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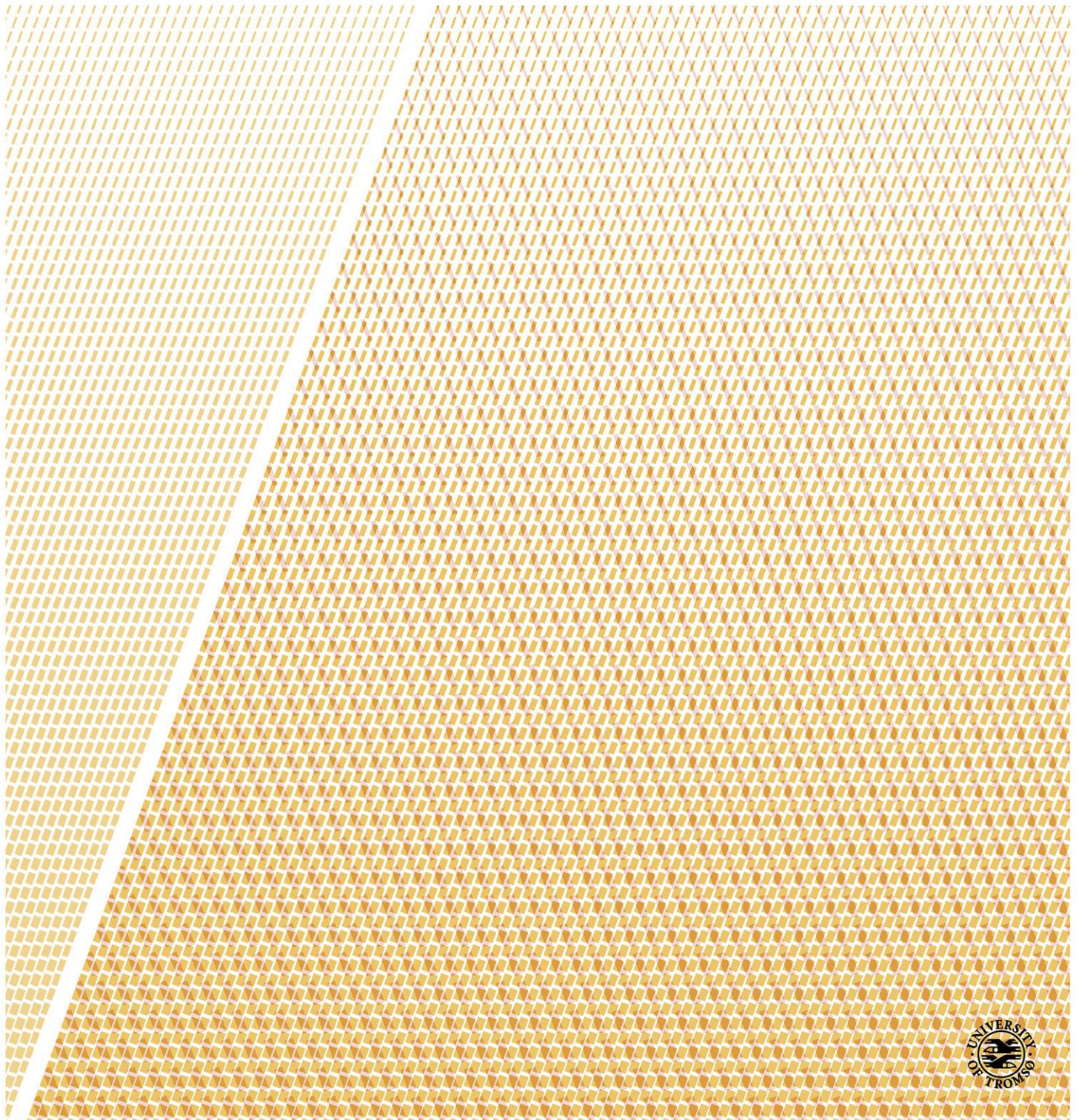
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Remuneration and organization in general practice: Three essays on doctors' preferences

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A dissertation for the degree of Philosophiae Doctor – June 2015

Contents

my personal STATA expert. However, most of all, I have appreciated our talks about everything and nothing, which have made me laugh everyday.

Thanks to the University of Melbourne, Institute of Applied Economic and Social Research, for hosting me in the spring semester 2013. Special thanks to Tony Scott and Peter Sivey for your kindness and very useful input on my work.

To my family and friends: Thanks for always being supportive! Special thanks to my mom and dad, and also my parents-in-law, for being incredibly helpful during the last busy year. Finally, I am grateful to my girlfriend and our children: Hanne, thanks for joining me to Australia when Johannes was only a little baby and for taking care of everything at home in times when I have been working excessively. Without your support I would never have been able to carry out this project. Johannes, in times when academic problems have piled up and working life has been tough, it has been a relief to come home to bounce bouncy ball or reading a book with you. Helle, in the past nine months I have been working hard with the aim to finish the thesis within your arrival, so in a way you have also contributed to getting this thesis done. I am looking forward to get to know you better!

Jon Helgheim Holte

31th May, 2015

List of papers

   I.   Holte, J. H., Kjaer, T., Abelsen, B. & Olsen, J. A. (2015) The impact of pecuniary and non-pecuniary incentives for attracting young doctors to rural general practice. *Social Science & Medicine*, 128, 1-9

   II.   Holte, J. H., Sivey, P., Abelsen, B. & Olsen, J. (forthcoming) Modelling nonlinearities and reference-dependence in general practitioners' income preferences. *Health Economics*

   III. Holte, J. H., Abelsen, B., Halvorsen, P. A. & Olsen, J. (2015) General practitioners' altered preferences for private practice vs. salaried positions: A consequence of proposed policy regulations? *BMC Health Services Research*, 15**:**119

The papers will be referred to as I, II and III in the dissertation.

Abrevevations

CV – Contingent Valuation

DCE – Discrete Choice Experiment

GP – General Practitioner

FFS – Fee For Service

HELFO - The Norwegian Health Economics Administration (Helseøkonomiforvaltningen)

INA - Inferred Non-Attendance

MABEL - Medicine in Australia: Balancing Employment and Life

MWTA - Marginal Willingness to Accept

MWTP - Marginal Willingness to Pay

NMA - Norwegian Medical Association

OECD - Organisation for Economic Co-operation and Development

RCT – Randomized Controlled Trials

MRS – Marginal Rate of Substitution

P4P – Pay For Performance

SNA - Stated Non-Attendance

Summary

The need for recruiting and retaining general practitioners (GPs) is expected to increase substantially in the next years, both because of an ageing population and a reform suggesting to shift more resources to primary care. This will not only reinforce the current challenge of recruitment and retention in rural areas, but it may also make it more difficult to recruit and retain GPs in urban areas. The evidence for the effectiveness of various incentives schemes, which can be specifically implemented to boost recruitment to general practice, is generally considered to be poor. The overarching objective of this thesis is to improve the current understanding of what policy makers could do to boost recruitment and retention of GPs. More specifically, this thesis aims to identify doctors' preferences for various pecuniary and non-pecuniary job characteristics. Structured questionnaires, including discrete choice experiments (DCEs), were used to collect data from young doctors (i.e. medical students and interns in 2010) and GPs (those registered in the HELFO database in 2012). The results suggest that joint policy programs containing several non-pecuniary incentives (e.g. improved opportunity for professional development and control over working hours), could contribute to solve the current issue of getting doctors to rural areas. Increased income, from the current levels in Norway, appears to have limited effects. This is because doctors' value *income increases* beyond a reference level, which has already been achieved, to a limited extent. Furthermore, the results suggest that an increasing proportion of doctors would prefer salaried contracts rather than private practice (i.e. the current default contract for GPs). This applies particularly among younger female doctors.

Oppsummering (summary in Norwegian)

Behovet for å rekruttere og beholde allmennleger forventes å øke betraktelig i løpet av de neste årene, både på grunn av en aldrende befolkning og Samhandlingsreform som foreslår å flytte flere resurser til primærhelsetjenesten. Det vil forsterke den eksisterende utfordringen knyttet til å rekruttere og beholde leger i distriktene, men det kan også gjøre det vanskeligere å rekruttere og beholde allmennleger i urbane områder. Kunnskapen om effektene av ulike incentivordninger, som kan iverksettes for å øke rekrutteringen til allmennpraksis, er generelt ansett for å være dårlig. Hovedmålet med denne avhandlingen er å forbedre kunnskapsgrunnlaget for hva myndighetene kan gjøre for å rekruttere flere leger til allmennpraksis, og for å få flere av dagens allmennleger til å fortsette i allmennpraksis. Mer spesifikt er målsetningen å identifisere legenes preferanser for ulike økonomiske og ikke-økonomiske jobbegenskaper. Strukturerte spørreskjemaer, med diskrete valg eksperimenter (discrete choice experiments, DCE), ble brukt for å samle inn data fra unge leger (medisiner-studenter og turnusleger i 2010) og fastleger (alle som var registrert i HELFO databasen i 2012). Resultatene tyder på at rekrutteringstiltak, som inneholder *flere* ikke-økonomiske insentiver (f.eks. bedring av mulighet for faglig utvikling og kontroll over arbeidstid), kan bidra til løse dagens utfordring med å rekruttere og beholde allmennleger i distriktene. Det å øke inntekten, fra dagens nivåer i Norge, ser ut til å ha begrenset effekt. Dette fordi legene i liten grad verdsetter inntektsøkninger utover et referansenivå som allerede er oppnådd. Videre indikerer resultatene at en økende andel leger vil foretrekke fastlønnsavtaler framfor dagens system med privat praksis. Særlig gjelder dette blant yngre kvinnelige leger.

1. Introduction

In 2009, the Norwegian government presented a major proposal for reforming the Norwegian health care sector, which stated that *the expected growth in overall demand of health care to the greatest extent possible must find its solution in the municipalities* (Report No. 47 (2008–2009) to the Storting, 2009). The reform proposal was motivated by evidence of insufficient quality of care for the growing number of chronically ill patients, combined with a worrying increase in present and projected hospital costs. In a report from the Norwegian Directorate of Health, evaluating the need for GPs in the period from 2009-2015, it was suggested that there will be a need to increase the number of GPs with 2 000 from its current 4 000, i.e. an increase of 50% (Helsedirektoratet IS-1652, 2008). The precise size of this figure has later been debated, but there is little doubt that the reform requires an increase in primary care resources and GPs in particular.

Immediately after the proposal was released it became clear that evidence supporting a connection between goals and measures was, to a large extent, lacking. A description of the policy measures needed to recruit and retain sufficiently many GPs (particularly to rural areas) was absent in the proposal and rigorous evidence from the research literature on how to achieve this recruitment goal was also lacking (Buykx et al., 2010, Grobler et al., 2009, McPake et al., 2014). Furthermore, there was no evidence of how an increase in the number of GPs would simultaneously stop the cost escalation in the health sector and improve the quality of health care (Kann et al., 2010, Carlsen and Norheim, 2003, Carlsen and Norheim, 2005).

To fill current knowledge gaps, the research project 'Remuneration and organization in general practice: Effects on recruitment, practice profile, and task division between care levels' was initiated. As part of this research project, the current PhD project aims to enhance

the understanding of what policy makers could do to improve recruitment and retention of GPs.

The thesis is structured as follows: Chapter 2 provides a brief introduction to the study context (general practice in Norway). Chapter 3 provides a summary of the thesis' objectives, showing that all the papers included in this thesis share a common objective, i.e. to identify doctors' preferences. Chapter 4 explains the material and methods. Chapter 5 summarises the key results from Papers I-III. Chapter 6 provides a discussion of the results and methods, focusing on topics not covered in the papers, e.g. the coherence between results from the individual papers. Finally, chapter 7 concludes and provides suggestions for future research.

2. Background

2.1 General practice

General practitioners provide advice on health and illness, perform diagnostic tests, prescribe medication, order tests, arrange follow-ups and refer patients to medical specialists. Norwegian GPs have a *gatekeeping role*, meaning that patients cannot get access to publicly financed hospital services without referral from their GP.

Numerous studies find strong primary health care, including a high density of GPs, to be associated with better health outcomes. For example, all-cause mortality and mortality from heart disease and stroke have been found to be considerable lower in areas with a high density of GPs, both within and across countries. See Starfield et al. (2005) for a review of this literature.[1]

The Norwegian GP system is list based, i.e. all Norwegians are entitled to be listed with one GP. This system facilitates for long term relationships between patients and doctors (continuity of care), which have been found to be positively associated with quality of care (Cabana and Jee, 2004).

There are about 4400 GPs in Norway (Statistics from the Norwegian Directorate of Health as of 31.12.2013). Most GPs are independent private providers, working on a contract with a municipality. The current default remuneration scheme is fully activity-based, with around 2/3 of their gross income from fee-for-service (FFS) (a mixture of government and patient payment) and the remaining from capitation paid by the municipalities. Supplementary practice forms include salary with and without bonus, mainly offered to GPs in rural areas. In addition, there is a small group of GPs running full private practices. According to data from

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[1] According to Starfield et al. (2005) these finding remains significant in studies that control for a wide range of possible confounding factors, suggesting a causal relationship, i.e. primary care influence population health. Nevertheless, these results, which mostly stem from observational studies, need to be interpreted with great caution due to possible unobserved confounding factors.

Statistics Norway 78 % of all full-time equivalent GP-work was done by default remuneration scheme contractors, 19 % by salaried GPs, and 3 % by fully private GPs in 2013 (Figures from StatBank Norway).

2.2 Recruitment and retention of GPs

2.2.1 Challenges

Norway is a sparsely populated country, consisting of 19 counties and 428 municipalities. More than half the municipalities (228 to be accurate) have less than 5 000 inhabitants and only 14 have more than 50 000 inhabitants. However, only 11 % of the population lives in municipalities with less than 5 000 inhabitants, while 37% live in the largest 14 municipalities. The key challenge, with regard to GP shortages in Norway, is to recruit sufficiently many doctors to the many rural municipalities, and especially to get them stay there for longer periods. Certain municipalities have had 20-30 locums during a two year period according to anecdotal media reports.[2] Concerns have been raised that this lack of continuity may have resulted in incorrect treatment with fatal consequences for individual patients.[3] Negative health outcomes as a consequence of excessive use of GP locums are not documented by scientific sources. However, previous international studies find a positive association between continuity of care and quality of care, particularly with regard to treatment of chronically ill patients (Cabana and Jee, 2004).

Equitable access to health care regardless of residency constitutes a political objective and a statutory right in Norway (Hansen, 2013). However, considering the current situation with shortages of GPs in rural areas, it seems that this is not complied with in practice.

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[2] See for instance: http://www.vg.no/nyheter/innenriks/helse/ingen-har-oversikt-over-bruken-av-legevikarer/a/10138295 Systematic knowledge about the magnitude of GP shortages is lacking, but this is being explored in an ongoing research project at the University of Tromsø.
[3] See for instance: http://www.vg.no/nyheter/innenriks/helse/mamma-fikk-ikke-vite-at-hun-hadde-kreft/a/10138107

This situation is not unique to Norway. Virtually all OECD countries consider the current distribution of doctors across geographical areas to be an issue (Ono et al., 2014). Doctors' aversion to working in rural areas may be explained by a variety of factors. Heavier workload, smaller practice size and more limited opportunities for professional development have been identified as important *work-life* factors (Andersen et al., 2001, Olsen, 1998, Dussault and Franceschini, 2006, Ono et al., 2014, McGrail et al., 2012, Humphreys et al., 2002). Limited work opportunities for a partner, long distances to school/kindergarten and lack of social interaction have been highlighted as crucial *out-of-work life* factors (Dussault and Franceschini, 2006, Günther et al., 2010, Ono et al., 2014). The relative importance of the various factors, however, remains unclear.

