

Reimbursement for out-of-hours work in Norway

Summary

Background. Norwegian regular general practitioners (RGPs) are required to participate in out-of-hours duty. The aim of this study was to determine their actual participation rate.

Material and methods. Information was collected from the RGP Database, the Municipality Database and from physicians' bills to the National Insurance in 2004. The material consists of 3 751 RGPs and 2 317 other physicians claiming reimbursement for out-of-hours work.

Results. RGPs received 51.8 % of the total reimbursement for out-of-hours work, and 35.6 % of them did not have any such income. Male RGPs received almost twice as much reimbursement for out-of-hours duty as their female colleagues, and there was a strong tendency for older RGPs to receive less. Among all physicians, young men were those who generally worked most frequently out-of-hours. RGPs' reimbursement dropped with poorer coverage of doctors, increasing list size, if their list was full or overcrowded, and with increasing size and central localization of the municipality.

Interpretation. A large proportion of RGPs do not work out-of-hours in emergency services.

Disclosed conflicts of interest: None

Regulations concerning the regular general practitioner (RGP) Scheme enable municipalities to require all RGPs to take on emergency duties (1). Emergency duties are also obligatory for newly qualified doctors serving their compulsory practice period. As well as encroaching on doctors' spare time, these duties often entail suboptimal working conditions and the risk of making mistakes (2–5). It is hardly surprising that many RGPs regard the out-of-hours duty as a burden (6–8).

RGPs are allowed to retire from out-of-hours emergency duties at the age of 60 if they so wish. They may also be excused on grounds of illness, pregnancy or important social reasons. The local authority may excuse a doctor for personal reasons if other doctors can efficiently cover the duties; this applies in particular to doctors over the age of 55 (9). There are also many RGPs who «hand out» their duties to other doctors interested in earning extra money (6).

Little is known about the proportion of RGPs who in fact participate in out-of-hours duties. The aim of this study was to analyze this more closely by studying doctors' bills sent to the National Insurance (NI).

Material and methods

The data material is arranged in an anonymous form by the Norwegian Social Sciences Database (NSD) and covers the year 2004. Information about the doctors' reimbursement (total and specified for out-of-hours work) is retrieved from the NI, and RGP data come from the RGP database. The NSD Municipality Database provided information on the municipalities covered.

Centrality is defined as a municipality's geographical location in relation to a centre with important and central functions. Centrality is worked out on a scale from 0 to 3, where 0 is the least central and 3 the most central municipality (10).

The observation date is normally 1.1.2004, but if the RGP started to practice later the same year, the observation date is counted as the day practice was started. For 301 RGPs who had only practiced part of the year, annual reimbursement was based on the income they would have had for an entire year's work (concerns analyses in Table 3). Doctors decide how many patients they want on their list and define their own «list limit»; the «list length» is the number of names at the observation date. A list is usually opened when the difference between the list limit

and the list length is more than 20. So, a full list was defined as one with 0–20 vacancies.

The database was so incomplete concerning specialties that this was left out. Only sex and age was known for other doctors than RGPs who receive reimbursement for emergency duties.

Doctors who were registered in several different municipalities were excluded from analyses involving patient lists and municipality characteristics. 38 of 3 751 RGPs practised in two municipalities, and among 2 317 other doctors 404 were excluded. The material in these analyses therefore consists of 3 713 RGPs and 1 913 other doctors.

The data material is presented as frequency distributions and average values. As the material is complete (not a selection) we have not used confidence intervals. We have calculated average values for reimbursement of a year's emergency work and how much of the RGPs' total income (from NI) such reimbursement represents. We have also calculated the proportion of RGPs who did not earn an income from emergency duties. A logistic regression analysis is performed where the outcome variable is whether RGPs participate in out-of-hours work or not. The explanatory variables are shown in Table 3.

Results

In 2004, a total of 264.8 million kroner was spent on reimbursement for emergency duties; 51.8 % of this was spent on RGPs. Table 1 shows distribution of the total reimbursement between doctors and municipalities. A total of 4 730 doctors received reimbursement for emergency duties; 2 413 of these were RGPs and 2 317 were other doctors.

