessary and it will help to overcome some great difficulties (duty, computing). Other incentives are more important e.g., social status, maternity leaves, help in socially deprived zones.

6.7 WHY DO THE STAKEHOLDERS PREFER SOME POLICIES?

6.7.1 Introduction

In the previous part, policies were prioritized according to their scores or ranks. However, this does not explain why some policies are preferred or discarded. Even if some policies got a decent score, none reached a majority as the first-preferred policy: the highest mean rank was 1.81 for the integration of a GPs' perspective into the master courses (teaching topic) and 1. 91 for the support of an evolving career (work-life topic). Conversely, very popular policies being today considered or having been recently implemented (such as the increase of the consultation fees) received a low support (mean rank of 2.69).

If one wishes to implement a policy, it is important to anticipate why some policies are either preferred or rejected. Understanding the hurdles to be faced is a first step into figuring out how to take them seriously into account or to bypass them. There are two ways of doing that: considering policy criteria and stakeholders characteristics.

First, health policy decision making depends on how well these policies meet different values, that we called "the criteria". According to previous researches on health care [198, 204, 207], the choice of a particular policy depends on how well it fulfils the values that a stakeholder has in mind. In this research the policies to improve GP's attraction, recruitment and retention were assessed on 4 criteria (see method). The first question to ask is therefore "What is the contribution of these criteria to the stakeholder's choice?"

Second, another tenet of this research is that different policies can command varying support from different groups, because groups do not have the same objectives, do not face the same accountability rules and, finally, do not share the same socialization and decision-making opportunities. For example, GPs may feel much more responsible for their patient while policy-makers may feel much more liable for the society perspective. But there are many characteristics that matter. Indeed, a stakeholder belongs to different interest groups, to different language communities, he may have been trained as a physician or not, he may work for an organisation having high or low power on the issue. Stakeholders may have different understanding of the issues and may have, as an

individual, a different influence on the policy process. The second section of this chapter aims at answering the following question: does who you are and the group to which you belong command the policy you will support or discard?

6.7.2 Method

This approach analyzes criteria weights in general. But these weights can have very different meanings depending on the topic and on the precise alternative the stakeholder is facing. Another approach is to analyze the choice made by the stakeholder and to relate it to the criteria value. The influence of the criteria on the choice will use the conditional logit while the analysis of stakeholder characteristics will use the multinomial logit. The difference between these two techniques is that the multinomial logit (MNL) analyzes the choice probabilities in relation to the stakeholder's characteristics whereas in the Mc Fadden conditional logit model the choice probability depends on the choice characteristics, that is on the criteria [221].

In the conditional logit model, each observation is an alternative. That is for each topic, an individual has as many observations as there are policies to be chosen. For example, the teaching topic had 4 policies scored by 102 stakeholders, which results in 408 observations. Thus, in conditional logit, the observation is the choice. Because the individual tends to be repeated, we introduced correlation across choices (an individual is repeated n time where n is the number of policies: 4 for teaching, 5 for financing, 5 for work-life balance and 10 for organization policies). To account for such correlation, a multinomial probit was used. SAS version 9 was used to estimate these two models, respectively with proc mdc and proc genmod.

6.7.3 Results: influence of criteria

6.7.3.1 Overall analysis

The first part of this result section analyzes the average mean value given to each criterion. These values are the weight that stakeholders were willing to give to each policy criteria in general. The interviewees were asked to make their weighting with two perspectives: a societal perspective and a GP's perspective. From a societal perspective, the most important criterion was the attractiveness of the general practice with a weight of 83.7 (table 10). Cost-benefit to the society and accessibility of care had a tied-second position (with a weight of 76) while acceptance by the other professionals had the lowest weight [53 33]. There were differences between group types (figures 9 and 10) although none of them were statistically significant under the Kruskal-Wallis sum of rank test. Policy-makers and media gave a higher weight to the cost-benefit to the society and acceptance by other professionals was more important for the universities and the unions than for the other groups.

From the GP's perspective, quality of life was the most important criterion, next to clinical interest, income and work-environment. The criterion of the power of the GPs had the lowest weight (53.7). There were slight differences between stakeholders groups (figure 9). None of them was statistically significant (under the F-test) except for autonomy ($F=3.5$, $p<0.01$): the GPs weighed more heavily autonomy than the policy-maker. For the other criteria, the GPs and policy-makers had very similar ratings.

Table 20: Criteria weight by group type: mean value (n=102).

Criteria	Stakeholder Group					
	GP Mean	**Policy maker** Mean	**Unions** Mean	**University** Mean	**Media** Mean	**All** Mean
Criteria from the societal perspective:						
Attractiveness	85.6	80.3	80.4	87.9	89.3	83.7
Cost-benefit for the society	70.0	84.0	74.2	77.7	82.9	76.8
Acceptance	50.2	51.1	59.8	62.3	48.4	54.1
Accessibility of care	72.4	79.1	76.8	77.0	80.0	76.4
Criteria from the GP perspective:						
Quality of life	89.8	87.8	83.3	84.3	79.3	86.3
Income	77.2	77.8	70.3	74.9	72.9	75.3
Autonomy in the work	79.5	63.3	77.8	60.4	78.6	71.8
Clinical interest	82.9	77.4	78.5	87.7	82.1	81.2
Team-working	78.3	68.9	72.5	69.6	67.9	72.5
Work environment	77.2	76.3	74.8	71.4	67.9	74.9
Power of the GP	52.9	53.0	56.6	49.6	61.7	53.7

Figure 9: Societal criteria rated by stakeholders groups: radar.