The current challenges with recruitment and retention of GPs in Norway is expected to grow in the coming years for several reasons: First, the demand for GP-services is expected to increase due to an ageing population, including more chronically ill patients (Report No. 47 (2008–2009) to the Storting, 2009). Second, the coordination reform suggests shifting more resources from secondary care to primary care. To comply with the philosophy of the new reform (i.e. prevent and treat chronic diseases in the municipalities to the greatest extent possible) it would be a need to increase primary care resources even without changes in the demographic trend. In particular, the discard practice has been altered to reduce the average length of hospital stays.[4] Third, many of the current GPs will soon retire (Helsedirektoratet IS-1652, 2008).[5] Altogether, this will not only reinforce the current challenge of recruitment

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[4] Reductions in the length of hospital stays have already been achieved (especially for 'discharge ready patients'), but it has been questioned whether the care provided in the municipalities to the (earlier) discarded patients is adequate. See: https://helsedirektoratet.no/statistikk-og-analyse/samhandlingsstatistikk and http://legeforeningen.no/Nyheter/2013/Skivebom-om-samhandlingsreformen/

[5] Preliminary results from an ongoing study (not yet published) show that only a minority of GPs quit because of retirement, and that they most often do something else than being a GP after quitting. Thus, the 'generational shift' does not seem to constitute a main policy concern as of today. These results, however, illustrate the importance of improving retention of GPs.

and retention in rural areas, but it may also make it more difficult to recruit and retain motivated and skilled GPs in urban areas.

Finally, concerns have been raised that the current default contract for GPs (i.e. private practice) may seriously impede recruitment and retention of GPs. General practitioners and hospital doctors are currently organized and remunerated very differently, i.e. hospital doctors work on salaried contracts, while most GPs are private practitioners working on activity based contract (see section 2.1). Thus, although contract type is only one of many factors that influence recruitment and retention, it might become difficult to recruit and retain doctors to general practice if the current payment mechanism is not corresponding with the preferences of doctors. Anecdotal evidence suggests that GPs in urban areas, particularly young females, recently have quit their jobs because of dissatisfaction with the current organization and remuneration system (Kongsvik, 2013). However, the magnitude of this problem remains unknown.

2.2.2 Instruments

There are principally two types of policy instruments to avoid GP shortages; regulations and incentives. Regulations on the overall number of doctors (i.e. admission of new students), and regulations on allocation of doctors according to sector (hospital /primary care), medical specialty and geographical distribution (rural/urban), have been employed as strategies to avoid shortages of doctors in Norway. See Skoglund (2013) for a review of the various types of regulations that have been in place in Norway from 1979 to 2013.

Although regulations have been used as an instrument to improve the distribution of doctors, the lack of doctors in rural areas has to a large extent persisted. This, of course, does not prove that regulations cannot be a useful instrument, but it illustrates that it might be difficult to eliminate shortages of doctors primarily by the means of regulation. A key reason why

regulations historically have not succeeded in Norway is that they have proved difficult to implement in practice, e.g. the number of medical positions in urban areas have grown despite constraints imposed by political authorities (Skoglund, 2013). Since 1st July 2013, when the quota based allocation system for doctors ceased, regulations have not been used as an instrument to regulate the job market for doctors in Norway.

Even if regulations alone could be a sufficient measure to fill vacant positions, it is not desirable to have a large proportion of doctors working in general practice against their will. A well-functioning general practice system is not only dependent on having sufficient numbers of doctors, it is also crucial that the workforce is skilled and highly motivated (see Paper III). Thus, from a policy maker perspective, it is crucial to ensure that sufficiently many doctors *prefer* a career in general practice.

Incentives can be either pecuniary (e.g. higher income and loan deductibles) or non-pecuniary (e.g. improved professional and personal support). Pecuniary incentives are most widely used as an incentive to attract doctors to rural areas worldwide, but also non-pecuniary incentives, in many different varieties, are being applied (Ono et al., 2014).[6]

Although pecuniary and non-pecuniary incentives are widely used to affect location choices of GPs (and other health workers), there is little rigorous evidence supporting the effectiveness of any of these incentives, neither from Norway nor any other countries (Grobler et al., 2009, McPake et al., 2014, Buykx et al., 2010). Results from observational studies suggest that both pecuniary incentives and non-pecuniary incentives are likely to have a positive effect on recruitment and retention. In addition, many studies find that educational strategies (e.g. preferential admission to medical students with rural background, exposure to rural practice during the course of study, and distributed medical education) could improve rural job uptake. The medical school at the University of Tromsø was established in 1973,

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[6] Paper I provides details on the incentives used in Norway.

with the aim to improve access to doctors and standards of health care for the underserved rural population of Northern Norway. A recent cross sectional study, which traces medical students graduating from Tromsø in the period between 1979 and 2012, concludes that this aim largely has been achieved, i.e. many students remain in the Northern Norway for a long time after graduating (Aaraas et al., 2015).[7]

The existing literature, consisting of observational studies, provides important insights to the factors influencing recruitment and retention of doctors in rural areas. However, all these studies suffer from limitations with regard to confounding factors and selection bias. See Grobler et al. (2009) for a brief review of this literature. Evidence from controlled studies (e.g. randomized controlled trials (RCT) and interrupted time series analysis) evaluating the effect of proposed recruitment and retention schemes are completely lacking. What is particular lacking, seen from a health policy maker's perspective, is knowledge about the relative effectiveness of various incentives schemes and the required amount of incentive to influence doctors' behavior. Results from Discrete Choice Experiments (DCEs) have most recently provided valuable insights to these issues (Mandeville et al., 2014). However, DCEs have not previously been applied to inform health workforce policy in Norway.[8]

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[7] Educational strategies can be thought of as a way to reduce the required amount of incentives for getting doctors to underserved areas. However, it is not likely that graduates from rural schools unconditionally would be willing to accept poor *work-life* and *out-of-work-life* conditions. As a general incentive to attract skilled workers to the most northern part of Norway, the authorities offer tax incentives for people who live in these areas, and also many other type of incentives have been used to recruit and retain GPs in Northern Norway, with variations across municipalities (Abelsen and Bæck, 2005).

[8] See section 4.1 for more details about the DCE method and a brief review of DCEs in this area.

3. Objectives

The general objective of this thesis is to improve the current understanding of what policy makers could do to boost recruitment and retention of GPs. More specifically, this thesis aims to identify doctors' preferences for various pecuniary and non-pecuniary job characteristics.

The first paper (Paper I) aims to identify young doctors' (i.e. medical students and interns) preferences for key job attributes in general practice, with particular emphasis on their location preferences. The second paper (Paper II) aims to identify GPs' job preferences, with particular emphasis on their income preferences. This paper also aims to further develop the approach to modelling doctors' income preferences. Finally, the third paper (Paper III) aims to identify GPs' contract preferences[9], and the extent to which they have changed during the last few years.

The effect of incentives is determined by doctors' preferences. Hence, each paper contributes to enhance the current understanding of what policy makers could do to improve recruitment and retention of GPs.

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[9] The term 'preference' is used in this paper and throughout the thesis. However, in a strict economic terminology, it would have been more appropriate to use the term 'attitude', since this paper is based on a (simple) partial ranking question, not involving trade-offs between different goods i.e. 'which type of organization/salary system would you prefer if you were free to choose?' See conceptual framework in Phillips et al. (2002) for a more detailed discussion regarding the distinction between 'preferences' and 'attitudes'. Outside the economic literature, but also within the economic literature, these terms are often used interchangeably.

4. Materials and Methods

Different survey based preference elicitation methods have been applied; discrete choice experiments (Papers I and II), contingent valuation (Paper II) and partial ranking questions (Paper III).

4.1 Discrete Choice Experiments (DCE)

Papers I and II are primarily based on data from DCEs. This section provides a brief introduction to the DCE method (intended for readers not familiar with this method), followed by a review of previous DCEs in the area of human health care resources. Finally, an account of the (two separate) DCEs which form the basis of Papers I and II will be provided, focusing on the similarities and differences between the experiments.

4.1.1 The fundamentals

In a discrete choice experiment respondents are presented with choices between two or more alternatives, from which they are asked only to choose one option, hence the name discrete choice. Each alternative is described according to a number of attributes for which the levels vary systematically within a choice set. In the experiments conducted in this project, respondents were asked to choose between different jobs, which were described according to five attributes (see Figure 1).

Figure 1 Example of a choice task from the survey of GPs

	Practice A	**Practice B**
Type of practice	Fixed salary	Private practice
Opportunity to control own working hours	Very good	Limited
Opportunity for own professional development	Limited	Very good
Degree of professional autonomy	Limited	High degree
Level of income	150.000 NOK more than your present income	300.000 NOK more than your present income

If you could choose, which practice would you prefer of A, B and your current practice?
□ Practice A □ Practice B □ Your current practice

Respondents to DCEs are usually provided with several choice tasks each, e.g. five in the experiment of GPs and six in the experiment of young doctors. Based on their responses, the relative preferences for the included attributes can be derived. Furthermore, on the basis of the preference parameters obtained from econometric analysis, it is possible to estimate marginal rate of substitutions (MRS) (e.g. how much income respondents would be willing to give up for improvements in non-pecuniary attributes - see Paper II), as well as predicted probabilities (e.g. the probability of choosing a rural job over an urban job - see Paper I).[10]

DCEs are recognized to be a useful tool for examining the relative importance of various attributes, since respondents are forced to make trade-offs resembling real life decisions more closely than other stated preference methods, e.g. contingent valuation method (see following section). Still, it may be cognitively challenging for the respondents to process all the information provided in a DCE. A key underlying assumption, in the (standard) econometric analysis of DCEs, is that the respondents consider *all* the relevant information and that they *always* choose the alternative which yields the highest utility. Violation of these underlying assumptions might bias the estimates derived from DCEs (see Paper II and section 6.2.2.).

4.1.2 Application of DCEs to inform Health Workforce Policy

DCEs were first applied in health economics in the early 1990s (Ryan et al., 2008). Since then DCEs have gained increasing popularity in health economics, including the area of health human care resources. In a most recent review of the use of DCEs to inform health workforce policy, Mandeville et al (2014) identified 27 DCEs. The majority of these experiments (17 out of 27) focused on health workers' location preferences, while the remaining studies explored

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[10] Papers I and II provide more details about the DCE method, e.g. experimental design and econometric analysis. For further details regarding the underlying assumptions and theoretical foundation of the DCE method, see e.g. (Ryan et al., 2008) and (Kjær, 2005). Lancsar and Louviere (2008) provide a user's guide on how to conduct DCEs.

health workers' preference for various pecuniary and non-pecuniary attributes, often with relevance to specific policy questions.

Most of the DCEs examining health workers' location preferences find that financial and training-related incentives are likely to be most influential in getting health workers to rural areas. However, only one of these experiments was conducted in the context of a high income country (Scott et al., 2013). This study found that Australian GPs' would require incentives equivalent to 64% of current average annual personal earnings ($116,000) for moving to an inland town with less than 5,000 inhabitants and reasonable levels of other job characteristics. In comparison, the least attractive rural job package (as defined by the authors) would require incentives of at least 130% of average annual personal earnings. Thus, it appears that the required amount of monetary incentives can be reduced substantially by improving non-pecuniary job characteristics.

A recurring finding from the relatively few DCEs conducted in high income countries is that attributes associated with control over working hours (e.g. 'out of hours', 'on-call' and 'control hours') are deemed important by doctors and medical students (Scott, 2001, Sivey et al., 2012, Scott et al., 2013, Ubach et al., 2003). Findings from DCEs conducted in Denmark suggest that GPs in training prefer to work in shared practices to a much larger extent than experienced GPs (Pedersen and Gyrd-Hansen, 2014, Pedersen et al., 2012). Hence, as suggested by the authors, the upcoming generational shift in the Danish GP population is likely to solve the present issue of getting GPs to engage in shared practices, which is assumed to be a more efficient practice form than solo practice due to economies of scale. Some of these findings may apply to the Norwegian context. However, prior to this project, DCEs have not been applied to examine Norwegian doctors' job preferences.

4.1.3 Application of DCEs in the current project

Separate experiments were designed to elicit preferences of young doctors and experienced GPs. The experiments have many similarities, but they are not identical since the relevance of attributes, to some extent, varies between young doctors (who have not yet selected specialty) and current GPs.

The DCE of young doctors was designed specifically to elicit their *location* preferences, including location as a separate attribute alongside with other attributes associated with location (see Paper I). The DCE of experienced GPs, on the other hand, was designed primarily to elicit their *income* and *contract* preferences (see Paper II and section 6.1.1).

Rural vs. urban location is arguably the attribute with highest policy relevance in Norway currently (see section 2.2.1). Nevertheless, it was decided to include *location* as a key attribute only in the DCE of young doctors. The reason is that established GPs were assumed to be far less mobile than young doctors, and, thus, difficult to relocate by the means of incentives. This hypothesis is supported by results from Scott et al. (2013). Still, the result on GPs' income preferences (obtained from the experiment of GPs) are highly relevant for policy makers concerned with shortages of GPs in rural areas, as they provide information about the expected effects of using financial incentives to influence GPs' behavior, whether it is to influence their location choice, clinical decisions or productivity.

A common feature of the experiments is that they include *professional development* and *opportunity to control working hours* as attributes, with exactly the same levels. These attributes were included in both of the experiments since they have been identified as the most important (non-pecuniary) attributes in previous workforce DCEs (Mandeville et al., 2014), and also because they are associated with the key attribute in each of the experiments (i.e. *location* and *contract*). By including these attributes alongside with the key attribute in each

of the experiments, it becomes possible to separate the effects of the various attributes, which otherwise would be difficult in non-experimental studies because of collinearity (see in Papers I & II and section 6.1.1).

While the standard approach in analysis of DCEs in the area of health human care resources assumes a linear functional form for the income attribute (i.e. constant marginal utility of income), the analysis performed for Papers I & II allow for nonlinearities in doctors' income preferences. The levels assigned to the income attribute in the experiments were anchored to reference levels, i.e. *current income* and *average salary among young hospital doctors*. This made it possible not only to test for diminishing marginal utility (as we would expect from standard economic theory), but also to test for the existence of reference-dependency in their income preferences (as we would expect from Kahneman and Tversky's theory of reference dependent utility, where they propose that *losses loom larger than gains (Kahneman and Tversky, 1979, Tversky and Kahneman, 1991)*). These are the first papers to investigate reference-dependence and loss aversion in the context of job choice experiments, even though previous experiments use *current income* as a level together with positive and negative levels for income (Scott, 2001, Scott et al., 2013).[11]

4.2 Contingent Valuation (CV)

In addition to applying data from the DCE of GPs, Paper II utilizes data obtained using the CV method. Respondents to CV questions are asked direct questions concerning their willingness to pay (or accept compensation) for goods or services. There are different formats of this method, with variations in the response options, i.e. open-ended format, payment scale format and dichotomous choice format (Venkatachalam, 2004). Prior to the introduction of

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[11] The DCE of current GPs provide the richest data for examining nonlinearities and reference-dependence, since data on their current income levels were available, but also the DCE on young doctors provide suggestive evidence (see discussions in Papers I & II and section 6.1.2).

DCEs in the area of health economics, the CV method constituted the main method for eliciting monetary valuation of goods and services. Doctors' valuation of job characteristics, however, has not previously been examined in high-income countries using the CV method.

The CV questions used in Paper II were designed to measure the GPs' monetary valuation of exactly the same attributes as those included in the DCE. The open-ended format of the DCE method was applied, with half of the respondents being asked to state their marginal willingness to accept compensation (MWTA) for deteriorations in non-pecuniary attributes and the other half being asked to state their marginal willingness to pay (MWTP) for improvements (see Figure 2). The monetary values obtained from these *direct* questions should, in theory, be similar to the MWTP and MWTA values inferred *implicitly* from the DCE, using the reference dependent modeling approach applied in this paper. The extent to which these estimates, indeed, are similar is explored in Paper II.