The average age for all RGPs was 46.6 years; for those doing emergency duties it was 44.2. The average age for other doctors

Main Message

- RGPs receive a good 50 % of all reimbursement for out-of-hours work
- Older and female doctors have low emergency duty incomes
- RGPs have higher duty incomes in small (sparsely populated) outlying districts with a good GP/population ratio
- Long and full patient lists are associated with low duty incomes

Hogne Sandvik

Hogne.sandvik@isf.uib.no

National Centre for Emergency Primary Health Care
Kalfarveien 31
5018 Bergen

Steinar Hunsb  r

National Centre for Emergency Primary Health Care
And
Section for General Practice
The Department of Public Health and Primary Health Care
University of Bergen

Table 1 Reimbursement from the National Insurance for out-of-hours work in 2004

	Total reimbursement (kr)	Distribution (%)	RGP proportion (%)
<i>Doctor's sex</i>			
Man	213 162 649	80.5	52.7
Woman	51 588 665	19.5	48.2
<i>Doctor's age</i>			
< 30	36 106 656	13.6	15.0
30–39	93 143 718	35.2	45.5
40–49	81 632 714	30.8	62.4
50–59	45 421 498	17.2	75.1
> 59	8 446 728	3.2	51.7
<i>Municipality's centrality¹</i>			
0	83 301 826	31.5	49.1
1	26 703 820	10.1	51.6
2	56 818 369	21.5	57.1
3	97 927 115	37.0	51.2
<i>Municipality's population</i>			
≤ 2 000	36 088 053	13.6	51.6
2 001–5 000	45 783 329	17.3	54.1
5 001–10 000	45 408 265	17.2	54.9
10 001–50 000	89 482 328	33.8	50.9
> 50 000	47 989 155	18.1	48.6
<i>Municipality's GP density (number of RGPs to 1,000 inhabitants)</i>			
< 0.8	48 969 516	18.5	48.5
0.8–0.9	139 554 752	52.7	51.4
> 0.9	76 226 862	28.8	54.8
Sum	264 751 314	100	51.8

¹ Geographic location in relation to a centre with important and central functions. 0 = the least central and 3 = the most central municipalities

doing emergency duties was 35.6 years. Men comprised 70.4 % of the RGPs, 72.2 % of those who did emergency work and 67.2 % of those who did emergency work but were not RGPs.

Quite a few doctors have received only modest sums in reimbursement according to the records; 11.2 % of RGPs and 8.0 % of other doctors had received less than 5 000 kroner. Female and older doctors, as well as doctors in large, central districts are over represented in this group (e-Table 2).

Male RGPs had nearly twice as much income from out-of-hours work as their female colleagues (Table 3). There is also a strong tendency for older RGPs to have a lower emergency duty income. The descriptive analysis shows that emergency duty income decreased with longer list length, full/overfull patient lists. In the regression analysis, which shows whether a doctor has completely opted out of emergency duty, the capacity effect disappears and it seems that it is above all the RGPs with the longest patient lists who do not participate in emergency duties.

The descriptive analysis shows that where the district is more central and populated, the RGP's emergency duty income drops.

The regression analysis shows a corresponding link to centrality, but the most important difference linked to population seems to be between the smallest municipalities and the rest. RGPs in districts with a high doctor density had higher emergency duty incomes than RGPs in districts with a lower doctor population ratio (Table 3).

Younger, male doctors also dominate among other doctors who participated in out-of-hours duties (Table 4). There was a particular preponderance of such doctors in the smallest (least populated) municipalities, where they made up 63 % of all the emergency duty doctors. Emergency duty incomes per doctor are highest in the largest municipalities. In districts with good RGP density, other doctors have lower emergency duty incomes.