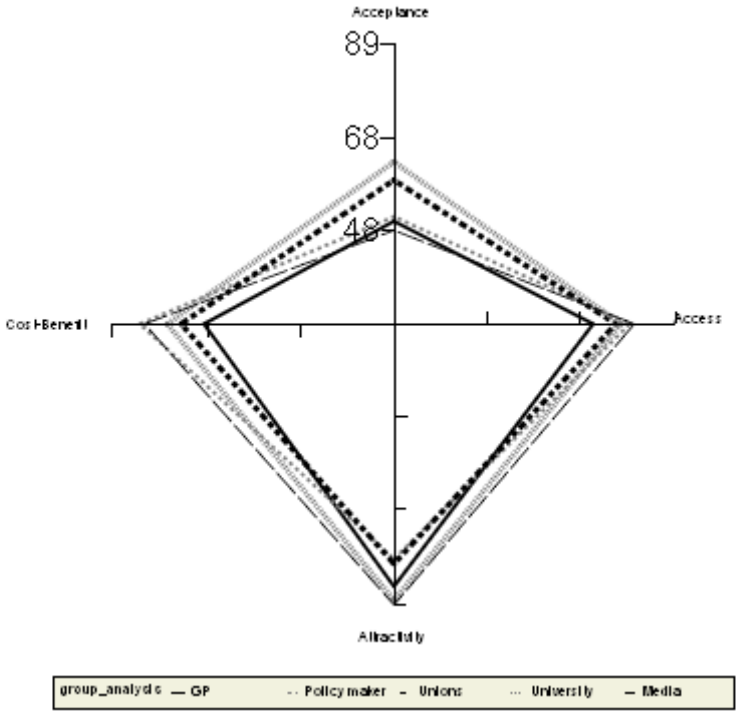
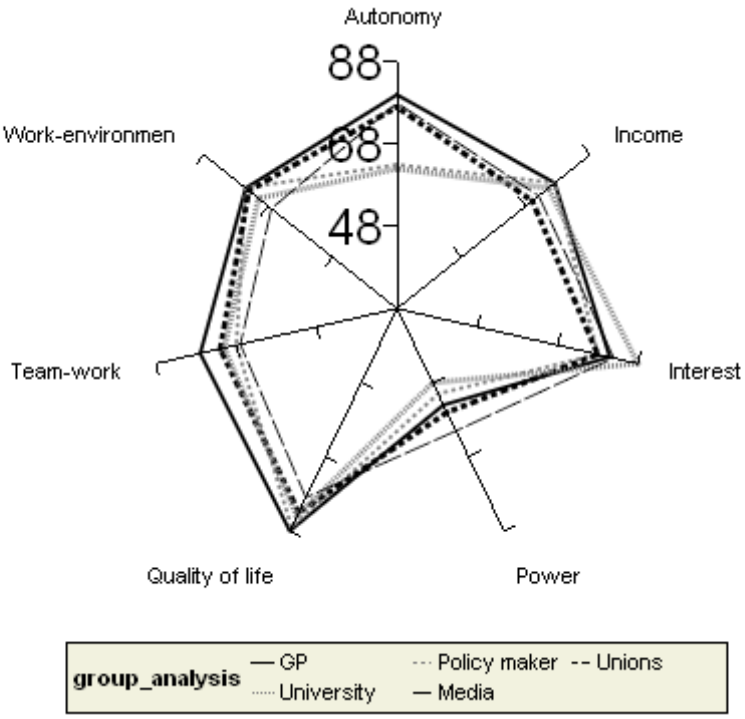


Figure 10: GPs' criteria rated by stakeholders groups: radar.



6.7.3.2 *The conditional logit results*

All criteria had the expected positive sign indicating that the higher the value of the criterion, the higher the probability of choosing a specific policy option. However, in seven out of 16 cases the coefficients were not significant at the 95% level (table 21). Attractiveness had, in all topics, the highest value, indicating that the choice of the policy was mainly driven by its impact on attracting, recruiting and retaining GPs in the family practice career. The cost-benefit to the society came in second place and is not significant for organization topic, with a coefficient ranging from a high 0.57 for teaching policies to a low 0.13 for health system organization. Access was significant only for work life balance policies and had a borderline significance for teaching and organization. Acceptance by the other professionals was significant only for work-life balance policies. There are two reasons why acceptance had mostly no influence on the choice. First the averaged score of the acceptance criteria had very often a value around the score of 4 (indicating no-effect) more often than the other criteria (see appendix 5.8). This suggests that stakeholders thought that such policy had very little impact on the other professions so that acceptance was not a big problem. The second reason had to do with the weight given to the acceptance by the other health professionals: as the previous analysis has shown, acceptance (weight of 54) was given a much lower weight than the other criteria (attractiveness had a weight of 84).

Table 21: Criteria of policy choice: discrete choice conditional logit coefficients (n=102)

Policy criteria	Coefficient	95% CI	P value
Teaching			
Attractiveness GP	0.72	(0.39-1.05)	<.01
Cost benefit to the society	0.57	(0.16-0.98)	0.01
Acceptance	0.15	(-0.12-0.42)	0.30
Access to patient	0.34	(-0.01-0.69)	0.06
Financing and payment			
Attractiveness GP	0.75	(0.48-1.02)	<0.01
Cost benefit o the society	0.25	(0.03-0.47)	0.03
Acceptance	0.10	(-0.19-0.39)	0.51
Access to patient	0.16	(-0.06-0.38)	0.14
Work-life balance			
Attractiveness GP	0.84	(0.49-1.19)	<0.01
Cost benefit to the society	0.37	(0.12-0.62)	0.00
Acceptance	0.35	(0.02-0.68)	0.04
Access to patient	0.22	(0.00-0.44)	0.05
Organization			
Attractiveness GP	0.96	(0.63-1.29)	<0.01
Cost benefit to the society	0.13	(-0.09-0.35)	0.21
Acceptance	0.09	(-0.13-0.31)	0.40
Access to patient	0.27	(-0.02-0.56)	0.07

6.7.4 Other criteria mentioned by the stakeholders

Our survey gave the possibility to stakeholders to add criteria that we did not mention in our list of criteria. The analysis of this list shows that most of the stakeholders mentioned elements that were already considered in our criteria but that were pooled in broad definition. For example, a few stakeholders mentioned the choice of treatment by the patients: this was already included in the criterion on the accessibility of care of the general practice (which included elements like geographical accessibility, financial accessibility for the patients, the absence of waiting list and the freedom of the patients to choose their general practitioners).

6.7.5 Influence of stakeholder characteristics

This section answers to the following question: "does who you are and the group to which you belong command the policy you will support or discard?" We analyzed several characteristics such as the group type (GPs, policy-maker, Union, Universities and media), the language group (Dutch-speaking, French-speaking), studies (physician or not), the power of the organisation in which the stakeholders work (ordinal scale from very important to very weak), financing and organization and the extent of the stakeholders' network. Two socio-demographic variables were also observed: gender and age group. The sample distribution of those variables has been described in chapter 2.

The explanatory variables were related to the rank of each policy. In this multinomial regression, the dependant variable is the rank of each policy.