Figure 2 Example of CV questions: control working hours

WTA format

How much more income would be needed to make practice B as attractive as practice A? Please enter necessary increase in income in the box bellow each table

	Practice A	Practice B
Opportunity to control own working hours	Excellent	Limited
Income	Current Income	?

WTP format

How much of a reduction in income would you be willing to accept in practice B to make it as attractive as practice A? Please enter the reduction in income you are willing to accept in the box bellow each table.

	Practice A	Practice B
Opportunity to control own working hours	Limited	Excellent
Income	Current Income	?

Only a few previous studies have examined the convergent validity between monetary values obtained from DCE and CV, and only two previous studies have examined the convergent validity between DCE and open-ended CV in the area of health economics (Bijlenga et al., 2011, van der Pol et al., 2008). These studies have been conducted on samples of lay persons and patients. A recurring finding is that the DCE method yields substantially higher monetary values as compared to the CV method, ranging from around two to ten times higher. A possible explanation for the observed discrepancy is that the respondents to these studies find it difficult to answer the DCE and/or the CV questions, either because they are not familiar with the attributes/services of interest (e.g. lay persons being asked to value health services they have no experience with) or because they find it difficult to assign monetary values to non-market goods (e.g. patients being asked to express WTP for services they normally would receive for free or in exchange of a small out of pocket fee). None of these issues are likely to apply in this study, since the doctors are familiar with the job attributes through years of experience and the trade-off between work and income constitutes the basis of the labor market. Hence, it was decided to explore the convergent validity between monetary values obtained from DCE and CV on the sample of GPs.

4.3 Partial ranking question

Paper III is primarily based on the GPs responses to the following question: *which contract would you prefer if you could choose freely?* Four response categories were provided (representing the different contracts that are in use in Norway), of which the respondents were allowed to select one alternative only, i.e. the most preferred contract. This question was first asked in a survey of GPs conducted in 2009 (Halvorsen et al., 2012), and then repeated in the survey of GPs carried out as a part of the current PhD project. The extent to which their

preferences for contract have changed in the time between these surveys is explored in Paper III. Another key aim of this paper is to identify the determinants of GPs income preferences.

The extent to which the contracts offered to doctors are in line with their preferences appears to be largely ignored in the international literature (see Paper III).

4.4 The surveys

The data on young doctors and GPs were collected in separate surveys. The survey of young doctors was conducted prior to the beginning of this PhD project, while the survey of GPs has been developed and conducted as part of the current project.

4.4.1 Survey of young doctors

The survey of young doctors, including the DCE described in section 4.1.3, was conducted in November - December 2010.[12] All last year medical students (N=472) and interns (N=1090) at the time of the study were invited to participate, through an email invitation. Their email addresses were obtained by the universities providing medical education in Norway (University of Oslo, Bergen, Trondheim and Tromsø), and the organizers of the internship. The final response rate, after two reminders with two weeks in between, was 53%. This corresponds to 831 individuals. Compared to similar recent studies this response rate seems satisfactory. For example, a large survey of specialists in training from Australia (i.e. first wave of the MABEL study) achieved a response rate of 21% (Joyce et al., 2010). Most importantly, the respondents were similar to the target group according all known background characteristics (age, gender etc.), indicating that the sample is representative for all 'young doctors' (see Paper I).

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[12] The complete questionnaire is attached in Appendix 1.

4.4.2 Survey of GPs

The survey of GPs, including the DCE, CV and partial ranking question described in section 4.1.3 – 4.3, was conducted in May - October 2012.[13] All GPs registered in the HELFO database (N=4305) were invited to participate in the study, through a postal letter. This is the same database patients use to select GPs. In the invitation letter they were asked to access a webpage 'www.fastlegestudien.no' to answer an online questionnaire. Their postal addresses were obtained from the HELFO database. A request for their e-mail addresses was turned down by the Norwegian Medical Association (NMA). Thus, using e-mail invitations, like in the survey of young doctors, was not an option.

The final response rate after three reminders was 30%.[14] This corresponds to 1275 individuals. Although the response rate was considerably lower compared to the survey of young doctors, the response rate is high compared to other surveys, most notably the MABEL study of GPs which only obtained a response rate of 18% (Joyce et al., 2010). The respondents were largely representative for all Norwegian GPs according to background characteristics such as age and gender. However, it appears that specialists in general medicine were overrepresented in our sample. A likely explanation is that they tend to be more interested in the GP profession, and therefore more inclined to participate in a study examining working conditions in general practice.

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[13] The complete questionnaire is attached in Appendix 2.
[14] See section 6.2.3 for further details on the use of reminders

5. Summary of results

5.1 Paper I

Policy simulations (conducted on the basis of parameters obtained from the DCE) show that almost 20% of the young doctors would prefer a rural job rather than an urban job, if they could be assured equal job conditions according to *opportunity to control working hours* (very good), *opportunity for professional development* (very good), *practice size* (3-5 GPs) and *income* (average salary for young hospital doctors). However, when only one of the non-pecuniary attributes is switched to be inferior in the rural job scenario (e.g. opportunity to control working is set to be limited), the predicted rural job uptake immediately drops to around 2%. Furthermore, when more than one of these attributes is switched to be inferior, the rural job uptake drops to 0%. This is noteworthy since these work-life attributes tend to be inferior in rural areas as compared to urban areas.

Increased income (in the range considered in this study) would not be sufficient to compensate for poorer working conditions in the non-pecuniary attributes. Another key finding with regard to income is that young doctors seem to have reference dependent income preferences anchored to the level of young hospital doctors, i.e. a 10% *decreas*e in income (from this level) is valued around three times higher than an equal *increase* in income.

5.2 Paper II

A key finding from this paper is that GPs' display reference dependent income preferences, i.e. they value losses from their current income level around three times higher than gains (according to estimates from the DCE). The presence of loss aversion in the income attribute gives rise to a substantial degree of MWTP-MWTA asymmetry, i.e. the amount GPs are willing to forego in income for an (absolute) improvement in a non-pecuniary attribute is much smaller than the amount they would require in compensation (on top of their current

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income) for an equivalent deterioration. This asymmetry has been ignored in previous health workforce DCEs. The monetary values obtained from the CV and DCE method correspond closely, when the reference dependent modeling approach is applied.

5.3 Paper III

This paper shows that GPs' preferences for contract appear to have changed over the last few years. The proportion of GPs preferring private practice (i.e. the default contract for GPs in Norway) decreased from 52% to 36% in the period from 2009 to 2012, while the proportion preferring salaried positions (either with or without bonuses) increased from 22% to 36%. Only 47% the GPs who worked in a private practice in 2012 preferred this type of contract, as compared to 67% in 2009.

Results from the 2012-survey show that salaried contracts are preferred by GPs who are young, work in a small municipality, have more patients listed than they prefer, work more hours per week than they prefer, have relatively low income or few patients listed.

6. Discussion

6.1 Discussion of results

6.1.1 GPs' contract preferences: (ignored) results from the DCE

Most of the results presented in Papers I-III are discussed extensively in the papers, all of which consist of more than 5000 words (in main body text). There is, however, one notable exception. The DCE on GPs was primarily designed to examine their contract preferences. This is mentioned briefly in the method section in Paper II to motivate the design of the experiment, but the results on GPs' contract preferences are ignored in the discussion, which solely focuses on the findings concerning GPs' income preferences. Hence, given the relevance of these findings in relation to the overall aim of this thesis, this part of the experiment will be discussed further here.

This is the first DCE on doctors to include *practice type* (private practice vs. salaried contract) as a key attribute. Moreover, *opportunity to control working hours, opportunity for professional development* and *degree of professional autonomy* were included as attributes in the experiment, since they are associated with type of practice, i.e. high degree of professional autonomy and control over working hours are known to be key reasons why GPs traditionally have preferred private practice, whereas scope for professional development is assumed to be better under a salaried contract (see Papers II and III). From the DCE it is possible to separate the effects of these attributes and identify the (dis)utility associated with private practice *per se*. This is highly relevant within the context of this study, since the attractiveness of private practice (i.e. the default contract offered to GPs in Norway) recently seem to have been reduced in terms of *control over hours* and *professional autonomy,* as a consequence of increased policy regulations (see Paper III).

Figure 3 shows GPs' MWTA for the non-pecuniary job attributes, i.e. the amount they would require in *increased income* (from their current income level) for accepting deteriorations in

non-pecuniary attributes. *Opportunity to control over working hours* is most highly valued out of the four non-pecuniary attributes, i.e. GPs would on average require around NOK 370 000 in increased income to accept a shift in opportunity to control working hours from *very good* to *limited*. This finding is in agreement with results from previous DCEs in the area of health workforce (see section 4.1.2). Furthermore, both professional development (*very good* relative to *limited*) and autonomy (*high degree* relative to *limited*) are valued around NOK 300 000. The differences between the MWTA values for these attributes are not statistically significant.

Figure 3 MWTA for all non-pecuniary attributes [a]
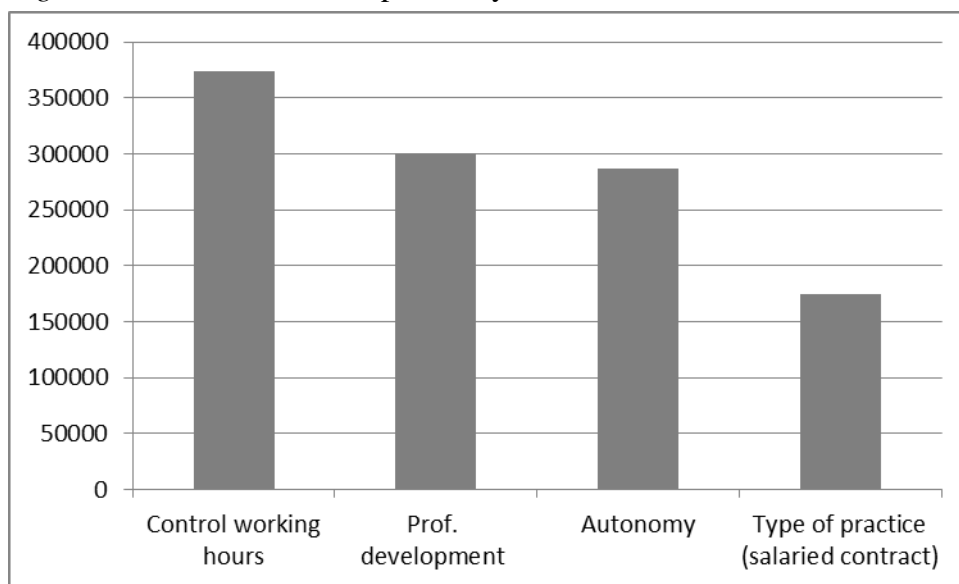
[a] MWTAs derived from the model with piecewise linear specification of income (see Paper II).

Type of practice is found to be least important out of the attributes included in this experiment, with a significantly lower MWTA value. Still, all else equal, GPs' would on average require around NOK 175 000 for working in a private practice rather than on a salaried contract. These results suggest that most GPs would prefer salaried contract *if* the other attributes become similar under private practice and salaried contracts. This is noteworthy since the difference between private practice and salaried contracts in terms of these attributes *in fact* seems to be diminishing (see Paper III).

The disutility associated with private practice, after controlling for differences in the other DCE attributes, is likely to pick up *private practice – salary* differences in accordance to social security, administrative work burden, employer responsibility, stability and economic focus. This is indicated by the responses, provided by those who would prefer private practice if they could choose freely, to the open-ended question '*why would you still prefer salary even if opportunity to control working hours ...* [all the DCE attributes] ... *were equal in private practice?*' The key reasons listed to this question were: *more* social security and stability and *less* administrative work burden, employer responsibility and economic focus (see Paper III, Table 5). Unfortunately, it is not possible to separate the effects of these attributes or to examine the impact of any other factors on the basis of this DCE. This could have been achieved by including more attributes in the experiment. However, to minimize the cognitive burden for the respondents, priority was given to five attributes only (see section 6.2.2 for further discussions).

6.1.2 Synthesising results

1) Similar DCE attributes

Professional development and *opportunity to control working hours* were included as attributes both in the experiment of young doctors and GPs, with exactly the same levels. Because of potential scale differences (i.e. variance differences) in the sample of young doctors and experienced GPs, it would be erroneous simply to compare the coefficients obtained from each of the experiments directly. However, *marginal rates of substitutions* (most meaningfully with regard to MWTP or MWTA) can be compared, as the ratio of two attributes cancel out the scale parameter (Train, 2009).

Monetary values were not included in the Paper I (which focused on results from policy simulations), but to enable comparison of young doctors' and GPs' valuation of *control over*

working hours and *professional development*, comparable MWTAs have been included here (see Table 1). The relative valuation of these attributes is found to be similar, i.e. young doctor value *control over working hours* 1.2 times higher than opportunity for *professional development* (according to mean estimates), while the corresponding figure for GPs is 1.3. With regard to absolute valuation, the results show that young doctor place a substantially higher monetary value on these attributes as compared to the GPs, i.e. MWTA is 1.4 and 1.5 times higher for control over hours and professional development respectively. Thus, it appears that young doctors are even less willing to accept deteriorations in the non-pecuniary attributes in exchange for increased income. The differences in MWTA can be explained by differences in their valuation of the non-pecuniary attributes or differences in their valuation of the pecuniary attribute. (The finding that the relative valuation of *control over hour* and *autonomy* is very similar may indicate that the latter is the main driver for the difference in MWTA, i.e. young doctors care less about income increases than GPs and, therefore, require higher income compensation for deteriorations in the non-pecuniary attributes).

Table 1 MWTAs for professional development and control over hours [a]

	Young doctors	**GPs**
Opportunity to control working hours (limited relative to very good)	NOK 529 000	NOK 374 000
Opportunity for professional development (limited relative to very good)	NOK 453 000	NOK 300 000

[a] MWTAs derived from mixed logit models with piecewise linear income

2) Reference dependent income preferences

A recurring finding in the DCEs of young doctors and GPs is that the respondents display reference dependent income preferences. In the DCE of young doctors, the reduction in utility associated with a 10% *loss* in income (from the average salary for young hospital doctors) is

approximately three times higher than the utility generated by an equal sized *gain* in income.[15]

This difference may partly be explained by diminishing marginal utility in income, which could not be controlled for using data from this DCE. However, it does not seem plausible that diminishing marginal utility explains more than a small part of the difference between the coefficients for *losses* and *gains* (see Paper I).

Utilizing data on current income, it was possible to distinguish more accurately between diminishing marginal utility and reference dependence in the DCE of GPs. According to the model with piecewise polynomial income, which account for reference-dependence and diminishing marginal utility, the coefficient for *gains* in income is three times higher than the coefficient for *losses* (see Paper II). According to the piecewise linear model, which only account for reference-dependence, this difference is fourfold. Thus, the discrepancy between *gains* and *losses* in income seems to be explained *partly* by diminishing marginal utility, but *mostly* by reference-dependence in GPs' income preferences.

These findings confirm with the theory of reference depended utility (Kahneman and Tversky, 1979, Tversky and Kahneman, 1991), which is being discussed more thoroughly in the papers.