Discussion

All emergency duty doctors have been included in our material and it can therefore be regarded as complete. When millions of doctor patient contacts are to be registered by the National Insurance mistakes will inevitably occur. The very small sums that were registered for some doctors are unlikely to account for ordinary emergency duties. 11 %

of RGPs with incomes from out-of-hours work received less than 5000 kroner in reimbursement in 2004. There is therefore reason to believe that the proportion of RGPs who do not take on emergency duties is rather higher than the 35.6 % not receiving any reimbursement.

A source of error, which may pull in the opposite direction, is that work done at night in the intermunicipal emergency centres (co-operatives) is often paid a fixed salary and not therefore included in this material. There is reason to believe that this work is largely done by the RGPs themselves, as night duties may not be easy to pass on to others.

In a recent study of emergency service organization in Norway it was found that 71 % of the RGPs participated in out-of-hours work and that 23 % were excused (11). The data were collected via the principal municipal doctor or consultant and they can hardly have an overview of all the RGPs who pass on their duties to others.

Patients' reasons for contacting the emergency services are largely the same as in the rest of general practice (12), and RGPs are probably the doctors best qualified to do emergency work. It is therefore unfortunate that so many opt out. It is mainly older and female RGPs who withdraw from the emergency duty system. This happens to a far greater extent than that which can be attributed to reasons for dispensation stated in their contract.

There is a clear tendency for GPs to avoid out-of-hours work on the international level as well. English GP contracts now allow the option of no emergency duties in exchange for reduced remuneration. The results are clear enough: only 10 % of doctors have chosen to continue with out-of-hours work (13).

When it comes to other doctors taking on duties, there is a clear preponderance in the youngest age range of newly qualified doctors who are serving their compulsory district practice period. These doctors made up almost two thirds of the duty doctors in the smallest districts. Their practice period lasts only six months and this explains why the RGPs in those districts had three times the income from extra duties. There is also a noticeable group of other well-established doctors who take over many of the RGPs' duties. These doctors had at least as much duty income as the RGPs.

Daytime workload seems to play an important role in an RGP's decision whether or not to participate in out-of-hours duties. Long, full/overfull patient lists lead to RGPs opting out of the duty system. In this situation the extra duty income is no longer an incentive. The emergency duty income makes up only 3–4 % of the total reimbursement for doctors with many patients. In contrast to this, RGPs in the smallest districts get 50 % of their reimbursement from out-of-hours work. It should be taken into

Table 3 RGP's reimbursement for out-of-hours work in 2004. Doctors with reimbursement from more than one municipality are excluded from variables and analyses marked with an *. The odds ratio for participation in out-of-hours work is based on logistical regression where all variables are included as adjustment factors in the analysis. «Centrality» is defined in Table 1

	N	Out-of-hours reimbursement (kr) per doctor	Out-of-hours reimbursement as % of total reimbursement	% of RGP's without reimbursement for out-of-hours work	Odds ratio* for participation in out-of-hours work (95 % CI)
<i>Doctor's sex</i>					
Male	2 642	50 821	11.6	34.0	1.00
Female	1 109	28 519	11.2	39.4	0.48 (0.40–0.57)
<i>Doctor's age</i>					
< 30	86	136 978	27.9	3.5	1.00
30–39	839	67 895	18.3	15.6	0.22 (0.07–0.74)
40–49	1 308	42 367	9.9	33.4	0.10 (0.03–0.32)
50–59	1 196	29 856	8.7	44.7	0.06 (0.02–0.19)
> 59	322	18 720	6.7	71.4	0.01 (0.00–0.05)
<i>List length*</i>					
< 1 000	1 137	65 928	22.0	27.1	1.00
1 000–1 399	1 457	38 154	9.0	35.1	1.06 (0.86–1.30)
1 400–1 799	878	27 069	4.2	43.6	0.94 (0.74–1.21)
≥ 1 800	241	25 280	2.8	54.4	0.63 (0.43–0.91)
<i>List capacity*</i>					
Open	1 570	61 307	16.3	31.7	1.00
Full (0–20 vacancies)	1 447	33 040	8.7	37.1	1.05 (0.88–1.26)
Over full	696	23 488	6.2	43.1	1.03 (0.82–1.29)
<i>Municipality's centrality*</i>					
0	590	83 006	33.2	11.7	1.00
1	293	60 373	15.0	19.1	0.95 (0.58–1.53)
2	891	38 159	8.2	31.1	0.75 (0.49–1.14)
3	1 939	30 813	5.8	48.1	0.64 (0.43–0.96)
<i>Municipality's population*</i>					
≤ 2 000	209	114 534	52.6	5.3	1.00
2 001–5 000	436	63 552	24.2	14.2	0.47 (0.23–0.98)
5 001–10 000	509	56 702	11.3	25.1	0.20 (0.10–0.42)
10 001–50 000	1 331	37 842	8.0	32.4	0.38 (0.18–0.80)
> 50 000	1 228	24 051	3.7	57.2	0.31 (0.11–0.85)
<i>Municipality's GP density* (number of RGP's per 1000 inhabitants)</i>					
< 0.8	763	39 839	6.7	41.3	1.00
0.8–0.9	2 272	35 513	7.8	40.9	1.17 (0.96–1.42)
> 0.9	678	72 752	28.9	13.1	1.85 (1.19–2.87)
Sum	3 751	44 227	11.5	35.6	–
Sum*	3 713	43 202	11.4	35.9	