Tables with policy ranking by group are provided in appendix 5.8 as well as all multinomial models. With 24 policies and 6 explanatory variables, all these results can become rapidly cumbersome. So we summarize here the main results, focusing on the policies with the highest score before moving to the policies with a lower score. Policies were considered to be most popular if they fulfill at least two of the following 3 conditions: having an average **rank** between 1 and 2, having an average **score** of 5+, or being the modal policy (having the higher frequency in the first-choice question).

Overall, the explanatory variables had a modest contribution on the policy choice. Only 18% of the coefficients reach statistical significance at the alpha=5% level. Of course, this could be linked to the size of our sample. This size is large for a face-to-face

stakeholder survey but it provides a rather low power to detect between-groups differences. Socio-demographic (sex and age group) as well as power variables had – with very few exceptions- no contribution at all to scoring or ranking differences. For gender, this is mainly due to the fact that most non-GP stakeholders are men although we had a good balance of men and women for GPs (respectively 19 and 12). Language and stakeholder groups had slightly more influences: the description focuses thus on these last two variables.

6.7.5.1 Teaching policies

Very few significant associations were found for those most popular policies. GPs stakeholders were slightly less keen on the policy to improve GP approach in the curriculum. Dutch-speaking stakeholders were more likely (OR=2.88, p=0.01) to support such policy than French-speaking stakeholders. There were few differences for the compulsory clerkship for all medical students: the stakeholders with a medical degree were less favorable to this option.

6.7.5.2 Financing policies

For the most popular policies related to financing (capitation and target payment), there were broadly no significant differences between groups. Within-group disagreement seemed as high as between-disagreement: the model financing policy was indeed supported by 29% of the sample only. Financing remains a very controversial topic between and within stakeholder groups, independently of the type of group (GPs or policy makers or interest groups). However, the GPs were more positive for capitation than the other stakeholders groups (OR=2.49, p=0.09).

For the other policies, the Dutch-speaking stakeholders were more supportive of wage payment than the French-speaking stakeholders (OR=3.54, p<0.01). Moreover, the higher the power of the institution, the higher the support for such policy.

Policy for improving the incentives to start practice in underserved areas was less supported by GP stakeholders than by the other groups (OR=0.29, p=0.04). French speaking than by Dutch-speaking stakeholders also less supported it. This is an interesting result for Impulseo I, a policy aiming at improving the incentive to start a practice in underserved areas. This policy does not seem to be supported by the GPs themselves.

6.7.5.3 Work–life balance policies

There were few differences between groups regarding the policies to reach a better balance between professional and private obligations. The "evolving" career schedule was less supported by the GPs stakeholders than by the other groups (OR=0.20, p=0.01). GPs stakeholders were more in favor of scrapping the individual duty in comparison with the other groups (although the result is not statistically significant). Stakeholders having a medical teaching curriculum were less likely to support the scrapping of individual duty obligation (OR=0.23, p=0.03). Dutch-speaking stakeholders were less supportive of professional groups of duty (OR=0.27, p<0.01).

It could have been expected that women would support more heavily policies improving quality of life in comparison with men. There were in fact very few statistically significant differences between men and women. However, women better ranked the suppression of individual duty than men (women mean rank =1.9; men mean rank=2.4) as well as the creation of professional groups of GPs for duties (women 2.4; men =3.0)

6.7.5.4 Health system organization policies

The Dutch-speaking stakeholders were more likely to support "GPs working together" than the French-speaking stakeholders (OR=2.78, p=0.01). This could also be linked to their higher preference for having a nurse-assistant master (OR=2.14, p=0.04). However, the Dutch-speaking stakeholders were less supportive for improving the role of the GP in the multidisciplinary team (OR=0.37, p=0.02).

The GPs were skeptical with a policy on group practice. Although the results were non-significant for the policy aiming at fostering GP working together, they were clearly less willing to support the sharing of a common infrastructure (OR=0.1, $p<0.01$) and the delegation of some clinical tasks to other existing health professions (OR=0.19, $p<0.01$). As expected they were opposed to creating a new nurse-assistant master (OR=0.22, $p<0.01$).

There was a clear disagreement for scrapping the numerus clausus in the French part of Belgium or the entrance exam in the Dutch part of Belgium. The GPs were more in favor of removing the numerus clausus or the entrance exam (OR=7.17, $p<0.01$) than the other groups. However, there was a second disagreement between language communities: the Dutch-speaking stakeholders were less likely to abandon the selection procedures (OR=0.19, $p<0.01$) than the French-speaking stakeholders.

There were marked or statistically significant differences between men and women regarding these policies.

6.8 DISCUSSION

This chapter first summarizes the main results before discussing the limitations and strengths of this study. We relate the main findings to previous researches and in particular, to the literature review and field survey of this project.

6.8.1 Main Findings

6.8.1.1 Teaching topic

Two policies stand out in the teaching topic**:**

- the integration of a GP's perspective in the Master courses: this integration would enhance the value of general practice among specialists and students, according to the students' quantitative study and to the literature study [136];
- the obligation of a clerkship in general practice during the masters for all students ;

Those policies were the best ones for attracting medical students. They offered the best cost-benefit performance and were most likely to be accepted by other health professionals. Dutch-speaking stakeholders were more likely to support such policies than French-speaking stakeholders. Teaching is a community competence and it could be that the teaching of GP has received wider acceptance or support in the North than in the South of the country. Those results are consistent with the qualitative survey among GP leavers. They stated indeed that an obligation of clerkship during the GPs' Master would reduce the gap between theory and practice and would help the students dealing with patients and colleagues, once in the practice. These two policies are, somewhat, related to some components of the Philadelphia Jefferson Medical College Physician Shortage Area Program (PSAP), (literature review), a prominent and successful program to attract and retain students in General practice [148]. If one wishes to improve GPs' recruitment and retention, it needs not wait 7 years before promoting General Practice : early internship, earlier education in family medicine, role model in General Practice, student support by family physician faculty advisers are teaching components of a pipeline strategy to improve GPs' attraction, recruitment and retention. The stakeholders discarded the students' selection strategy, which is an important component of the PSAP approach. Surprisingly, they did not consider this policy as effective in attracting GPs and was considered low on cost-benefit.

The development of a Clinical Academic activity for general practice was not ranked high. According to open-ended comments, general practice cannot be performed in a hospital, far from the patient's home. It would be better to develop the training practice with GPs who are skilled to coach students. Teaching GP in an academic setting is also considered to be too far from the practice. This policy was under performing on the four criteria too.