3) GPs' contract preferences

GPs' contract preferences were measured using DCE (section 6.1.1) and partial ranking questions (Paper III). The results from the DCE show that most GPs would prefer salary *all else equal* according to the DCE attributes. The results from the partial ranking question '*which contract would you prefer if you could choose freely?*' show that a growing number of GPs would prefer salary, i.e. 22% preferred salary in 2009 compared to 36% in 2012. These results are not directly comparable. However, the results from the DCE seem to provide some

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[15] The income levels in the DCE of young doctors were anchored to 'average salary for young hospital doctors', since this was stated as a reference level in the qualitative interviews performed to inform the design of the DCE (see Paper I).

support to the hypothesis introduced in Paper III; namely that the shift in contract preferences might be explained by proposed increased policy regulations, which seems to reduce the attractiveness of private practice in terms of *opportunity to control working hours* and *professional autonomy* . The results from the DCE lend support to this hypothesis, in the sense that they show that most GPs would prefer salaried contracts *if* they perceived private practice and salaried contracts to be similar according to the DCE attributes, including *control over working hours* and *professional autonomy*. However, since it remains unknown what the respondents assumed when they answered the question concerning preferred contract, the results from the DCE provide by no means conclusive evidence to this hypothesis.

To summarize, the results from the DCE show that most GPs would prefer salary 'all else equal' according to the DCE attributes, while Paper III (based on the partial ranking question) suggests that a growing number of GPs prefer salaried contract because 'all else' is about to become more equal.

6.1.3 Policy implications

Paper I suggests that joint policy programs, ensuring good conditions according to *all* work-life attributes (included in the DCE of young doctors), could contribute to solve the current issue of getting young doctors to rural areas. For a policy maker in a municipality with good conditions according to all but one of these attributes, this implies that substantial effects can be achieved by improving the last remaining attribute. For a policy maker in a municipality with inadequate condition according to most work-life attributes, this finding suggest that there is little use in improving one or two attributes only, since most doctors require all these attributes to be in place.

The results presented in Papers I and II suggest that financial incentives are likely to have limited effects on doctors' behaviour. This is because they value *income increases* beyond a

reference level, which has already been achieved, to a limited extent. Policy measures designed so that doctors' income may end up below their 'reference level', unless they respond (e.g. become more productive, achieve certain quality targets or move to rural areas), are likely to have considerable larger effects than income increases. However, this type of policy measures will probably be difficult to implement in practice. It may also result in unintended effects (Eijkenaar, 2013).

Overall, with regard to the key challenge of recruiting and retaining doctors in the most rural areas, it appears that substantial effects can be achieved by increasing the practice size, especially in areas with solo or twin practices. This follows not only from the (isolated) result that young doctors displayed a strong aversion to working in small practices with only 1-2 GPs. By increasing the practise size in rural areas it may also become easier to improve other work-life attributes found to be highly valued by young doctors and GPs. Larger practices provide better conditions for *professional development*, both within the practice (more colleagues to discuss with) and outside the practice (easier to arrange for attendance to seminars and courses with more colleagues in back up). Similarly, with regard to *opportunity to control working hours,* it would become easier to arrange for locums, and the everyday workload and out-of-hour responsibilities could also be reduced significantly by increasing the practice size in small rural municipalities (from one to two GPs or from two to three GPs). Hence, rather than spending resources on increasing the income level for GPs in rural areas, a potentially better use of resources would be to invest in additional GP positions, even if this may not be strictly required according to demand for GP services.[16]

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[16] Rather than creating resource slack (GPs sitting with nothing to do), this may allocate time for involving GPs in preventive medicine strategies, in line with the aim of the reform (Report No. 47 (2008–2009) to the Storting, 2009).

This point can be illustrated with an example. Imagine a rural municipality with two GP positions (located in a twin practice), struggling with high turnover rates of GPs, which indeed is the case in some rural municipalities in Norway. The current salary for GPs is around NOK 750 000, and the opportunities for controlling working hours and professional development are poor. To improve recruitment and retention, the local authorities consider increasing the salary substantially, from NOK 750 000 to NOK 1 125 000. The results from this study cast doubts as to whether this measure will be sufficient to recruit and retain GPs. In particular, with regard to the scenario outlined in this example, the monetary values derived from the DCE of young doctors show that this amount (NOK 375 000 *up* from NOK 750 000) would not be sufficient as compensation for inferior levels of *control over working hours* or *professional development* (i.e. for having *limited* rather than *very good* opportunities)*,* and it would be nowhere close to sufficient as compensation for inferior levels in both of these attributes (see Section 6.1.2, Table 1). Moreover, many doctors would require additional compensation for working in a *small-sized* rural practice, even if they could be assured adequate conditions according to opportunity to control working hours and professional development (Paper I). Thus, in line with the reasoning above, a more promising approach would be to leave the salary level unchanged and instead spend this amount (i.e. the resources considered used on increasing salary) to hire an additional GP, and then make sure that arrangements for professional development and control over hours are ensured.

An alternative approach to increasing the practice size by employing more GPs would be to merge existing practices across rural municipalities. This approach is practically feasible to a much larger extent, as it does not entail increased costs for the municipality. However, it involves costs, in the sense that patients' access to GP services will be reduced. One way to avoid significant deterioration in access to GP services, as a consequence merging GP

practices across municipalities, would be to offer outreach services in the areas where permanent GP offices are closed. This has been adopted as a strategy at Senja (i.e. an island located in Northern Norway), where GPs serving patients from four municipalities have been located in a shared practice, from which they travel to field offices up to two days a week.[17]

It should be emphasised that this study solely is concerned with identifying *expected effects* of various initiatives for improving recruitment and retention of GPs. The extent to which it is worthwhile to spend resources on recruiting and retaining GPs in the most rural areas in Norway is a political question.

The results presented in Paper III show that many GPs, particularly young female doctors, have an aversion to the current default contract, i.e. private practice. To provide further insights on preference heterogeneity according gender and age, beyond what is emerging from the multinomial logistic regression model presented in Paper III, some purely descriptive results obtained from subgroup analysis have been added here (see Table 2). Within each age group (i.e. <41, 41-55 and >55 years), the proportion preferring private practice is lower among women than men. Private practice is found to be most popular among male GPs in the age above 55 years, of which 48 % prefer private practice. At the opposite end, only 15% of the females in the youngest age group prefer private practice. These findings are remarkable considering that a generational shift in the GP population is underway and the share of female doctors is rapidly increasing.

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[17] See http://www.utposten-stiftelsen.no/LinkClick.aspx?fileticket=PYE0QLNoXis%3d&tabid=480&mid=1119
The effect of this pilot project is currently being evaluated by researchers from the University of Tromsø.

Table 2 Income, workload, excess workload and preferred contract type depending on age and gender

Age group	<41 (N=387)		41-55 (N=435)		>55 (N=398)	
Gender	M	F	M	F	M	F
Income (NOK)	1060000	821000	1150000	949000	1138000	949000
Hours per week	48	43	46	42	46	45
Income/(annual) hours worked	497	433	563	512	582	482
Preferred hours per week	41	37	39	37	39	37
Excess workload (preferred – real)	8	6	7	6	7	8
Preferred contract type (%)						
Private practice	29%	15%	40%	36%	48%	35%
Hired practice	33%	24%	28%	26%	30%	30%
Salary with bonus	25%	47%	23%	22%	14%	20%
Salry without bonus	14%	14%	9%	16%	9%	15%

Moreover, this table provides some results which may help explaining gender and age differences in GPs' contract preferences. As outlined in Paper III, the association between gender and preferences for contract is not found to be statistically significant after controlling for other characteristics in the multivariate regression analysis. Thus, gender differences in the other variables seem to explain why females are more inclined than males to prefer salary. Table 2 shows that the wage level (annual income/annual hours) is lower for females compared to men, within each age category.[18] This indicates that private practice is more lucrative (on average) for males. With regard to excess of workload it appears to be small differences, with both female and males working much more than they would prefer.

These results, accompanied with anecdotal reports on GPs quitting the profession because of dissatisfaction with the current default contract (Kongsvik, 2013), suggest that policy makers should consider offering more diversity in the contracts. This would make general practice

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[18] Income is constructed from the mid-points of the selected income range for each GP. It is assumed that GPs work 45 weeks a year.

attractive to a larger pool of doctors. However, offering more diversity in contracts could also have potentially negative effects, most notably with regard to decreasing productivity.[19]

6.2 Discussion of methods

6.2.1 Stated vs. revealed preferences

All the papers included in this thesis are essentially based on data collected through hypothetical survey questions, designed to elicit doctors' preferences, e.g. '*if you could choose, which practice would you prefer of A, B and your current practice?*' and *'which contract would you prefer if you could choose freely'*. An alternative to measuring doctors' preferences by examining their choices in hypothetical situations would have been to examine their choices in real life situations. This approach (revealed preferences methods) is usually considered the gold standard in economics, as it is insensitive for potential survey biases, e.g. strategic behavior (see section 6.2.2).

Eliciting doctors' preferences by studying real behavior, however, would have been difficult for a number of reasons. For example, with regard to contract preferences (Paper III and section 6.1.1), it is evident that revealed preference methods would not have been applicable, since salaried contracts normally are not offered as an alternative to GPs, (with the exception of GPs in the most rural municipalities). This illustrates one of the key advantages of using hypothetical survey questions rather than revealed preference methods; namely that it is possible to investigate the expected effects of non-existing policies by using these kinds of questions. The DCE method is recognized to be particularly useful for this purpose (Mandeville et al., 2014). Real life choices are restricted to existing jobs, with their given attributes and levels.

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[19] The policy implication of this finding is extensively discussed in Paper III.

Furthermore, an issue with regard to location choices is that most of the non-pecuniary job attributes tend to be inferior in rural areas, meaning that collinearity would have made it difficult to separate the effects of single attributes using revealed preference data (Mandeville et al., 2014, Paper I). Anyway, revealed preference data on location choices and non-pecuniary job characteristics were not available and would have been difficult to obtain.

Yet another issue associated with revealed preference methods, in the context of the present study, is that the job market for doctors does not clear (Scott et al., 2008, Sivey et al., 2012). As an example, there is limited variation in income across rural and urban areas in Norway, despite considerable variation in the difficulties with recruitment and retention (section 2.2.1). This illustrates that there is no market mechanisms ensuring that the wage level increases (decreases) in areas with shortages (excess) of doctors. Hence, it would not have been possible to estimate monetary values of non-pecuniary job characteristics (as those presented in Paper II), even if revealed preference data on job choices were available (Scott et al., 2008).[20]

6.2.2. Validity

All survey based preference elicitation methods (including those applied in this study) are sensitive to a wide range of potential biases (Kjær, 2005). One fundamental issue is that there might be a difference between *saying* and *doing,* either because respondents to hypothetical survey questions (experiments) do not manage or bother to provide accurate answers, or

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[20] In the labor economics literature, attempts have been made to estimate the monetary value of non-pecuniary job attributes by using hedonic wage models (Scott et al., 2008). This approach is based on the theory of *compensating wage differentials*, which suggests that the equilibrium market wage in a competitive labor market reflects all the advantages and disadvantages of jobs (McPake et al., 2014). Hence, assuming that the labor market for doctors was efficient (i.e. competitive wages, complete information on job offers and free of transaction costs), then wage differentials between rural and urban areas would have revealed information about the monetary valuation of location. However, it is evident that the labor market for GPs in Norway is inefficient, at least with regard to competitive wages and transaction costs. Another issue with this approach is that *actual choices* not necessarily reflects doctors' preferences, as there is strong competition for specialty training places and medical jobs (Sivey et al., 2012, Nicholson and Propper, 2011, Sean Nicholson, 2002).

because they purposely provide inaccurate answers (strategic behavior). The latter is likely to apply when these methods are used to elicit respondents' valuation of public goods, as such studies may provide respondents with incentives to over- or understate their true valuation (Samuelson, 1954). This is not likely to represent a significant problem in the present study. However, biases associated with respondents' willingness and ability to answer hypothetical questions (in such a way that their true preferences are revealed) may have influenced the results presented in Papers I-III. For example, although the DCE method is acknowledged to mimic real life decisions more closely than other stated preference methods, it is arguably a significant difference between making hypothetical job choices (without any commitments) and real job choices (with real commitments). Hence, it might be a difference between respondents' behavior in a hypothetical market and in a real market. This (general) point was first raised by Wallis and Friedman (1942) to a pioneer experiment in economics, conducted by Louis Leon Thurstone (1931)[21] to derive empirically the indifference curves of an individual:

"For a satisfactory experiment it is essential that the subject give actual reactions to actual stimuli [...]. Questionnaires or other devices based on conjectural responses to hypothetical stimuli do not satisfy this requirement" (Wallis-Friedman 1942: 179-80)"

Ever since there has been a great deal of resistance to applying stated preferences methods in traditional economics. This may explain why DCEs have not been employed in the area of labor economics. More recently, however, such methods have been adopted in behavioral economics and experimental economics, which have developed to become among the most active fields in economics (Kahneman and Smith, 2002).

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[21] See Moscati (2007) for further details on this experiment and the criticism directed towards it, as well as an interesting account of the development of early experiments in consumer demand theory.

A lot of work has been undertaken to examine the validity of stated preference methods, i.e. the degree to which they measure what they intend to measure. In applied studies this has been approached by examining different types of validity, including *internal validity* (the extent to which respondents behave according to underlying theoretical assumptions), *convergent validity* (the extent to which measures obtained using different stated choice methods correspond) and *external validity* (the extent to which measures obtained using stated and revealed preference methods correspond). See Kjær (2005) for a more detailed account of the different types of validity, and a brief review of this literature.

The validity of the stated preference methods applied in this study was examined in different ways. The monetary values obtained from the DCE on GPs were validated by testing for internal and convergent validity. As a test on internal validity it was explored whether the respondents displayed *continuous* and *transitive* preferences, as assumed in the econometric analysis of DCEs. The axiom of transitivity implies that if good A is preferred to good B, and good B is preferred to good C, then good A is preferred to good C (Ryan et al., 2009). Transitivity represents a fundamental axiom in economics, which together with the axiom of completeness[22], constitutes the strict requirement to rational preferences. A substantial proportion of economic theory would collapse if individual do not have transitive preferences. However, while other axioms of consumer theory with less significance are tested frequently, few empirical studies examine whether the respondents display transitive preferences (Lancsar and Louviere, 2006). Given the significance of this axiom, and since Paper II

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[22] Completeness implies that respondents know their preferences, i.e. that they have well defined preferences between any two possible alternatives. This axiom have been tested in previous studies by including the same choice task twice, either in the same questionnaire or over time, and then examine whether respondents provide consistent answers (Ryan et al., 2009). The present study was not designed to perform this test. However, the axiom of completeness should not be an issue of concern because the doctors in the sample are familiar with the attributes, a concern for completeness is where respondents may not know enough about attributes to have formed preferences over them, e.g. for health states they have no experience of (Lancsar and Louviere, 2006).

provides only a very brief explanation of how transitivity was tested, a more detailed account of this test is provided here.

The test on transitivity was based on two choice scenarios from one version of the survey. Figure 4 shows the two choice scenarios that provide this test.

Figure 4 Choice sets used to test transitivity

1.

	Practice A	Practice B
Type of practice	Private practice	Fixed salary
Opportunity to control own working hours	Very good	Limited
Opportunity for own professional development	Limited	Very good
Degree of professional autonomy	Limited	High degree
Level of income	Your present income	150.000 NOK more than your present income

2.

	Practice A	Practice B
Type of practice	Fixed salary	Private practice
Opportunity to control own working hours	Limited	Very good
Opportunity for own professional development	Very good	Limited
Degree of professional autonomy	High degree	Limited
Level of income	100.000 NOK less than your present income	150.000 NOK more than your present income

It can be seen that scenario 1 is identical to scenario 2 except with the labels swapped (1A becomes 2B and 1B becomes 2A) and the income levels changed. Scenario 1, choice A (1A) is identical to scenario 2 choice B (2B) apart from 2B has higher income than 1A. Similarly, scenario 1 choice B (1B) is identical apart from higher income than scenario 2 choice A (2A).