consideration here that doctors with a fixed salary are over represented in the smallest districts. They send their bills to the NI, but their income is higher than reimbursement received by the municipality (14).

In districts with a good doctor/population ratio, the RGP's had twice as much remuneration from emergency duties. This comprised 29 % of their total NI reimbursement, as opposed to only 7–8 % in other municipalities. Only 13 % did not participate in out-of-hours work compared to about 40 % in other districts. Some of these differences can be attributed to the fact that the small outlying municipalities have a good GP density, but the regression analysis shows that GP density

is an independent factor that is important in itself. The RGP's would probably participate more in duties if the GP density improved (15).

Emergency work can often be perceived as stressful and dangerous (6–8). An important measure for increasing RGP participation is to ensure that working conditions are perceived as well organized and safe. Several studies in Great Britain show that larger out-of-hours cooperatives reduce the stress on individual doctors (16–19). Due to geographical differences these experiences may not be relevant for Norway. It is reasonable to believe that intermunicipal cooperatives with a permanent staff may have a similar

effect (20, 21), but there is clearly a need for more Norwegian research in this important field.

Some of the data have been retrieved from the RGP Database. The National Insurance, Statistics Norway and the Norwegian Social Sciences Data Service (NSD) have provided data and the NSD has prepared them for analysis. None of these institutions are responsible for the analyses or interpretations made here. We thank Sigmund Tveit for organizing the data.

e-Table 2 is found in the article on www.tidsskriftet.no

>>>

Table 4 Reimbursement to other doctors than RGPs for out-of-hours work in 2004. Doctors with reimbursement from more than one municipality are excluded from variables and analyses marked with an *. «Centrality» is defined in Table 1

	N	Out-of-hours reimbursement (kr) per doctor
<i>Doctor's sex</i>		
Male	1 557	64 781
Female	760	35 171
<i>Doctor's age</i>		
< 30	733	41 908
30–39	960	52 878
40–49	398	77 189
50–59	169	66 917
> 59	57	71 635
<i>Municipality's centrality*</i>		
0	723	41 135
1	196	49 158
2	382	44 303
3	611	52 174
<i>Municipality's population*</i>		
≤ 2 000	335	39 479
2 001–5 000	329	41 085
5 001–10 000	318	43 639
10 001–50 000	603	51 732
> 50 000	327	50 039
<i>Municipality's GP density* (number of RGP positions per 1000 inhabitants)</i>		
< 0.8	321	54 735
0.8–0.9	965	47 722
> 0.9	626	39 226
Sum	2 317	55 069
Sum*	1 913	46 094