6.8.1.2 Financing policies

Financing policies did not get very high scores in comparison with the other topics. A cross-topic comparison clearly shows that they were dominated by teaching and organizational policies (figure 1). How to explain that result? As mentioned in the European Observatory review, the payment mechanism cannot be separated from the institutional context of the health care system [222]. The implementation of a new payment mechanism disregarding the other aspects of the health care system may not work very well [222]. Indeed, a capitation payment system usually restricts the free choice of the patient and the GPs often become gatekeepers to specialized care, with a stronger role in the evaluation of the patient's needs. However, the highest scored policy was incentives for practicing in underserved areas and the most-preferred policy in the financing field was the capitation in addition to other fee-for-service. There was much less convergence for the other financing policies.

The criteria analysis shows that some policies were good at improving the attraction-retention of GPs and the accessibility of care but they were not as good in terms of cost-benefit and acceptance by other health professionals.

The policy relating to the capitation was more accepted by GP stakeholders than by the other stakeholders groups. The policy improving the incentives to start a practice in underserved areas was less supported by GP stakeholders than the other groups and by Dutch-speaking stakeholders than by French-speaking stakeholders. This means that a measure like Impulseo I does not seem to be supported much by the GPs themselves. Most countries from the European Union have mixed system of payment, combining fee-for-service with capitation and, in some cases, with target payment [2]. Belgium is among the very few countries relying almost entirely on fee-for-service to pay GPs.

The most discarded policy in this topic is the combination of wage-earning and fee for service. The term "wage-earning" is indeed against the conception of a "liberal" profession for most stakeholders: they do not understand how this could be implemented in practice. For a few of them it is far too expensive for the society. Others think it is a current tendency because it will offer economic comfort to the GP and allow him to practice a better medicine. Discarding salaried payment is not consistent with the literature study showing that salaried contracts offer positive incentives to GPs' recruitment [171], particularly for working in deprived areas. It is consistent with the European situation where salaried payment are not frequent [222]. A system relying on salary payments should be applied in very specific contexts, such as areas with a very low population density: that statement from the literature is consistent with the stakeholders' results supporting incentives for practicing in underserved areas.

6.8.1.3 Work-life balance policies

We faced a very interesting paradox for work-life balance policies. On one hand all stakeholders agreed that, from a GP's perspective, quality-of-life was the most important criterion to choose policies improving GPs' attraction and recruitment. On the other hand, work-life balance polices got rather modest scores (4.7 for evolving career and 4.5 for scrapping the individual compulsory emergency duty). The criteria analysis explains the reasons: those policies would be good for the attraction but not for the accessibility and cost-benefit. Thus, although these two policies are good for the GPs themselves, the stakeholders worried about their negative effects on health care access or on cost for the society.

However, two policies stand out among the work-life balance policies:

- the support of an "evolving" career: to increase the quality of medicine by the diversification of the work, by meeting specialists, by a better knowledge of the practice for the teachers, and by the possibility of taking a break and thus preventing the burn-out;
- to scrap individual duty obligation: to decrease the pressure linked to a continuous availability, especially at difficult times like evenings, nights,

and unexpected calls. This is consistent with the interviews of students, which pinpoint that opportunities for breaking the career with a guarantee of later come back, and job rotations that could prevent GPs from leaving.

The most discarded policy for work-life balance is the financial compensation of the GPs for their continuous learning activities. On the opposite, the interviewed GP leavers argued more about the continuity of care that explains the absence of the GPs during those accreditation activities. The problem of attendance to learning activities would therefore only be solved if there is a group practice. Furthermore, other health professions would ask for the same financial measure. This policy was moderately rated for the cost-benefit for the society, the acceptance by other professionals and the accessibility of the health care. It was very well rated for the attraction of the profession.

6.8.2 Health care organization policies

Some health system organization policies were among those with the highest score, indicating that, clearly, for the stakeholders, improving GPs' attraction, recruitment and retention is not only a question of financing but also of organizational initiatives. This is consistent with the literature study and the GP leavers study.

Three policies stand out for the health system organization:

- the reinforcement of GPs working together: the interviews of GP leavers also mentioned that this initiative would allow physicians to share responsibilities, discuss difficult cases and diminish the pressure of being constantly on-call;
- the improvement of the role of the GP in the multidisciplinary team;
- the delegation of some administrative tasks.

These three policies are to some extent tied together: team-working is necessary to help GPs delegating and assuming a greater responsibility in the multidisciplinary position of their profession (e.g. for the management of chronic diseases). The lower scores for gate keeping and creating a nurse-assistant master had to do with a lower acceptance by other health professions and its impact on patient access.

French- and Dutch-speaking stakeholders hold different views in this area. The Dutch-speaking stakeholders were more likely to support GP working together than the French-speaking stakeholders. The contrary could be noticed for the improvement of the role of the GP in the multidisciplinary team. This may be explained by the fact that the law related to the integration of health care is already much more implemented in the Dutch-speaking than in the French-speaking part of the country.

The GP leavers interviewed were less enthusiastic about team-working: some of them started working in an existing duo or group practice: they experienced a lack of control over the organization of their work (for example they were told when to see which patients by the senior doctor). But there is no contradiction here: the criteria rating showed that team-working and autonomy of work are both equally important criteria for GPs and for other stakeholders. Team-working must be designed to have a minimal negative impact on autonomy.

The removal of the numerus clausus is not popular among the stakeholders. Indeed, to increase the number of students will not assure a better distribution of the general practitioners in the underserved areas, for example.

6.8.2.1 Overall conclusion

We now tie all these 4 topics together. Indeed, a policy strategy needs to be global and make the different decisions consistent with a big picture. What is the consistency between the major policies arising from this stakeholder survey? Four patterns emerged:

- Pipeline strategy : from teaching the GPs to organization of GP practice
- From the GP to the whole health system
- The financing topic is related to the rest of the health system
- Work-life policies need to be better designed regarding access and cost benefit

6.9 STRENGTHS OF THE STUDY

To our knowledge, this is the first quantitative stakeholder analysis using a multi-criteria approach to help making decisions in human health resources planning. This quantitative approach allows to sort the different policy options and to help selecting those performing well according the stakeholders in charge of making and implementing health care policy in Belgium.

A second strength is that this stakeholder's analysis relies on a careful preparatory work involving:

- A state of the art about the international situation (literature review);
- A thorough analysis of the situation on the field, by the analysis of the motivations of:
    - potential (non-) candidates for the GP profession
    - the target group of this study i.e. GPs could have stayed in the profession in the presence of adequate policy measures.