The income levels are such that if utility is monotonically increasing in income then 2B > 1A and the opposite with alternatives 1B and 2A, 1B > 2A. With these preferences established there is one series of choice outcomes, 1A, 2A which violate transitivity.

Choice 1A indicates 1A>1B and choice 2A indicates 2A>2B. Using the preferences from monotonicity we can extend the first preference to 1A>1B>2A and the second to 2A>2B>1A which together violate transitivity.

All choice scenarios also include the alternative 'stay in current practice' (C), which does not affect this first test but provides two further tests. This alternative is identical for both scenarios so 1C = 2C. Using the preferences due to monotonicity, this gives the two series of choices 1C, 2A and 1A, 2C as also violating transitivity. Choice 1C implies 1C>1B>2A (using monotonicity) and choice 2A implies 2A>2C=1C (the 'stay' alternative is identical across scenarios) shows a violation of transitivity. For the second series of choices, 1A implies 1A>1C=2C, and 2C implies 2C>2B>1A, violating transitivity.

Overall, out of 9 possible combinations of responses for these two scenarios, three represent a violation of transitivity. Of the 227 respondents who faced these two scenarios (i.e. have version 2 of the survey) only three respondents' outcomes were inconsistent with transitivity. (No respondents have the outcome 1A, 2A, one respondent has the outcome 1A, 2C and two respondents have the outcome 1C, 2A). Thus, the results from this test seem to suggest that the vast majority of respondents display transitive preferences.

The axiom of continuity essentially implies that respondents are willing to trade attributes, i.e. it is assumed that there always exist some level of improvement in one good which can compensate an individual for another good (McIntosh and Ryan, 2002). Hence, lexicographic preferences (always choosing according to the best level of one attribute as a simplifying

heuristic) are not allowed. The axiom of continuity is not a strict requirement to rational preferences, but this is crucial with regard to the current study since estimation of marginal rates of substitutions (MWTP and MWTA) is based on this assumption.

The axiom of continuity was tested by examining how many respondents who always choose the alternative with the highest income level. The results show that 7% of respondents (62 out of 934) always do that. Initially it seems concerning that 7% of respondents may be displaying lexicographic and therefore non-continuous preferences. However, as emphasized in Paper II, this approach to test continuity may be misleading since the test is necessary but not sufficient to show lexicographic preferences.

The test on convergent validity, which is fully explained in Paper II, provides further support to the estimates on MWTP and MWTA, i.e. the estimates obtained using CV and DCE were largely similar when using the reference dependent modeling approach applied in this paper. However, neither does this test provide conclusive evidence, as it might simply be that the monetary values obtained from CV and DCE are equally erroneous.

With regard to the DCE of young doctors, internal validity was explored by asking some direct questions subsequent to the DCE exercise. First, they were asked to assess the difficulty of the DCE questions on the following scale: very difficult, fairly difficult, fairly easy or very easy. Second, they were asked to provide information about the choice process, by selecting one of the following alternatives: 1) One job attribute was very important to me. I chose primarily according to this attribute. 2) A couple of job attributes were very important to me. I chose primarily according to these attributes. 3) Most of the job attributes were very important to me. I chose the practice with the best combination of these attributes. 4) It was a bit random what I chose.

Table 3 shows their responses to these questions, (which were not reported in Paper I). Most respondents scored the difficulty of answering the DCE questions as *fairly easy* (43%) or *fairly difficult* (51%). The finding that only a minor proportion of the respondents (3%) answered *very difficult* seems reassuring, as this indicate that very few respondents did not manage (at all) to answer the DCE questions.

Concerning the choice process, most of the young doctors (61 %) answered that they choose primarily according to a couple of attributes. This might signal that many respondents have non-continuous preferences, but it provides by no means conclusive evidence. The phrase 'I choose *primarily* according to this attribute' was used rather than 'I choose *only* according to this attribute'. Hence, it can not be concluded that those who *primarily* choose according to one attribute *always* choose according to the best level of this attribute as a simplifying heuristic (i.e. that they exhibit lexicographic preferences). Anyway, recent studies, comparing stated non-attendance (SNA) and inferred non-attendance (INA), suggest that respondents' reporting to such questions may be misleading, i.e. it appears that respondents in reality did consider attributes which they claim to have ignored (Hess and Hensher, 2010, Carlsson et al., 2010, Alemu et al., 2013).

Table 3 Responses to internal validity questions

	N	%
Difficulty of the choice tasks		
Very difficult	27	3
Fairly difficult	423	51
Fairly easy	357	43
Very easy	20	2
Choice process		
One job attribute was very important to me. I chose primarily according to this attribute.	76	9
A couple of job attributes were very important to me. I chose primarily according to these attribute.	509	61
Most of the job attributes were very important to me. I chose the practice with the best combination of these attributes.	226	27
It was a bit random what I chose.	18	2

Furthermore, with regard to both the DCE of young doctors and the DCE of GPs, it seems reassuring that the theoretical validity is confirmed, i.e. all parameters move in the expected directions, and the finding regarding reference-dependence is in agreement with reference dependent utility theory (Kahneman and Tversky, 1979, Tversky and Kahneman, 1991).

Overall, the validity of the stated preferences methods applied in this project seems largely to be confirmed by the available (non-conclusive) evidence. This may reflect all the efforts that have been made to ensure optimal study design, in line with the recommendations provided by Lancsar and Louviere (2008). To ensure that the DCE attributes and their levels were properly defined, a qualitative study was conducted to inform the design of the young doctor DCE and GPs were involved in the work of designing the GP DCE. Furthermore, for the survey of GPs, the complete questionnaire was presented and discussed in a meeting with the leaders of the Norwegian GP association to include their views on any bias in the wording or

framing of the questions. No objections were raised. Finally, the selected attributes and attribute levels were pilot tested on a convenience sample.[23]

6.2.3 Response rate

Achieving a high response rate on surveys is getting increasingly difficult (Galea and Tracy, 2007, Groves, 2006). In relation to the current research project, it was particularly challenging to get GPs to answering. Hence, while only two reminders were used for the survey of young doctors, three reminders were used for the survey of GPs. The use of reminders in the survey of GPs provided some slightly surprising effects, which may be of interest for other survey researchers. Thus, the use of reminders and the achieved effects will be described more carefully here.

Each of the three reminders resulted in a substantial increase in the response rate (see Table 4 and Figure 5). The first reminder raised the response rate most significantly, from around 11% to 19%. The second and third reminder had fairly similar effects, raising the response rate by 6% and 5% respectively.[24] Assuming that many of those not responding within the second reminder were not interested in answering the survey, it was expected to see a more substantial diminishing return of responses from the second to the third reminder. This finding seems to suggest that the timing of the reminder is a key determinant for response, i.e. whether a GP respond may not only depend on their interest in answering, but also to a large extent whether they have a spare moment when they happen to open the envelope. Obviously, the timing does not matter for GPs who are determined not to answer, e.g. because they do not find the topic of the survey to be relevant. However, for the remaining GPs who are inclined to respond, although to various degrees, the timing is likely to be highly relevant.

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[23] See Lancsar and Louviere (2006) for a more detailed discussion around the importance of ensuring optimal study designs, as it may contribute significantly to reducing biases associated with DCEs.

[24] It is difficult to separate the effect of the first and second reminder accurately, since the wave of new responses initiated by the first reminder had not diminished completely at the time of the second reminder (see figure 5).

Table 4 Responses rate according to periods

Periods	Response rate at end of each period	Days in each period
Invitation (9.5.-6.6.)	11%	29
First reminder (7.6.-24.6.)	19%	19
Second reminder (25.6. -23.8.)	25%	59
Third reminder (24.8. - 12.10.)	30%	50

Figure 5 Responses according to dates (lines mark dates of reminders)
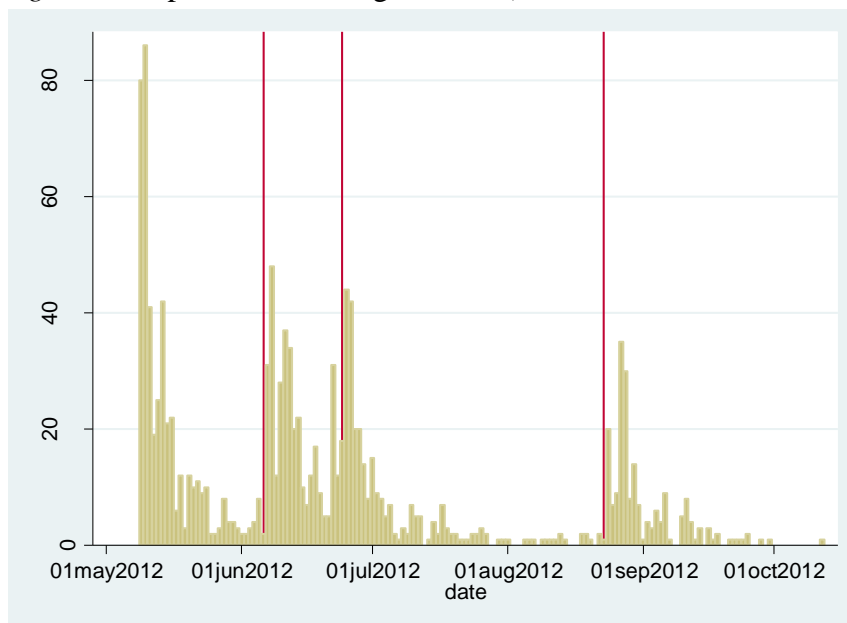
Table 5 compares respondents who answered in different periods according to gender, specialty attainment and age. There are no significant differences according to gender. However, there appears to be some differences according age and specialty attainment, i.e. the proportion of respondents with specialty attainment and the average age declines after the first reminder. Assuming that specialty attainment is an indicator on inclination to answer (as suggest above) it is not surprising that they are overrepresented initially.

Table 5 Respondents characteristics according to periods

	Invitation Column% (95% CI)	**First reminder** Column% (95% CI)	**Second reminder** Column% (95% CI)	**Third reminder** Column% (95% CI)
Gender				
Females	36 (32-40)	37 (32-42)	40 (34-46)	36 (30-43)
Specialty attainment				
Yes	76 (72-80)	73 (68-77)	61 (54-67)	61 (54-67)
Age, mean (95% CI)	49,1 (48,2-50,1)	48,5 (47,4-49,7)	46,4 (45,0-47.8)	46, 8 (45.3-48.3)

GPs with specialty attainment are overrepresented in the total sample. Thus, the second and third reminder helps reducing this bias to some extent. The bias could potentially been reduced further by sending even more reminders. However, there are also potential downsides to this approach. Bombardments of reminders on a population with an increasing share of respondents determined not to answer, may have a negative impact on response rates for future studies. This approach would also be costly in surveys relying on postal letters.

6.2.4 Contributions

DCEs in the area of health economics have been accused for lagging behind best practice in other areas of research (Mandeville et al., 2014). This thesis provides two significant methodological contributions:

1) Reference-dependence

Prior to this research project, reference-dependence in health workers' income preferences had not been explored in the context of job choice experiments, although previous experiments use *current income* as a level together with positive and negative levels for income (Scott, 2001, Scott et al., 2013). A possible explanation for this (seemingly) ignorance is that the respondents to previous experiments have not displayed reference dependent income preferences, i.e. the researchers may have explored this and concluded that a linear

specification seems most appropriate. However, as illustrated in Papers I and II, ignorance of reference-dependence in analysis of such DCEs *may* result in biased monetary values and mask policy relevant information. It is therefore crucial for researchers to be aware of this phenomenon.

Since financial incentives in the form of penalties seldom are applied at the individual level in real policies, it may be argued that it is irrelevant to use negative levels for the income attribute. However, financial penalties have been implemented at the hospital level in some countries, and there is an ongoing discussion about implementing financial penalties in pay for performance (P4P) schemes for general practitioners (Eijkenaar, 2013).

Many DCEs have been designed with only positive levels for the income attribute (see e.g. (Pedersen et al., 2012, Ubach et al., 2003)), and it is also customary to use absolute levels for income (see e.g. (Kolstad, 2011, Sivey et al., 2012)).[25] A semantic point, with regard to studies of this kind, is that researchers should be more considerate when using the terms MWTP and MWTA.[26] In the current literature, these terms are often used interchangeably, apparently without much consideration to the definition of the income attribute or the potential discrepancy between MWTP and MWTA. In particular, the results presented in Papers I and II, suggest that caution should be exercised with using the term MWTP unless the levels for the income attribute have been framed as a financial sacrifice.

Not only is this the first study to explore reference-dependence and loss aversion in the context of job choice experiments, it also appears to be the first DCE in health economics

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[25] 'Absolute levels' in the sense that they are not anchored to a reference level. This is most often the case in DCEs with students, where the income levels are specified close to 'realistic levels'

[26] In this literature the terms *negative* and *positive* MWTP are often used, with the interpretation explained in Pedersen et al. (2012): 'A positive MWTP should be interpreted as the amount of money GPs are willing to pay per month if they were to work in a practice with the respective attribute levels compared to the base level. A negative MWTP, on the other hand, indicates how much the GPs should on average be compensated per month for a given attribute level relative to the base level'

(more generally) to investigate this topic. The default approach in DCEs in health economics has been to specify a linear utility function for the pecuniary attribute (whether it is price or income), i.e. to assume constant marginal utility of money. However, a few DCEs, including one in the area of health workforce (Kolstad, 2011), have accounted for diminishing marginal utility in the pecuniary attribute.

Reference-dependence and loss aversion in DCEs, however, have received attention in some papers from environmental and transport economics, see e.g. (Hess et al., 2008, Masiero and Hensher, 2010, Lanz et al., 2010). In this literature, reference-dependence has not only been explored for the pecuniary attribute (as in the present study), but also for the non-pecuniary attributes. This would be an interesting path for future research in the area of health economics.

2) Convergent validity

The adoption of two approaches (DCE and CV) in estimating GPs preferences, with broadly comparable results, represents a significant contribution of this thesis. This is the first convergent validity study to compare implicit values inferred from DCE with values obtained from direct and explicit MWTP *and* MWTA questions (see Paper II). Another innovation is that the respondents were asked about MWTP and MWTA for each attribute separately, as opposed to previous convergent validity studies, all of which ask about MWTP for a *total* package.

The monetary values obtained from the CV and DCE method turned out to be remarkably close, when the appropriate functional form was used in the analysis of the DCE, i.e. the one accounting for reference-dependence in GPs' income preferences. This finding contrasts with the findings from previous studies examining convergent validity, all of which find a substantial difference between the monetary values derived from DCE and CV, i.e. the

monetary values inferred *implicitly* from DCE have been found to be significantly higher than those obtained *directly* from CV (Bijlenga et al., 2011, van der Pol et al., 2008). A possible explanation, introduced in Paper II, is that the respondents to this study (i.e. GPs who are familiar with the DCE attributes through years of experience) have more *considerate preferences* than respondents in previous studies (i.e. lay persons and patients who have limited knowledge about the attributes in question). Furthermore, the GPs may find it easier to subscribe monetary values to the non-pecuniary attributes (particularly in the CV exercise), since trading between pecuniary and non-pecuniary attributes is considered normal in the job marked. In comparison, the patients and lay persons (participating in previous studies on convergent validity) have been asked to value health services or goods which they normally would receive for free.

The monetary values obtained using DCE and CV could be similar because they are equally erroneous. However, the results from this study seem to suggest that it is possible to obtain valid estimates on health workers' monetary valuation of non-pecuniary attributes, using stated preference methods.