Literature

1. Forskrift om fastlegeordning i kommunene. www.lovdata.no/for/st/ho/ho-20000414-0328.html (14.12.2006).
2. Owen C. Formal complaints against general practitioners: a study of 1000 cases. Br J Gen Pract 1991; 41: 113–5.
3. Stokstad I, Eskerud J, Jordal H et al. Klager på leger i primærhelsetjenesten. Tidsskr Nor Lægeforen 1993; 113: 863–6.
4. Kristoffersen JE. Out-of-hours primary care and the patients who die. A survey of deaths after contact with a suburban primary care out-of-hours service. Scand J Prim Health Care 2000; 18: 139–42.
5. Bratland SZ, Hunskaar S. Medisinsk-faglige vurderinger i tilsynssaker mot allmennleger. Tidsskr Nor Lægeforen 2006; 126: 166–9.
6. Dommerud T. Legevakt på randen av sammenbrudd. Dagens Medisin 25.6.2004. (www.dagens-medisin.no/nyheter/VisArtikkel.asp?ArtId=4885 (14.12.2006).)

7. Kristoffersen JE. Legevaktstegen – hvordan har de det, og hvordan tar de det? En spørreundersøkelse blant leger ved en interkommunal legevakt-sentral. Utposten 1997; 26: 274–8.
8. French DP, McKinley RK, Hastings A. GP stress and patient dissatisfaction with nights on call: an exploratory study. GP stress and patient satisfaction. Scand J Prim Health Care 2001; 19: 170–3.
9. Sentral forbundsvis særavtale mellom KS og Den norske lægeforening om vilkår for leger og turnusleger i kommunehelsetjenesten med arbeidsavtale, herunder leger i fastlegeordningen. www.ks.no/upload/76644/SFS_%202305_2006-2008.rtf (14.12.2006).
10. Standard for kommuneklassifisering 1994. Statistisk sentralbyrå 1994. www.ssb.no/kommuner/komklasse94.html (14.12.2006).
11. Legevaktorganisering i Norge. Rapport fra en registerstudie. Bergen: Nasjonalt kompetansesenter for legevaktmedisin, 2006. (www.unifob-helse.uib.no/admin2/Nyhetsfiler/500.RAPPORTFRAREGISTER11.07.06.pdf (14.12.2006).)
12. Brügger EA, Jøsendal O. Registrering av aktivitet under legevakt. Tidsskr Nor Lægeforen 2001; 121: 2730–1.
13. O'Dowd A. Cost of out of hours care was 22 % higher than predicted in England. BMJ 2006; 332: 1113.
14. Sandvik H. Evaluering av fastlegereformen 2001–2005. Sammenfatning og analyse av evalueringens delprosjekter. Oslo: Norges forskningsråd, 2006.
15. Hunskaar S. Eg ønsker meg 1 000 nye fastlegar til jul. Tidsskr Nor Lægeforen 2005; 125: 3518.
16. O'Dowd TC, McNamara K, Kelly A et al. Out-of-hours co-operatives: general practitioner satisfaction with governance and working arrangements. Eur J Gen Pract 2006; 12: 15–8.
17. Salisbury C. Evaluation of a general practice out of hours cooperative: a questionnaire survey of general practitioners. BMJ 1997; 314: 1598–9.
18. Hughes P, Neal RD, Maskrey N. General practitioners prefer to work in cooperatives for out of hours work. BMJ 1997; 314: 1904.
19. Charles-Jones H, Houlker M. Out-of-hours work: the effect of setting up a general practitioner cooperative on GPs and their families. Br J Gen Pract 1999; 49: 215–6.
20. Legevakt i kommunehelsetjenesten. Rapport om utvikling av legevaktstjenesten til interkommunale legevakter (IKL). Oslo: Den norske lægeforening, 2005. (www.legeforeningen.no/index.gan?id=79879 (14.12.2006).)
21. Hunskaar S. Legevakta under lupa. Tidsskr Nor Lægeforen 2006; 126: 3083.

The manuscript was received 11.8. 2006 and approved 1.2. 2007. Medical editor Petter Gjersvik.