A third strength is the rigor with which the list of the stakeholders has been built. Indeed, special attention has been to involve all potentially influential stakeholders in the field of the general practice. All important groups were included as well as all possible influential opinions. In order to do so, several experts revised the list and forgotten names were identified thanks to the method of the snowball sampling after each interview.

The last strength is the very opened and comprehensive perspective of this study. GP attraction and retention were considered from several points of view such as teaching, financing, work-life balance and health care organization. Additionally, there was no censorship leading to exclude any controversial policy from the questionnaire.

6.10 SUGGESTED POLICY OPTIONS

The stakeholders formulated some new suggestions.

The content of the GP's lectures should be reviewed; they should include a more practical approach of the administrative work awaited by the GPs during his profession as well as social sciences and first line courses to allow the students to have an earlier contact with patients than the Master. Another priority should be a good balance between the various specialties and more targeted lectures with some lectures given by GPs in order to adapt the content to the needs of the profession. The multidisciplinary approach in those lectures is also mentioned with the possibility to study with students of other disciplines during the first years of studies to develop a sense of health care community.

The diversification of payment is a good solution for most stakeholders combining a fixed price for practicing and a fixed price per patient (global medical file) that the patient should not pay himself and some additional payments for special acts. Some interviewees suggest other forms of remuneration linked to continuous medical education, to computing and to availability.

It also appears clearly that the administrative work should be lowered by a revision of the nomenclature and that the quality of medical work could be improved. The patient

is however at the center of the preoccupations: he/she has not to carry the cost of this revision.

Regarding the quality of life, many suggestions concern the GP's security: a better social status, a health care center for the GPs and less control by the insurance.

The role of the GP is central in the health care system because of his/her knowledge of the patient. However, the increase of necessary knowledge and the need for a balance between private and working life call for a multidisciplinary approach to be developed during training and during the practice in all aspects of collaboration.

Two policies concern the reinforcement of the use of information technology to facilitate the sources of information and to share the patient's data for better clinical decisions. Positive relationships with colleagues and the group practice seem the best ways for improving the quality of life and the demands of the GPs' profession like duty, continuity and ongoing training.

However, some respondents thought that sharing common medical records is more appropriate and effective than sharing a common infrastructure whilst the patients should keep a privileged link with one GP.

6.11 LIMITATIONS OF THE STAKEHOLDERS STUDY

The questionnaire was quite complex and the interview lasted mostly one-hour. The stakeholders had to read, score and rank 24 policies, each one on four criteria according to the multi-criteria analysis. This made the process sometimes very long although most stakeholders showed a high level of interest during the interview. Some criteria, such as acceptance by other professionals, were considered sometimes as irrelevant while other ones included too many aspects (such as access).

The last topic (health organization policies) included perhaps too many policies (10 compared with 4 or 5 for the other topics). Keeping an amount of 5 policies in each group would have been more consistent with the other topics.

A last possible limitation has to do with the number of the stakeholders in each of the five groups (policymakers, sectional groups, cause groups, media and GPs). The size of the groups was significant for face-to-face interviews but only allowed a global analysis of the results as the statistical power was too weak to notice any statistical difference between the groups.

6.12 SUMMARY: POLICIES TO BE IMPLEMENTED IN BELGIUM TO IMPROVE ATTRACTION, RECRUITMENT AND RETENTION OF THE GENERAL PRACTITIONERS: A STAKEHOLDERS' ANALYSIS

6.12.1 Most important policies

In the teaching topic, the integration of a GP's perspective in the Master courses and the obligation of a clerkship in general practice during the masters for all students were the two policies that had the best score for attracting medical students regarding the cost-benefit performance and the acceptance by other health professionals.

In the financing policies, the highest scored policy was incentives for practicing in underserved areas (more supported by the non GP stakeholders than by the GP stakeholders and more by the Dutch-speaking stakeholders than by the French-speaking stakeholders). The most-preferred policy was the capitation in addition to other fee-for-service (more accepted by GP stakeholders than the other groups).

Regarding the work-life balance policies, the support of an "evolving" career and the scrapping of the individual duty obligation are the two most important policies.

Among the health care organization policies, three policies stand out: the reinforcement of GPs working together, the improvement of the role of the GP in the multidisciplinary team, the delegation of some administrative tasks.

6.12.2 Discarded policies

Among the teaching policies, the students' selection strategy was not retained and was considered low on cost-benefit. Furthermore, the development of a Clinical Academic activity for general practice was either not highly ranked and was under performing on the four criteria.

The most discarded policy among the financing policies was the combination of wage-earning and fee for service.

The most discarded policy in the work-life balance policies was the financial compensation of the GPs for their continuous learning activities.

Removing the numerus clausus was the least popular health care organization policy among all stakeholders.

7 ROUND-UP

This research was carried out by 7 Belgian Universities during the 2007-2008 period. It aimed at measuring, explaining and proposing policies to improve general practitioners attraction, retention and recruitment into clinical practice. This chapter summarizes and articulates the main findings, putting them in relation with the literature and opening avenues for policymaking.

7.1 ATTRACTION, RECRUITMENT AND RETENTION OF GENERAL PRACTITIONERS

The research among students has shown that, after 7 years of medical undergraduate training, one medical student out of three chooses for a career in general practice/family medicine. Although this rate is low compared to the Belgian general practitioners/specialists quota distribution (43% for general practitioners -57% for specialists), this is consistent with the international literature review: many countries face this problem. Furthermore, once graduated, many GPs do not enter general practice and many leave it after a few years of practice. The present study shows that, in the last decade, the percentage of GPs being inactive in the curative medical sector has increased annually, particularly among the youngest age group. This increase was observed in both linguistic communities and genders. More precisely, among the cohort of graduates of 2005, one out of 10 did not have any curative practice and 1 out of 6 had a small clinical activity.

The research highlighted many reasons for these low attraction, recruitment and retention of GPs in Belgium. Theses reasons have to do with the role of university, the economic incentives, the working conditions, and the organisation of health care in Belgium. For each of these topics, we summarize and discuss the findings of the research and the policies identified through the stakeholders analysis. In a last section, we articulate these different topics into 3 main strategies.