Considering the complexity of the DCE method, which requires competence in experimental design, econometrics and qualitative study designs (Ryan et al., 2008), the results from this study can be used as an argument for applying the CV method rather than DCEs to elicit health workers preferences. After all, the open-ended format of the CV method (i.e. the "simplest" possible method for obtaining monetary values) produces results that are very similar to those derived from the DCE method. This point is particularly relevant with regard to low-income countries, where the health workforce issue is greatest and the academic

resources most scarce.[27] However, it should be emphasized that it is too early to conclude on the basis of this one study. More research on the agreement between different stated preference methods, and between stated and revealed preference methods, is warranted.

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[27] A user guide, resulting from a collaboration among World Bank, World Health Organization and the USAID, have been developed to aid researchers and policy makers in developing countries using the DCE method (Mandy et al., 2012). This initiative will probably result in an increased application of DCEs to inform health workforce in developing countries. Still, as it arguably would be easier to educate researchers and policymakers in the (state of the art) application of the CV method, research on the extent to which CV and DCE produces similar results deserve more attention.

7. Conclusion and suggestions for future research

This thesis has examined the *expected effects* of various initiatives for improving recruitment and retention of GPs. The results suggest that joint policy programs containing several non-pecuniary incentives (e.g. improved opportunity for professional development and control over working hours), could contribute to solve the current issue of getting doctors to rural areas. Increased income, from the current levels in Norway, appears to have limited effects on doctors' behavior.[28] This is because doctors' value *income increases* beyond a reference level, which has already been achieved, to a limited extent. Furthermore, the results suggest that an increasing proportion of doctors would prefer salaried contracts rather than private practice (i.e. the current default contract for GPs). This applies particularly among younger female doctors.

The research presented in this thesis provides some suggestions on what policy makers could do to improve recruitment and retention of GPs. However, many questions remain to be addressed. No firm conclusions on the effects of different policy measures can be made on the ground of stated preference data alone. Thus, it would be highly interesting to examine the extent to which the predictions derived from the stated preference methods (applied in this research project) correspond with doctors' real market behavior. In case the proposed policy measures (provided in this thesis) are actually implemented, it is crucial that they are introduced in a way that allows for proper evaluation of the effects.[29] To this date, evidence from controlled studies (e.g. randomized controlled trials, RCT) and interrupted time series

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[28] This is not to say that doctors are completely insensitive to pecuniary incentives, but it is evident that very large amounts would be required to influence their behavior. With regard to location choices (how to get doctors to rural areas), it appears that non-pecuniary incentives would be more cost effective than pecuniary incentives (section 6.1.3). However, more research on the cost effectiveness of different recruitment and retention strategies is warranted.

[29] It is beyond the scope of this thesis to discuss details with regard to possible designs for controlled studies, as it would require careful considerations to many different issues.

analysis) evaluating the effect of proposed incentive schemes are completely lacking in the health workforce literature (Buykx et al., 2010, Grobler et al., 2009, McPake et al., 2014).

Furthermore, as highlighted by Mandeville et al. (2014) no DCE study has yet returned to examine how job preferences change over time in the same population. In this regard, it would be interesting to conduct a follow up study on the young doctors, to examine the extent to which their preferences have changed in the transition from being students and interns to become doctors (with real work life experience). The respondents to this survey were asked if they would be willing to participate in a follow-up study. Most of the respondents accepted this request, and their e-mail addresses were obtained. Thus, it might be possible to trace this sample and even compare responses at an individual level.

Finally, there is a scope for developing the stated preference methods (applied in this study) further. For example, with regard to nonlinearities and reference dependence, it would be an advantage to include more levels for the income attribute, particularly more than one level in the loss domain (see discussions in Paper II). Another issue, which would be interesting to explore, is the extent to which the finding on reference dependence is contingent on the specific levels used in the DCEs (see discussions in Paper I). In this thesis it is assumed that the reference levels used in the DCEs represent 'real' reference levels (i.e. that GPs consider 'current income' as their reference level and that young doctors consider 'average salary for hospital doctors' as their reference level in real life). This appears to be reasonable assumptions, backed up by data from qualitative interviews in the case of the young doctors. However, it might be that DCEs with alternative reference levels would have produced similar results, i.e. kink around the reference level for income and MWTP-MWTA gaps. This could be explored in future studies using split designs, with the income levels anchored to different reference levels.

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9. Appendices

Appendix 1: Questionnaire for young doctors

SPØRRESKJEMA – unge leger

1. Hvilken jobb ønsker du deg etter endt turnustjeneste? Det er mulig å sette flere kryss.

- ☐ Jobb som allmennlege/fastlege
- ☐ Jobb som sykehuslege i lokalsykehus
- ☐ Jobb som sykehuslege i universitetssykehus
- ☐ Annet, spesifiser:

_____

2. I hvilket fylke ønsker du at jobben etter endt turnustjeneste er? Det er mulig å sette flere kryss.

☐ Finnmark	☐ Møre og Romsdal	☐ Vest-Agder	☐ Hedmark
☐ Troms	☐ Sogn og Fjordane	☐ Telemark	☐ Akershus
☐ Nordland	☐ Hordaland	☐ Buskerud	☐ Oslo
☐ Nord-Trøndelag	☐ Rogaland	☐ Vestfold	☐ Østfold
☐ Sør-Trøndelag	☐ Aust-Agder	☐ Oppland	

☐ Jeg har ingen spesielle preferanser

3. Hvilken hovedspesialisering tenker du deg?

Sett flere kryss dersom flere spesialiteter er aktuelle.

☐ Allmennmedisin	☐ Indremedisin	☐ Onkologi
☐ Anestesiologi	☐ Kjevekirurgi og munnhulesykd.	☐ Ortopedisk kirurgi
☐ Arbeidsmedisin	☐ Klinisk farmakologi	☐ Patologi
☐ Barne- og ungdomspsykiatri	☐ Klinisk nevrofysiologi	☐ Plastikkirurgi
☐ Barnesykdommer	☐ Medisinsk biokjemi	☐ Psykiatri
☐ Fysikalsk medisin og rehabilitering	☐ Medisinsk genetikk	☐ Radiologi
☐ Fødselshjelp og kvinnesykdommer	☐ Medisinsk mikrobiologi	☐ Revmatologi
☐ Generell kirurgi	☐ Nevrokirurgi	☐ Samfunnsmedisin
☐ Hud- og veneriske sykdommer	☐ Nevrologi	☐ Øre-nese-hals sykd.
☐ Immunologi og transfusjonssykd.	☐ Nukleærmedisin	☐ Øyesykdommer

☐ Vet ikke, men planlegger spesialisering
☐ Har ingen planer om spesialisering

Annet, spesifiser: -

_____

4. **Hvilken jobb ønsker du at du har om 10-15 år?** Det er mulig å sette flere kryss.
   - ☐ Jobb som allmennlege/fastlege
   - ☐ Jobb som sykehuslege/spesialist i lokalsykehus
   - ☐ Jobb som sykehuslege/spesialist i universitetssykehus
   - ☐ Jobb som privatpraktiserende spesialist
   - ☐ Jobb på universitet eller liknende med undervisning/ forskning
   - ☐ Annet, spesifiser:

   _____

5. Dagens avlønningsform i allmennpraksis er basert på aktivitetsavhengig inntekt, dvs. at din inntekt er avhengig av det antallet pasienter du har, hvor mange pasienter du behandler og hvilken behandling du gir. **Tenker du at dette inntektssystemet er noe som påvirker din tilbøyelighet til å jobbe som allmennlege?**
   - ☐ Det teller positivt og gjør allmennpraksis *mer* attraktivt for meg
   - ☐ Det teller negativt og gjør allmennpraksis *mindre att*raktivt for meg
   - ☐ Nei, jeg har ikke tenkt at inntektssystemet *som sådan er* viktig for meg

6. Dagens lønnssystem på sykehus innebærer en relativt lav grunnlønn, men muligheter for relativt høy samlet inntekt avhengig av vaktbelastning. **Tenker du at dette inntektssystemet er noe som påvirker din tilbøyelighet til å jobbe på sykehus?**
   - ☐ Det teller positivt og gjør en jobb som sykehuslege *mer* attraktivt for meg
   - ☐ Det teller negativt og gjør en jobb som sykehuslege *mindre* attraktivt for meg
   - ☐ Nei, jeg har ikke tenkt at inntektssystemet *som sådan* er viktig for meg

7. **Dersom du ønsker jobb som** *allmennlege/fastlege*, **hvilket inntektssystem vil du foretrekke dersom du kunne velge fritt?**
   - ☐ Fast inntekt
   - ☐ Aktivitetsavhengig inntekt (dvs. en inntekt som er avhengig av antall pasienter du har, hvor mange pasienter du behandler og hvilken behandling du gir)
   - ☐ En kombinasjon hvor en prosentandel er fast inntekt og resten er aktivitetsavhengig Oppgi hvor stor prosent av inntekten du ønsker skal være fast: _____%
   - ☐ Vet ikke

8. **Dersom du ønsker jobb som *sykehuslege,* hvilket system for avlønning vil du foretrekke dersom du kunne velge fritt?**

- ☐ Dagens lønnssystem, med relativt lav grunnlønn men muligheter for relativt høy samlet inntekt avhengig av vaktbelastning
- ☐ Omlegging til høyere grunnlønn, og lavere innslag av tillegg for vaktbelastning
- ☐ Fast lønn i henhold til en normal arbeidsdag (8-16) uten vakter
- ☐ Vet ikke

9. **I hvilket fylke kunne du ønske at du jobber om 10-15 år?** Det er mulig å sette flere kryss.

☐ Finnmark   ☐ Møre og Romsdal   ☐ Vest-Agder   ☐ Hedmark
☐ Troms   ☐ Sogn og Fjordane   ☐ Telemark   ☐ Akershus
☐ Nordland   ☐ Hordaland   ☐ Buskerud   ☐ Oslo
☐ Nord-Trøndelag   ☐ Rogaland   ☐ Vestfold   ☐ Østfold
☐ Sør-Trøndelag   ☐ Aust-Agder   ☐ Oppland

☐ Jeg har ingen spesielle preferanser

10. **Hvor mange innbyggere tenker du at det må være i den kommunen hvor du skal slå deg ned?**

- ☐ Under 5 000
- ☐ 5 000 – 14 999
- ☐ 15 000 – 49 999
- ☐ 50 000 eller flere

11. **Hvor enig eller uenig er du i følgende utsagn?**

	Helt uenig 1	2	3	4	5	Helt enig 6
Jeg vil jobbe i tverrfaglige team med leger og andre helseprofesjoner (som psykolog, spesialsykepleier, fysioterapeut og lignende)	☐	☐	☐	☐	☐	☐
Jeg ønsker å bestemme mine egne arbeidsmetoder	☐	☐	☐	☐	☐	☐
Jeg liker å ha ansvar	☐	☐	☐	☐	☐	☐
Det er viktig for meg å ha høy inntekt	☐	☐	☐	☐	☐	☐
Jeg ønsker klare retningslinjer for hvordan jeg skal utføre jobben min som lege	☐	☐	☐	☐	☐	☐
Jeg ønsker meg en normal arbeidstid (8-16)	☐	☐	☐	☐	☐	☐
Jeg ønsker å bo nært familie (foreldre og/eller søsken)	☐	☐	☐	☐	☐	☐
Jeg vil ha en jobb som gir høy status blant andre leger	☐	☐	☐	☐	☐	☐
Jeg trives med høyt tempo på jobb	☐	☐	☐	☐	☐	☐
Min (eventuelle)partners jobbmuligheter vil styre hvor vi skal bo	☐	☐	☐	☐	☐	☐

De neste spørsmålene er del av et eksperiment og blant annet knyttet til ulike hypotetiske jobber i allmennpraksis. Vi ber deg svare på spørsmålene selv om du i utgangspunktet ikke primært ønsker å jobbe i allmennpraksis.

12. **Tenk deg at du skal jobbe som fastlege/allmennlege. Hvor viktige vil du si at følgene jobbkarakteristika er for deg?**

	Ikke viktig 1	2	3	4	5	Svært viktig 6
En praksisstørrelse med 3 eller flere leger	☐	☐	☐	☐	☐	☐
Praksisstedet har mer enn 15 000 innbyggere	☐	☐	☐	☐	☐	☐
Du har god mulighet til å styre egen arbeidstid	☐	☐	☐	☐	☐	☐
Du har god mulighet for egen fagutvikling	☐	☐	☐	☐	☐	☐
Du har høyere inntekt enn gjennomsnittet blant sykehusleger på din alder	☐	☐	☐	☐	☐	☐

I de 6 spørsmålene som følger, ber vi deg på basis av parvise sammenlikninger velge hvilken praksis du foretrekker (praksis A eller praksis B). Praksis A og B varierer med hensyn til antall leger, lokaliseringssted, mulighet for styring av arbeidstid og fagutvikling samt inntektsnivå. Bortsett fra de karakteristika vi har spesifisert, kan du anta at alt annet ved praksisene er likt.

Parvise valg fra versjon 1:

	Praksis A	Praksis B
Praksissammensetning	6 leger eller flere	1-2 leger
Lokaliseringssted	15 000-49 999 innbyggere	Under 5 000 innbyggere
Mulighet for å styre arbeidstid	Begrenset	Svært god
Mulighet for egen fagutvikling	Begrenset	Svært god
Inntektsnivå	Som gjennomsnittet blant sykehusleger	20 % *høyere* enn gjennomsnittet blant sykehusleger

13. **Hvilken jobb vil du foretrekke av A og B? ☐ Praksis A ☐ Praksis B**

	Praksis A	Praksis B
Praksissammensetning	3-5 leger	1-2 leger
Lokaliseringssted	5 000-14 999 innbyggere	Under 5 000 innbyggere
Mulighet for å styre arbeidstid	Svært god	Begrenset
Mulighet for egen fagutvikling	Svært god	Begrenset
Inntektsnivå	10 % *høyere* enn gjennomsnittet blant sykehusleger	20 % *høyere* enn gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	6 leger eller flere	6 leger eller flere
Lokaliseringssted	50 000 eller flere innbyggere	50 000 eller flere innbyggere
Mulighet for å styre arbeidstid	Svært god	Begrenset
Mulighet for egen fagutvikling	Svært god	Begrenset
Inntektsnivå	10 % *lavere* enn gjennomsnittet blant sykehusleger	Som gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	3-5 leger	1-2 leger
Lokaliseringssted	5 000-14 999 innbyggere	15 000-49 999 innbyggere
Mulighet for å styre arbeidstid	Begrenset	Svært god
Mulighet for egen fagutvikling	Begrenset	Svært god
Inntektsnivå	Som gjennomsnittet blant sykehusleger	10 % *lavere* enn gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	6 leger eller flere	3-5leger
Lokaliseringssted	50 000 eller flere innbyggere	15 000-49 999 innbyggere
Mulighet for å styre arbeidstid	Svært god	Svært god
Mulighet for egen fagutvikling	Svært god	Svært god
Inntektsnivå	Som gjennomsnittet blant sykehusleger	10 % *høyere* enn gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	1-2 leger	6 leger eller flere
Lokaliseringssted	Under 5 000 innbyggere	15 000-49 999 innbyggere
Mulighet for å styre arbeidstid	Svært god	Begrenset
Mulighet for egen fagutvikling	Begrenset	Begrenset
Inntektsnivå	20 % *høyere* enn gjennomsnittet blant sykehusleger	10 % *høyere* enn gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	1-2 leger	6 leger eller flere
Lokaliseringssted	15 000-49 999 innbyggere	15 000-49 999 innbyggere
Mulighet for å styre arbeidstid	Begrenset	Svært god
Mulighet for egen fagutvikling	Svært god	Svært god
Inntektsnivå	20 % *høyere* enn gjennomsnittet blant sykehusleger	10 % *lavere* enn gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	3-5 leger	6 leger eller flere
Lokaliseringssted	5 000-14 999 innbyggere	50 000 eller flere innbyggere
Mulighet for å styre arbeidstid	Svært god	Begrenset
Mulighet for egen fagutvikling	Svært god	Begrenset
Inntektsnivå	20 % *høyere* enn gjennomsnittet blant sykehusleger	Som gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	1-2 leger	3-5 leger
Lokaliseringssted	5 000-14 999 innbyggere	15 000-49 999 innbyggere
Mulighet for å styre arbeidstid	Begrenset	Svært god
Mulighet for egen fagutvikling	Svært god	Begrenset
Inntektsnivå	Som gjennomsnittet blant sykehusleger	10 % *lavere* enn gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	1-2 leger	3-5 leger
Lokaliseringssted	Under 5 000 innbyggere	50 000 eller flere innbyggere
Mulighet for å styre arbeidstid	Begrenset	Begrenset
Mulighet for egen fagutvikling	Begrenset	Begrenset
Inntektsnivå	10 % *høyere* enn gjennomsnittet blant sykehusleger	10 % *lavere* enn gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	1-2 leger	1-2leger
Lokaliseringssted	15 000-49 999 innbyggere	Under 5 000innbyggere
Mulighet for å styre arbeidstid	Svært god	Svært god
Mulighet for egen fagutvikling	Svært god	Svært god
Inntektsnivå	10 % *lavere* enn gjennomsnittet blant sykehusleger	10 % *høyere* enn gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	1-2 leger	3-5 leger
Lokaliseringssted	Under 5 000 innbyggere	5 000-14 999 innbyggere
Mulighet for å styre arbeidstid	Begrenset	Begrenset
Mulighet for egen fagutvikling	Begrenset	Begrenset
Inntektsnivå	20 % *høyere* enn gjennomsnittet blant sykehusleger	10 % *høyere* enn gjennomsnittet blant sykehusleger