7.2 ROLE OF UNIVERSITIES AND OF MEDICAL EDUCATION

7.2.1 Major role of GP clerkship

The findings show that most students start their medical training with vague ideas about their specialty choice and what working as a general practitioner entails in practice. Clerkship plays an essential role in the students' choice because this is the very first experience with real life medicine and it is the most important trigger of the specialty choice. Unfortunately, according to the students' study, poor timing, short duration and relative over-representation of other specialties downgrade the positive effect clerkship in general practice could have to increase the attraction for general practice.

7.2.2 Importance of teaching general practice

Second, the choice of specialty is also related to the content of the lecturing of general practice as such. The qualitative and quantitative students' research clearly shows that current teaching of medicine in general is not favorable to general practice. Students are mostly taught by medical specialists who have a tendency to display an unfavorable image of the daily work of general practitioners in their practice. The teaching by general practice professors seems not to be able to reverse this situation.

7.2.3 Influence of the culture of the medical faculty

Finally, the culture of the faculty of medicine disfavors the choice of general practice by the students: indeed, the recruitment of general practitioners in the 7th year is sometimes considered as a second choice for those not having succeeded in the race for a career in a medical specialty. This should not overlook the fact that many students do choose general practice as a first-choice.

7.2.4 Policies to foster the role of medical faculties

Belgium is not alone in facing these recruitment difficulties and policies implemented by other countries are worth considering. The literature review highlighted successful policies including structural changes such as improving the position of the general practice in the faculty of medicine in the universities, changing the admission processes to target more students with general potential practitioner and redesigning undergraduate medical education (e.g. GP-oriented clinical medicine courses, exposure to general practice and role models).).

Conversely, the literature review showed that the development of academic departments of general practice as well as increasing physician supply are not efficient ways for improving GPs' attraction and recruitment

What do the stakeholders think about the implementation of these policies in Belgium? Most of the Belgian stakeholders view a change of culture within the universities as important to improve the recruitment of GPs. Two policies in particular were supported: to have more GP-oriented clinical medical courses and to make clerkships in general practice compulsory for all medical students. The policy suggesting a better selection of students according to social skills was not supported by the stakeholders, although it is a landmark and an effective strategy abroad (the Jefferson Physician Shortage Area Program -PSAP) [88, 94]. Difficulties in assessing those skills as well as their further development during the studies are the main reasons that were evoked to put this policy aside. Despite the recent media hullabaloo about the numerus clausus, according to the stakeholders' survey, removing the numerus clausus is clearly a discarded policy.

7.3 ECONOMIC INCENTIVES

7.3.1 GP income and influence on the retention

The literature review suggested that GPs have lower income than specialists. In the US, between 1994 and 2004, the median income for GPs increased much less than for specialists [223]. In this study, the influence of income differences on the attraction and retention of GPs is mixed. On one hand the study on GPs leavers suggested that income was a minor issue in the decision to leave medicine. But, on the other hand, both the students' study and the stakeholders' study suggest that income is an issue. Mostly all Belgian stakeholders recognized that the remuneration of working time was lower in general practice than in other specialties. This was also clearly stated by students choosing either general practice or another specialty: both groups agreed that financial conditions were not that good in general practice. Thus it is likely that the perception of income difference plays a negative role in attraction or recruitment of students although it does not influence that much the retention in general practice. This is consistent with the literature review showing that poor income deters students from choosing GP.

7.3.2 Economic incentives

Two economic incentives are used abroad: the grants to students starting medical education and subsidies for starting to work as a general practitioner. The first kind of economic incentive might not be relevant for Belgium (except maybe for student of underprivileged background) where most of the teaching is publicly funded. The literature review of policies suggests that economic incentives for physicians practicing in rural regions (similar to Impulseo Icc) do not seem to be effective in the long-term because GPs may feel inadequately compensated for the poorer working conditions.

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cc Impulseo I may be considered as a financial help allowing GPs to start a family practice. The program provides a loan (maximum 15000 EUR) to young GPs starting their family practice. A subsidy (20000 EUR) can be allowed to GPs opening a family practice in "urban positive action zones" or "shortage areas".

7.3.3 Financial policies supported by the stakeholders

When asked to pick financing policies, the majority of the stakeholders chose to mix fee-for-service with capitation as a complementary mechanism of funding. The policy on incentives for the installation in a low density area had a good score but was not the main priority of the stakeholders; this could be due to the fact that Impulseo I has been recently started, thus is no longer a priority or, as suggested by the literature, a one-shot lump sum does not compensate, on the longer term, for poorer working conditions.

Thus when confronted with the need to choose a policy, capitation might have been picked because this is still a rather new policy in the Belgian context. Indeed, capitation funding currently applies only to 165,000 patients registered under the "maison médicale/ wijkgezondheidscentra" scheme while the other (majority) GPs can receive 25€ per patient through the "Global Medical Record" (DMG-GMD) scheme. Authors from the European Observatory on Health systems and policies suggest that there is room for improving the role of capitation in the funding of GPs [222].

Interviewed students were more reluctant to the idea of capitation. This might be explained by the wording of the question: the students were asked to choose for capitation instead of fee-for-service whereas the question asked to the stakeholders was about capitation as an additional way of financing general practice. These are of course, very different policies. Clearly, our study suggests that there is no room for removing the fee-for-service scheme but more for a diversification of the funding mechanism. This is also very consistent with current trends in physicians payment mechanisms [224].

7.4 WORKING CONDITIONS

Working conditions of general practitioners are a general concept including the many aspects of general practice influencing the job satisfaction and satisfaction in the lifestyle. This includes two main themes: the working schedule and its influence on the work-life balance and the working organisation such as team-work. These elements and particularly the first one, are considered as major drivers of physician satisfaction [225].

7.4.1 Different perceptions of the GP working conditions

The literature review and the Belgian GP leavers study stress the importance of working conditions as key factors for retention. Leaving general practice was the result of high demand such as work load, having to be constantly on-call, dealing with emergencies, high responsibilities and the perceived burden of continuous medical education. These high demands were in conflict with personal responsibilities, like family life. The students hold, however, conflicting views about working conditions. On one hand general practice is perceived as a difficult profession with a lot of uncertainties (especially for the clinical decision process) and a lonely job with a high workload. On the other hand, the GP profession is appreciated for its variety in the work, autonomy and the privilege of working with patients in different stages of their life.

An interesting finding is that general practice students hold a more positive opinion than other specialty students regarding how difficult general practice could be. Students choosing a specialty career considered general practice as a more lonely profession than the students in general practice did: this may suggest either that the expectations regarding team-work are different between these two groups of students or that these groups hold a different perception of the reality of GP team-work. Our study supports both explanations. The student study shows that the expectations regarding team working do not differ largely between GP students and specialist students. However, GP students did have a slightly higher preference for "flexible" schedule while specialist students valued more heavily "job security". This could explain why students hold different perspectives on the GP's work: for the GP students: the costs of working alone as a GP is slightly paid off by the positive return of its corollary, autonomy. This trade-off may apply less to specialist student which tend to value more job security than autonomy. The stakeholders' survey supports this hypothesis: they gave the same weight to autonomy and team working: both values were important. This suggests that

the issue of team-working is difficult for the GP profession because it entails a struggle between two important values: autonomy and team-work.

The leavers' study confirmed that group practice is not such a magic bullet : the loss of autonomy when working in group practice can also be a reason why some general practitioners leave the profession.

7.4.2 Suggested policies to improve the working conditions in general practice

The best ranked policies in the stakeholders' survey were supporting a career with new professional opportunities and scrapping the individual on-call obligation. However, the stakeholders gave them rather low score in comparison with other policies. The reason might be that new professional opportunities (like teaching and research) are regarded as feasible for those working in a group of GPs, in order not to jeopardize the continuity of care and the accessibility of the practice. Thus, this comes as no surprise that encouraging the GPs to work in group (a policy initially considered under the health system organization heading) was among the most supported policies in the stakeholders study). Indeed, team-working does not only make possible to have other professional responsibilities but also to delegate administrative tasks to assistant staff and to get access to Information Technologies infrastructure whose cost is prohibitive for GPs working in solo practice. It also allows the GP to have a more active role in a multidisciplinary team work that allows the GP to get a stronger role for instance in the care for chronic patients and frail elderly patients. Also, GP students were very keen with the idea of having a practice support staff although it was unclear whether they understood that this support staff was linked to the work in a group-practice.

Removing the individual obligation for on-call duties and replacing it by deputizing services showed to be controversial measures. Most stakeholders agreed that these policies were good for attracting and retaining GPs but they bothered about their side-effect particularly on accessibility and on cost for the health care system. Moreover, the profession itself seems to be divided on that topic. GP students were quite in favor of a deputizing service and GP leavers also raised this idea as a policy that would have made their life easier. But it was not clear, according to the GP stakeholders, whether the on-call duties obligation should be scrapped. This is a paradox: work-life balance is jeopardized by the individual on-call duty but GPs stakeholders are not so keen to scrap it. A reason could be that by calling public authorities into rescue for organizing deputy services, the profession risks loosing its current grasp on-call service through the GP "cercles/kringen". Scrapping individual on-call obligation will thus transfer the responsibility to another –possibly governmental- body and, hence, affect the profession's autonomy at the local level.

7.5 HEALTH SYSTEM ORGANIZATION

It is impossible to disconnect the issues addressed in this report from the other domains of the health system organisation. GPs' drop-out from family medicine is observed in many OECD countries and there are some indications that the role of the GP within the health care system can be improved. Indeed, the literature review concluded that the place and organization of primary healthcare, as well as the role of GPs within the health care system may influence indirectly physician supply and therefore the shape, the relevance and feasibility of attraction-recruitment-retention-policies. For example, some health care systems do allow for an improved role of a physician assistant or nurse practitioner, allowing the GP to have less administrative tasks to carry on. Belgium is considered as a country with a low level of professional collaborative relationships compared with other European countries. Care integration (kind and magnitude of the links between the different health care actors) is the key issue to which we now turn.

The health system organization policies got high scores among stakeholders study, much higher than financing or work-life balance policies. This suggests that the stakeholders are aware of the fact that GP attraction and recruitment is linked to the organisation of the Belgian health care system. In general, they were very keen but cautious with these kinds of policies. They supported policies favoring group practice including the

delegation of some tasks (mainly administrative tasks). Their opinion about the GP role relative to other health actors, such as the second line and the multidisciplinary coordination (mainly for frail elderly and chronic patients) was, however, less clear-cut. The stakeholders as well as both groups of students supported the idea to discourage the excessive use of the 2nd line (known as soft gate keeping) and they supported an increased role in the management of the multidisciplinary team. Such enhanced role would pave the way for more delegation of clinical tasks, which also seems to be supported. However, the stakeholders fell short of recognizing that this would require a new health professional role such as the advanced-nurse practitioner.

Two radical policies such as scrapping the numerus clausus (resulting in higher influx of doctors in general) and the creation of regional resource agencies improving local working conditions for GPs (inspired by the Alberta Rural Physician Action Plan) were clearly discarded by the stakeholders.

7.6 PUTTING ALL TOGETHER

Improving the GP career will not work just by adding up policies. A pinch of capitation, with a "soupçon" of early GP teaching and a bit of group practice will not necessarily make the good meal GPs and Belgian patients are waiting for. The coherence between policies is as much important as their individual excellence. How to get this coherence?

7.6.1 Tackling the issue over the whole life cycle: attraction, recruitment and retention.

Attraction, recruitment and retention strategies are all important. As stated in the literature review, attraction and recruitment strategies are important because low recruitment is generally the reason why shortages arise. Retention strategies are also important because a strong retention can offset poor recruitment. Attraction occurs all over the 7 years medical curriculum: that should lead to teaching strategies focusing on the whole master and not only at the end of the curriculum. Strategies should focus on a better integration of GP and other specialties' teaching. As suggested by Geyman[153], a "pipeline education continuum" strategy may be more relevant: starting with high school, and progressing into medical school until after graduation. This has two important consequences.

First, because attraction and recruitment strategies are community-level policies whereas retention strategies are much more linked to federal responsibilities, it could be necessary to improve the coherence between the Community-level and the federal decisions to avoid a lack of coordination between the policies. A gap is already visible in manpower planning: between 2004 and 2006, 230 GP training posts remained unfilled and were replaced by specialist posts. The issue of GP clerkship is another domain in which such coordination could be useful.

Second, strategies should focus on the whole curriculum. Strategies leading to an increased division of GP training from specialist training should probably be avoided, and, instead, better integration of these teaching should be searched. As suggested by Geyman [153], a "pipeline education continuum" strategy may be more relevant: starting with high school, and progressing into medical school until after graduation.