Parvise valg fra versjon 3:

	Praksis A	Praksis B
Praksissammensetning	1-2 leger	3-5 leger
Lokaliseringssted	50 000 eller flere innbyggere	50 000 eller flere innbyggere
Mulighet for å styre arbeidstid	Svært god	Begrenset
Mulighet for egen fagutvikling	Begrenset	Begrenset
Inntektsnivå	Som gjennomsnittet blant sykehusleger	10 % *lavere* enn gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	3-5 leger	3-5 leger
Lokaliseringssted	Under 5 000 innbyggere	Under 5 000 innbyggere
Mulighet for å styre arbeidstid	Begrenset	Svært god
Mulighet for egen fagutvikling	Begrenset	Begrenset
Inntektsnivå	Som gjennomsnittet blant sykehusleger	10 % *lavere* enn gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	6 leger eller flere	1-2 leger
Lokaliseringssted	5 000-14 999 innbyggere	50 000 eller flere innbyggere
Mulighet for å styre arbeidstid	Begrenset	Begrenset
Mulighet for egen fagutvikling	Svært god	Begrenset
Inntektsnivå	10 % *lavere* enn gjennomsnittet blant sykehusleger	10 % *høyere* enn gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	3-5 leger	6 leger eller flere
Lokaliseringssted	50 000 eller flere innbyggere	50 000 eller flere innbyggere
Mulighet for å styre arbeidstid	Begrenset	Begrenset
Mulighet for egen fagutvikling	Begrenset	Svært god
Inntektsnivå	20 % *høyere* enn gjennomsnittet blant sykehusleger	10 % *høyere* enn gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	3-5 leger	3-5 leger
Lokaliseringssted	15 000-49 999 innbyggere	Under 5 000 innbyggere
Mulighet for å styre arbeidstid	Svært god	Begrenset
Mulighet for egen fagutvikling	Begrenset	Svært god
Inntektsnivå	10 % *høyere* enn gjennomsnittet blant sykehusleger	Som gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	6 leger eller flere	3-5 leger
Lokaliseringssted	15 000-49 999 innbyggere	50 000 eller flere innbyggere
Mulighet for å styre arbeidstid	Svært god	Begrenset
Mulighet for egen fagutvikling	Begrenset	Svært god
Inntektsnivå	10 % *høyere* enn gjennomsnittet blant sykehusleger	20 % *høyere* enn gjennomsnittet blant sykehusleger

Parvise valg fra versjon 4:

	Praksis A	Praksis B
Praksissammensetning	3-5 leger	3-5 leger
Lokaliseringssted	50 000 eller flere innbyggere	Under 5 000 innbyggere
Mulighet for å styre arbeidstid	Svært god	Svært god
Mulighet for egen fagutvikling	Begrenset	Svært god
Inntektsnivå	10 % *lavere* enn gjennomsnittet blant sykehusleger	20 % *høyere* enn gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	3-5 leger	1-2 leger
Lokaliseringssted	5 000-14 999 innbyggere	15 000-49 999 innbyggere
Mulighet for å styre arbeidstid	Begrenset	Svært god
Mulighet for egen fagutvikling	Begrenset	Svært god
Inntektsnivå	10 % *lavere* enn gjennomsnittet blant sykehusleger	Som gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	3-5 leger eller flere	1-2 leger
Lokaliseringssted	Under 5 000 innbyggere	5 000-14 999 innbyggere
Mulighet for å styre arbeidstid	Svært god	Svært god
Mulighet for egen fagutvikling	Svært god	Svært god
Inntektsnivå	10 % *høyere* enn gjennomsnittet blant sykehusleger	Som gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	3-5 leger	6 leger eller flere
Lokaliseringssted	Under 5 000 innbyggere	5 000-14 999 innbyggere
Mulighet for å styre arbeidstid	Svært god	Svært god
Mulighet for egen fagutvikling	Svært god	Begrenset
Inntektsnivå	20 % *høyere* enn gjennomsnittet blant sykehusleger	20 % *høyere* enn gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	1-2 leger	6 leger eller flere
Lokaliseringssted	15 000-49 999 innbyggere	5 000-14 999 innbyggere
Mulighet for å styre arbeidstid	Begrenset	Begrenset
Mulighet for egen fagutvikling	Svært god	Begrenset
Inntektsnivå	10 % *høyere* enn gjennomsnittet blant sykehusleger	10 % *lavere* enn gjennomsnittet blant sykehusleger

	Praksis A	Praksis B
Praksissammensetning	6 leger eller flere	1-2 leger
Lokaliseringssted	50 000 eller flere innbyggere	5 000-14 999 innbyggere
Mulighet for å styre arbeidstid	Svært god	Begrenset
Mulighet for egen fagutvikling	Svært god	Begrenset
Inntektsnivå	10 % *høyere* enn gjennomsnittet blant sykehusleger	20 % *høyere* enn gjennomsnittet blant sykehusleger

19. Sett kryss ved det utsagnet som best beskriver vanskelighetsgraden i de parvise sammenlikningene.

☐ Det var svært vanskelig å svare på spørsmålene
☐ Det var ganske vanskelig å svare på spørsmålene
☐ Det var ganske lett å svare på spørsmålene
☐ Det var svært lett å svare på spørsmålene

20. Sett kryss ved det utsagnet som best beskriver hvordan du valgte praksis i de parvise sammenlikningene.

☐ Det var ett karakteristikum ved praksis som var meget viktig for meg. Jeg valgte først og fremst etter dette. Hvilket var dette?_____

☐ Det var et par karakteristika ved praksis som var meget viktig for meg. Jeg valgte først og fremst etter dem. Hvilke var dette?_____

☐ De fleste karakteristika ved praksis var viktig for meg. Jeg valgte den praksisen som hadde den beste kombinasjonen av disse.

☐ Det var litt tilfeldig hva jeg valgte

Bakgrunnsopplysninger om deg

21. Fødselsår: _____

22. Kjønn:
☐ Kvinne
☐ Mann

23. Hva er din sivile status?
☐ Singel
☐ Fast partner
☐ Gift/samboer

24. Har du barn?
☐ Nei
☐ Ja, antall barn under 6 år: _____   antall barn 6 -18 år:_____

25. Hvor tar du / har du tatt medisinsk embetseksamen?
☐ Tromsø
☐ Trondheim
☐ Bergen
☐ Oslo
☐ I utlandet, oppgi land: _____

26. Har noen av dine foreldre legeutdanning?

- ☐ Min mor
- ☐ Min far
- ☐ Nei

27. Hvilket fylke er ditt opprinnelige hjemfylke?

☐ Finnmark	☐ Møre og Romsdal	☐ Vest-Agder	☐ Hedmark
☐ Troms	☐ Sogn og Fjordane	☐ Telemark	☐ Akershus
☐ Nordland	☐ Hordaland	☐ Buskerud	☐ Oslo
☐ Nord-Trøndelag	☐ Rogaland	☐ Vestfold	☐ Østfold
☐ Sør-Trøndelag	☐ Aust-Agder	☐ Oppland	

28. Hvor mange innbyggere er det i din opprinnelige hjemkommune?

- ☐ Under 3 000
- ☐ 3 000 – 4 999
- ☐ 5 000 – 9 999
- ☐ 10 000 – 14 999
- ☐ 15 000 – 29 999
- ☐ 30 000 – 49 999
- ☐ 50 000 eller flere

29. På flere områder vil beslutninger vi tar enten privat eller i yrkessammenheng, innebære elementer av usikkerhet og risiko. Det er stor variasjon i hvordan vi forholder oss til risiko. Nedenfor følger seks utsagn. Vi ber deg ta stilling til hvor enig eller uenig du er i hvert av dem.

	Helt uenig 1	2	3	4	5	Helt enig 6
Jeg liker å ta risiko	☐	☐	☐	☐	☐	☐
Jeg prøver å unngå situasjoner som har et usikkert utfall	☐	☐	☐	☐	☐	☐
Det plager meg ikke å ta risiko hvis gevinsten er høy	☐	☐	☐	☐	☐	☐
Jeg anser trygghet som et viktig element i alle deler av livet	☐	☐	☐	☐	☐	☐
Folk har fortalt meg at jeg ser ut til å like og ta sjanser	☐	☐	☐	☐	☐	☐
Jeg tar sjelden eller aldri en risiko hvis det finnes et annet alternativ	☐	☐	☐	☐	☐	☐

Appendix 2: Questionnaire for GPs

Fastlegestudien

Del 1 Dine arbeidsforhold

Kryss av for den driftsformen som best samsvarer med din nåværende praksis:

○ Privatpraksis (legen er arbeidsgiver og holder lokaler/utstyr selv)

○ Privatpraksis med kommunal leieavtale (kommunen leier ut lokaler/utstyr og/eller personell)

○ Fastlønn med tillegg av en viss andel av egenandeler/trygderefusjon

○ Fastlønn uten tillegg som nevnt over

Hvilke driftsformer har du tidligere erfaring fra? Flere kryss er mulig

☐ Privatpraksis (legen er arbeidsgiver og holder lokaler/utstyr selv)

☐ Privatpraksis med kommunal leieavtale (kommunen leier ut lokaler/utstyr og/eller personell)

☐ Fastlønn med tillegg av en viss andel av egenandeler/trygderefusjon

☐ Fastlønn uten tillegg som nevnt over

Hvor mange leger (inkludert deg selv) arbeider i praksisen?

[   ]

For hver karakteristikk nedenfor, sett et kryss i ruten for det alternativet som passer best for din nåværende praksis

	Begrenset	Litt begrenset	Ganske god	Svært god
Mulighet for å styre egen arbeidstid	○	○	○	○
Mulighet for egen fagutvikling	○	○	○	○
Grad av profesjonell autonomi	○	○	○	○

Del 2: Noen parvise sammenlikninger

I det følgende blir du presentert for valg mellom to hypotetiske allmennpraksiser. Du skal velge hvilken praksis (A eller B) du foretrekker.

Praksisene blir beskrevet langs 5 ulike karakteristika:

1) Driftsform
2) Mulighet til å styre arbeidstid
3) Mulighet for egen fagutvikling
4) Grad av profesjonell autonomi
5) Inntektsnivå

Med *inntekt* menes her brutto skattbar inntekt per år etter at driftsutgifter og sosiale utgifter (pensjon, sykepenger, etc.) er fratrukket. Med *privat praksis* sikter vi til dagens system med offentlige refusjoner.

Anta at alt annet ved praksisene er likt, inkludert slike forhold som arbeidstid, vaktbelastning og møtevirksomhet med offentlige myndigheter.

Du vil bli bedt om å ta stilling til fem parvise sammenlikninger

	Praksis A	**Praksis B**
Driftsform	Privat praksis	Fastlønn
Mulighet for å styre arbeidstid	Begrenset	Svært god
Mulighet for egen fagutvikling	Svært god	Begrenset
Grad av profesjonell autonomi	Høy grad	Begrenset
Inntektsnivå	300.000 *mer* enn nåværende inntekt	300.000 *mer* enn nåværende inntekt

* Hvilken praksis oppfatter du som mest attraktiv av A og B?

○ Praksis A ○ Praksis B

* Hvis du kunne velge, hvilken praksis vil du foretrekke av A, B eller din nåværende praksis?

○ Praksis A ○ Praksis B ○ Min nåværende praksis

	Praksis A	**Praksis B**
Driftsform	Fastlønn	Privat praksis
Mulighet for å styre arbeidstid	Svært god	Begrenset
Mulighet for egen fagutvikling	Begrenset	Svært god
Grad av profesjonell autonomi	Begrenset	Høy grad
Inntektsnivå	150.000 *mer* enn nåværende inntekt	300.000 *mer* enn nåværende inntekt

	Praksis A	**Praksis B**
Driftsform	Privat praksis	Fastlønn
Mulighet for å styre arbeidstid	Svært god	Begrenset
Mulighet for egen fagutvikling	Begrenset	Svært god
Grad av profesjonell autonomi	Høy grad	Begrenset
Inntektsnivå	100.000 *mindre* enn nåværende inntekt	Nåværende inntekt

	Praksis A	**Praksis B**
Driftsform	Fastlønn	Privat praksis
Mulighet for å styre arbeidstid	Svært god	Begrenset
Mulighet for egen fagutvikling	Svært god	Begrenset
Grad av profesjonell autonomi	Høy grad	Begrenset
Inntektsnivå	Nåværende inntekt	100.000 *mindre* enn nåværende inntekt

	Praksis A	Praksis B
Driftsform	Fastlønn	Privat praksis
Mulighet for å styre arbeidstid	Begrenset	Svært god
Mulighet for egen fagutvikling	Begrenset	Svært god
Grad av profesjonell autonomi	Begrenset	Høy grad
Inntektsnivå	150.000 *mer* enn nåværende inntekt	100.000 *mindre* enn nåværende inntekt

Parvise valg fra versjon 2:

	Praksis A	Praksis B
Driftsform	Privat praksis	Fastlønn
Mulighet for å styre arbeidstid	Svært god	Begrenset
Mulighet for egen fagutvikling	Begrenset	Svært god
Grad av profesjonell autonomi	Begrenset	Høy grad
Inntektsnivå	Nåværende inntekt	150.000 *mer* enn nåværende inntekt

	Praksis A	Praksis B
Driftsform	Fastlønn	Privat praksis
Mulighet for å styre arbeidstid	Begrenset	Svært god
Mulighet for egen fagutvikling	Svært god	Begrenset
Grad av profesjonell autonomi	Høy grad	Begrenset
Inntektsnivå	100.000 *mindre* enn nåværende inntekt	150.000 *mer* enn nåværende inntekt

	Praksis A	Praksis B
Driftsform	Privat praksis	Fastlønn
Mulighet for å styre arbeidstid	Begrenset	Svært god
Mulighet for egen fagutvikling	Svært god	Begrenset
Grad av profesjonell autonomi	Begrenset	Høy grad
Inntektsnivå	Nåværende inntekt	150.00 *mer* enn nåværende inntekt