7.6.2 Taking a reform perspective

This study has shown that it will be impossible to resolve the issues GPs are facing without taking a broader perspective on the health care system. The different policies reviewed and chosen must be thus integrated. Team-working and the improved role of the GP in the health system are two instruments allowing for care coordination. Many types of GP networks and collaborations are powerful instruments to enhance the role of the GP. For example, encouraging the GPs to work in group will allow them to get a bigger say in a multidisciplinary team, to get funding for supporting staff; but that would require the delegation of some tasks in order to focus on their core-business. The redefinition of the GPs' role within and outside the primary care line is the key reform

issue that needs to be addressed. In Europe, reforms of the primary care sector have followed one of the following models [226]:

- Increase the power of primary care as purchaser or coordinator and gatekeeper;
- Broaden the service portfolio of primary care;
- Provide supportive conditions in order to promote a stronger role for primary care;

The stakeholders' analysis suggests that most GPs in Belgium would be ready for the least radical reform (the 3rd one) but the readiness for the second one is unclear. On the one hand the multidisciplinary team was considered as valuable, but on the other hand the delegation of clinical tasks and the nurse-assistant practitioner did not get high support. This ambiguity is not unique and parallels the difficulties the improved role of primary care as coordinator has faced in countries (like France and Germany) with health insurance scheme [226]. The main reason why pro-coordination policies have failed in the health insurance countries (like France and Belgium) is the weakness of the primary care professionals and the blocking of powerful professional associations [226]. As a result, pro-coordination policies have tended to emerge as hospital-centered (or sickness funds centered) instead of primary care-centered. Local GP groups such as the GP "kringen/cercles" could come out as significant long term partner to broaden and integrate the services primary care provide at the local level. The Interdisciplinary primary care organisation -SISD/SIT) is an opportunity for GPs to catch-up with this coordinator role, which was, in March 2008, considered as key health policy in the Belgian Government declaration. As suggested elsewhere [226], current developments in care coordination may risk opening an avenue to coordination without the primary care in the driver's seat. That would be reduced still further attraction, recruitment and retention of general practitioners into the profession.

7.6.3 Getting the message through

The GPs have many institutions and levers to make their case: academic centers of general practice for teaching, GP professional associations (e.g. FAG, Domus Medica), Scientific GP societies (as the SSMG) and Unions. They also have local associations dealing mainly with on-call services; they sit along governmental bodies in the INAMI/RIZIV funding bodies (medicomut), through medical unions. The question is whether these bodies can unite to reach a coherent and overall strategy. The Interuniversity ICHO in Flanders and Domus Medica are illustrations of attempts to group GP institutions in order to promote such coherent strategy.

This report brings to light that general practice is in need of ambassadors and leaders to propose a radical, constructive agenda and to negotiate the implementation of this reform with the public authorities.

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Wettelijk depot : D/2008/10.273/63

KCE reports

1. Effectiviteit en kosten-effectiviteit van behandelingen voor rookstop. D/2004/10.273/1.
2. Studie naar de mogelijke kosten van een eventuele wijziging van de rechtsregels inzake medische aansprakelijkheid (fase 1). D/2004/10.273/2.
3. Antibioticagebruik in ziekenhuizen bij acute pyelonefritis. D/2004/10.273/5.
4. Leukoreductie. Een mogelijke maatregel in het kader van een nationaal beleid voor bloedtransfusieveiligheid. D/2004/10.273/7.
5. Het preoperatief onderzoek. D/2004/10.273/9.
6. Validatie van het rapport van de Onderzoekscommissie over de onderfinanciering van de ziekenhuizen. D/2004/10.273/11.
7. Nationale richtlijn prenatale zorg. Een basis voor een klinisch pad voor de opvolging van zwangerschappen. D/2004/10.273/13.
8. Financieringssystemen van ziekenhuisgeneesmiddelen: een beschrijvende studie van een aantal Europese landen en Canada. D/2004/10.273/15.
9. Feedback: onderzoek naar de impact en barrières bij implementatie – Onderzoeksrapport: deel 1. D/2005/10.273/01.
10. De kost van tandprothesen. D/2005/10.273/03.
11. Borstkankerscreening. D/2005/10.273/05.
12. Studie naar een alternatieve financiering van bloed en labiele bloedderivaten in de ziekenhuizen. D/2005/10.273/07.
13. Endovasculaire behandeling van Carotisstenose. D/2005/10.273/09.
14. Variaties in de ziekenhuispraktijk bij acuut myocardinfarct in België. D/2005/10.273/11.
15. Evolutie van de uitgaven voor gezondheidszorg. D/2005/10.273/13.
16. Studie naar de mogelijke kosten van een eventuele wijziging van de rechtsregels inzake medische aansprakelijkheid. Fase II : ontwikkeling van een actuarieel model en eerste schattingen. D/2005/10.273/15.
17. Evaluatie van de referentiebedragen. D/2005/10.273/17.
18. Prospectief bepalen van de honoraria van ziekenhuisartsen op basis van klinische paden en guidelines: makkelijker gezegd dan gedaan.. D/2005/10.273/19.
19. Evaluatie van forfaitaire persoonlijk bijdrage op het gebruik van spoedgevallendienst. D/2005/10.273/21.
20. HTA Moleculaire Diagnostiek in België. D/2005/10.273/23, D/2005/10.273/25.
21. HTA Stomamateriaal in België. D/2005/10.273/27.
22. HTA Positronen Emissie Tomografie in België. D/2005/10.273/29.
23. HTA De electieve endovasculaire behandeling van het abdominale aorta aneurysma (AAA). D/2005/10.273/32.
24. Het gebruik van natriuretische peptides in de diagnostische aanpak van patiënten met vermoeden van hartfalen. D/2005/10.273/34.
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28. Voorlopige richtlijnen voor farmaco-economisch onderzoek in België. D2006/10.273/10.
29. Nationale Richtlijnen College voor Oncologie: A. algemeen kader oncologisch kwaliteitshandboek B. wetenschappelijke basis voor klinische paden voor diagnose en behandeling colorectale kanker en testiskanker. D2006/10.273/12.
30. Inventaris van databanken gezondheidszorg. D2006/10.273/14.
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45. HTA Colorectale Kankerscreening: wetenschappelijke stand van zaken en budgetimpact voor België. D/2006/10.273/53.
46. Health Technology Assessment. Polysomnografie en thuismonitoring van zuigelingen voor de preventie van wiegendood. D/2006/10.273/59.
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