	Praksis A	Praksis B
Driftsform	Privat praksis	Fastlønn
Mulighet for å styre arbeidstid	Begrenset	Svært god
Mulighet for egen fagutvikling	Begrenset	Svært god
Grad av profesjonell autonomi	Høy grad	Begrenset
Inntektsnivå	300.000 *mer* enn nåværende inntekt	300.000 *mer* enn nåværende inntekt

	Praksis A	Praksis B
Driftsform	Privat praksis	Fastlønn
Mulighet for å styre arbeidstid	Svært god	Begrenset
Mulighet for egen fagutvikling	Svært god	Begrenset
Grad av profesjonell autonomi	Begrenset	Høy grad
Inntektsnivå	300.000 *mer* enn nåværende inntekt	100.000 *mindre* enn nåværende inntekt

Parvise valg fra versjon 3

	Praksis A	Praksis B
Driftsform	Privat praksis	Fastlønn
Mulighet for å styre arbeidstid	Svært god	Begrenset
Mulighet for egen fagutvikling	Svært god	Begrenset
Grad av profesjonell autonomi	Begrenset	Høy grad
Inntektsnivå	100.000 *mindre* enn nåværende inntekt	300.000 *mer* enn nåværende inntekt

	Praksis A	Praksis B
Driftsform	Fastlønn	Privat praksis
Mulighet for å styre arbeidstid	Begrenset	Svært god
Mulighet for egen fagutvikling	Svært god	Begrenset
Grad av profesjonell autonomi	Begrenset	Høy grad
Inntektsnivå	100.000 *mindre* enn nåværende inntekt	Nåværende inntekt

	Praksis A	Praksis B
Driftsform	Privat praksis	Fastlønn
Mulighet for å styre arbeidstid	Begrenset	Svært god
Mulighet for egen fagutvikling	Begrenset	Begrenset
Grad av profesjonell autonomi	Begrenset	Høy grad
Inntektsnivå	150.000 *mer* enn nåværende inntekt	Nåværende inntekt

	Praksis A	Praksis B
Driftsform	Privat praksis	Fastlønn
Mulighet for å styre arbeidstid	Begrenset	Svært god
Mulighet for egen fagutvikling	Begrenset	Svært god
Grad av profesjonell autonomi	Høy grad	Begrenset
Inntektsnivå	Nåværende inntekt	100.000 *mindre* enn nåværende inntekt

	Praksis A	Praksis B
Driftsform	Fastlønn	Privat praksis
Mulighet for å styre arbeidstid	Svært god	Begrenset
Mulighet for egen fagutvikling	Svært god	Begrenset
Grad av profesjonell autonomi	Høy grad	Begrenset
Inntektsnivå	150.000 *mer* enn nåværende inntekt	Nåværende inntekt

Parvise valg fra versjon 4:

	Praksis A	Praksis B
Driftsform	Fastlønn	Privat praksis
Mulighet for å styre arbeidstid	Begrenset	Svært god
Mulighet for egen fagutvikling	Begrenset	Svært god
Grad av profesjonell autonomi	Høy grad	Begrenset
Inntektsnivå	Nåværende inntekt	300.000 *mer* enn nåværende inntekt

	Praksis A	Praksis B
Driftsform	Fastlønn	Privat praksis
Mulighet for å styre arbeidstid	Begrenset	Svært god
Mulighet for egen fagutvikling	Svært god	Begrenset
Grad av profesjonell autonomi	Høy grad	Begrenset
Inntektsnivå	300.000 *mer* enn nåværende inntekt	Nåværende inntekt

	Praksis A	Praksis B
Driftsform	Privat praksis	Fastlønn
Mulighet for å styre arbeidstid	Svært god	Begrenset
Mulighet for egen fagutvikling	Begrenset	Svært god
Grad av profesjonell autonomi	Begrenset	Høy grad
Inntektsnivå	100.000 *mindre* enn nåværende inntekt	150.000 *mer* enn nåværende inntekt

	Praksis A	Praksis B
Driftsform	Fastlønn	Privat praksis
Mulighet for å styre arbeidstid	Svært god	Begrenset
Mulighet for egen fagutvikling	Begrenset	Svært god
Grad av profesjonell autonomi	Høy grad	Begrenset
Inntektsnivå	300.000 *mer* enn nåværende inntekt	150.000 *mer* enn nåværende inntekt

	Praksis A	Praksis B
Driftsform	Privat praksis	Fastlønn
Mulighet for å styre arbeidstid	Svært god	Begrenset
Mulighet for egen fagutvikling	Svært god	Begrenset
Grad av profesjonell autonomi	Begrenset	Høy grad
Inntektsnivå	150.000 *mer* enn nåværende inntekt	100.000 *mindre* enn nåværende inntekt

Del 3: Din verdsetting av de enkelte jobbkarakteristika versjon 1 og 2

Her er vi opptatt av hvor mye du verdsetter de enkelte jobbkarakteristikkene isolert sett.

Hvor stor inntektsøkning må det være i Praksis B for at denne skal være like attraktiv som Praksis A? Vennligst fyll inn nødvendig inntektsøkning i feltet under hver tabell.

	Praksis A	Praksis B
Mulighet for å styre arbeidstid	Svært god	Begrenset
Inntekt	Nåværende inntekt	?

	Praksis A	Praksis B
Mulighet for egen fagutvikling	Svært god	Begrenset
Inntekt	Nåværende inntekt	?

	Praksis A	Praksis B
Grad av profesjonell autonomi	Høy grad	Begrenset
Inntekt	Nåværende inntekt	?

Tenk deg at du stilles overfor et valg mellom privat praksis og fastlønn, der du kan være trygg på at mulighet til å styre arbeidstid, fagutvikling og profesjonell autonomi vil være *helt lik*.

Hvilken inntekt vil gjøre at du synes de to driftsformene blir like attraktive?

Med inntekt menes her din brutto skattbare inntekt etter at driftsutgifter og sosiale utgifter (pensjon, sykepenger, etc) er fratrukket, mao. at inntektsgrunnlaget er sammenliknbart uavhengig av om man driver privat praksis eller er ansatt.

	Praksis A	Praksis B
Driftsform	Privat praksis	Fastlønn
Inntektsnivå	1.000.000	?

Del 3: Din verdsetting av de enkelte jobbkarakteristika Versjon 3 og 4

Her er vi opptatt av hvor mye du verdsetter de enkelte jobbkarakteristikkene isolert sett.

Hvor stor reduksjon i inntekt vil du kunne akseptere i Praksis B for at denne skal være like attraktiv som Praksis A? Vennligst fyll inn hvor stor inntektsreduksjon du er villig til å akseptere i feltet under hver tabell.

	Praksis A	Praksis B
Mulighet for å styre arbeidstid	Begrenset	Svært god
Inntekt	Nåværende inntekt	?

	Praksis A	Praksis B
Mulighet for egen fagutvikling	Begrenset	Svært god
Inntekt	Nåværende inntekt	?

	Praksis A	Praksis B
Grad av profesjonell autonomi	Begrenset	Høy grad
Inntekt	Nåværende inntekt	?

Tenk deg at du stilles overfor et valg mellom privat praksis og fastlønn, der du kan være trygg på at mulighet til å styre arbeidstid, fagutvikling og profesjonell autonomi vil være *helt lik*.

Hvilken inntekt vil gjøre at du synes de to driftsformene blir like attraktive?

Med inntekt menes her din brutto skattbare inntekt etter at driftsutgifter og sosiale utgifter (pensjon, sykepenger, etc) er fratrukket, mao. at inntektsgrunnlaget er sammenliknbart uavhengig av om man driver privat praksis eller er ansatt.

	Praksis A	Praksis B
Driftsform	Fastlønn	Privat praksis
Inntektsnivå	1.000.000	?

Del 4: Foretrukket praksissted og driftsform
For hver dimensjon nedenfor, sett et kryss i ruten for det alternativet som passer best for nåværende praksissted, foretrukket praksissted og minst foretrukket praksissted.

Landsdel

	Nord Norge	Midt Norge	Vestlandet	Sørlandet	Østlandet
Nåværende praksissted	○	○	○	○	○
Foretrukket praksissted	○	○	○	○	○
Minst foretrukket praksissted	○	○	○	○	○

Kommunestørrelse (antall innbygger)

	Under 5000	5000 - 14999	15000 - 49999	50000 eller flere
Nåværende praksissted	○	○	○	○
Foretrukket praksissted	○	○	○	○
Minst foretrukket praksissted	○	○	○	○

Reisetid fra praksissted med bil/båt til nærmeste sykehus

	Mindre enn 30 minutter	30-60 minutter	Mer enn 1 time
Nåværende praksissted	○	○	○
Foretrukket praksissted	○	○	○
Minst foretrukket praksissted	○	○	○

Hvor stor økning i inntekt vil du kreve for å jobbe i en kommune med mindre enn 5.000 innbyggere?

○ 100.000 økt inntekt

○ 250.000 økt inntekt

○ 500.000 økt inntekt

○ Det vil være uaktuelt for meg å flytte til en slik kommune uansett inntektskompensasjon

Versjon 1 og 2:

I det følgende blir du presentert for to alternativer av driftsform med tilhørende arbeidstimer og inntektsnivå.

Med inntekt menes her din brutto skattbare inntekt etter at driftsutgifter og sosiale utgifter (pensjon, sykepenger, etc) er fratrukket, mao. at inntektsgrunnlaget er sammenliknbart uavhengig av om man driver privat praksis eller er ansatt.

	Praksis A	Praksis B
Driftsform	Fastlønn pluss bonus som vil avhenge av oppnåelse av noen fastsatte aktivitetsmål som igjen vil avhenge av arbeidstid	Privat praksis der inntekt vil avhenge av praksisprofil og arbeidstid
Anslått arbeidstimer per uke	37,5-45	40-50
Forventet bruttoinntekt (utenom driftsutgifter og sosiale utgifter)	750.000-1 mill	800.000-1,2 mill

Hvilken praksis vil du foretrekke?

○ Praksis A   ○ Praksis B

I det følgende blir du presentert for tre alternativer av driftsform med tilhørende arbeidstimer og inntektsnivå.

Med inntekt menes her din brutto skattbare inntekt etter at driftsutgifter og sosiale utgifter (pensjon, sykepenger, etc) er fratrukket, mao. at inntektsgrunnlaget er sammenliknbart uavhengig av om man driver privat praksis eller er ansatt.

	Praksis A	Praksis B	Praksis C
Driftsform	Fastlønn innenfor normal arbeidstid	Fastlønn pluss bonus som vil avhenge av oppnåelse av noen fastsatte aktivitetsmål som igjen vil avhenge av arbeidstid	Privat praksis der inntekt vil avhenge av praksisprofil og arbeidstid
Anslått arbeidstimer per uke	37,5	37,5-45	40-50
Forventet bruttoinntekt (utenom driftsutgifter og sosiale utgifter)	750.000	750.000-1 mill	800.000-1,2 mill

Hvilke praksis vil du foretrekke?

○ Praksis A   ○ Praksis B   ○ Praksis C

Hvilken organisering/avlønningsform ville du foretrekke dersom du kunne velge fritt? Sett ett kryss

○ Privatpraksis (legen er arbeidsgiver og holder lokaler/utstyr selv)

○ Privatpraksis med kommunal leieavtale (kommunen leier ut lokaler/utstyr og/eller personell)

○ Fastlønn med tillegg som er knyttet til oppnådde aktivitetsmål og arbeidstid

○ Fastlønn uten tillegg som nevnt over

Del 5: Noen bakgrunnsopplysninger
Kjønn:

○ kvinne

○ Mann

___

Alder

[   ]

___

Hvor er du født?

○ Norge

○ Utlandet

Hvor har du din medisinske utdannelse fra?

○ Norge

○ Utlandet

Er du spesialist? Flere svaralternativer er mulig

☐ Ja, spesialist i allmennmedisin

☐ Ja, spesialist i samfunnsmedisin

☐ Ja, annen spesialitet

☐ Nei

Hvor lenge har du jobbet som allmennlege/fastlege?

[   ]

Omtrent hvor høy var din brutto skattbare inntekt i 2011 etter at driftsutgifter og sosiale utgifter (pensjon, sykepenger, etc) er fratrukket?

○ Mindre enn 700.000

○ 700.000 – 849.000

○ 850.000 – 999.000

○ 1.000.000 – 1.149.000

○ 1.150.000 – 1.299.000

○ 1.300.000 – 1.500.000

○ Mer enn 1.500.000

Hvor mange pasienter har du på listen?

[   ]

Hvor mange pasienter ville du foretrekke å ha på listen?

[   ]

Hva er ditt gjennomsnittlige antall arbeidstimer pr uke?

[   ]

Hvor mange arbeidstimer pr uke ville du foretrekke å jobbe?

[   ]

Hvor mange innbyggere er det i kommunen der du bor?

[   ]

Del 6: Mer om driftsform og nye arbeidsoppgaver

Dersom du har tid og interesse setter vi pris på om du også vil svare på de åpne spørsmålene i denne siste delen av undersøkelsen. Uansett er det viktig at du fortsetter til slutten, slik at dine tidligere svar blir registrert!

Ovenfor svarte du at du foretrekker privat praksis dersom du kunne velge fritt.
Ville dette også gjelde dersom du kunne være trygg på at mulighet for å styre arbeidstid, fagutvikling, profesjonell autonomi og inntekt ville være den samme med fastlønn som driftsform?

○ Ja, jeg vil fremdeles foretrekke privat praksis

○ Nei, da vil jeg foretrekke fastlønn

○ I en slik situasjon er type driftsform underordnet

Hvilke andre grunner er det for at du fortsatt vil foretrekke privat praksis framfor fastlønn?

Ovenfor svarte du at du foretrekker fastlønn dersom du kunne velge fritt.

Ville dette også gjelde dersom du kunne være trygg på at mulighet for å styre arbeidstid, fagutvikling, profesjonell autonomi og inntekt ville være den samme med privat praksis som driftsform?

○ Ja, jeg vil fremdeles foretrekke fastlønn

○ Nei, da vil jeg foretrekke privat praksis

○ I en slik situasjon er type driftsform underordnet

Hvilke andre grunner er det for at du fortsatt vil foretrekke fastlønn framfor privat praksis?

Et sentralt element i samhandlingsreformen er at flere oppgaver er ment å skulle overføres fra spesialisthelsetjenesten til primærhelsetjenesten.

Hvilke oppgaver mener du fastleger i større grad bør utføre?

I forbindelse med overføring av nye arbeidsoppgaver til fastleger, er det blitt påpekt at en del arbeidsoppgaver som nå utføres av fastlegene bør kunne overføres til sykepleiere/ helsesøstre/jordmødre.

Dersom disse var mer integrert innenfor allmennpraksis, omtrent hvor stor andel av din samlede arbeidstid er oppgaver og tjenestetilbud som med fordel kunne overlates til sykepleiere/helsesøstre/jordmødre?

> [ ]

Hvilke av dine nåværende arbeidsoppgaver og tjenester mener du kunne vært overlatt til sykepleier/helsesøster/jordmor uten at dette ville forringet kvaliteten på tjenestene?

I forbindelse med forslag til nye forskrifter for fastlegene, er det blitt stor oppmerksomhet omkring nye arbeidsoppgaver.

Hvilke typer arbeidsoppgaver synes du er viktige og meningsfulle å skulle bruke mer tid på?

Hvilke typer arbeidsoppgaver vil du ønske å bruke mindre tid på?

Har du kommentarer til noen av spørsmålene eller undersøkelsen i sin helhet?

10. Papers I-III