

Increasing use of the emergency department in a Swiss hospital: observational study based on measures of the severity of cases

Brigitte Santos-Eggimann

Institute of Social and Preventive Medicine, University of Lausanne, CH-1005 Lausanne, Switzerland
Brigitte Santos-Eggimann
assistant professor,
head of health services research unit

Correspondence to: B Santos-Eggimann
Brigitte.Santos-Eggimann@inst.hospvd.ch

BMJ 2002;324:1186-7

In many countries the number of consultations in hospital emergency departments increased over the past decade. Possible explanations are the ageing of the population, increased levels of social deprivation, higher expectations from urban populations, or artefacts in admissions data.¹⁻³ Implications for health-care planners are far reaching; an understanding of how much of this trend is attributable to an increase in less severe cases is crucial.⁴ Studies of administrative data may aid such understanding.

Methods and results

I analysed administrative data collected from 1993 to 1999 for consultations in the emergency department of the Centre Hospitalier Universitaire Vaudois, the public general hospital serving 286 000 inhabitants in the Lausanne area. Over this period, the number of consultations increased by 7421 from 30 822 to 38 243. This was a mean annual increase of 1.5% between 1993 and 1996 and 5.9% between 1996 and 1999 while the resident population remained stable (it increased by only 0.5%).

The three measures of the severity of emergencies that I used were the proportion of patients that (a) was transported by ambulance or helicopter; (b) stayed in the emergency department for at least six hours (not attributable to understaffing in this setting); and (c) died or were transferred to another acute care department. From 1998 the triage nurse assigned a National Advisory Committee for Aeronautics admission category.⁵ The proportion to which at least one measure of severity applied increased steadily with age (17% of children younger than 10 years old and 86% of people aged 80 years and older). Although the number of consultations grew, the proportion to which at least one of the three measures of severity applied remained stable; it ranged from 44.3% to 46.1% (table).

Further analysis suggested two explanations for the stability of the proportion of consultations to which a measure of severity applied. The number of consultations with people 80 years and older more than doubled between 1993 and 1999 (1603 v 3510), and proportionately more measures of severity applied.

On the other hand, there was an increase of 3471 (55%) consultations with patients of "other nationalities," to which fewer measures of severity applied. Foreign nationals with a long tradition of migration to Switzerland showed an increase similar to Swiss nationals. The "other nationalities" subgroup is nationalities other than Swiss, French, German, Italian, or Spanish.

Comment

The increased use of the emergency department was not associated with a change in the proportion of severe cases being seen. More than 70% ((3471+1907)/7421) of the increase in emergency department use over the seven year period is accounted for by an ageing population and immigration.

The ageing of the population increased the number of consultations due to immediate medical needs. Also, the changing structure of younger age groups due to immigration led to increased demand that could be treated in settings other than the emergency department. The different social and cultural backgrounds of recent immigrants may explain the difficulty in diverting less severe cases away from emergency departments. Hospital emergency departments have to be able to respond to this demand.

Contributors: BS-E is the sole author of this paper.

Funding: Health Services Research Unit of the Institute of Social and Preventive Medicine, University of Lausanne.

Competing interests: None declared.

1 Capewell S. The continuing rise in emergency admissions. *BMJ* 1996;312:991-2.

Emergency consultations in which given measures of severity applied at Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland, 1993-9

Year	Measure of severity											
	Length of stay ≥6 hours			Dead or hospitalised			Ambulance or helicopter			At least one criterion fulfilled		
	N	n	%	N	n	%	N	n	%	N	n	%
1993	30 818	7766	25.20	30 800	10 149	32.95	29 532	7066	23.93	30 882	14 199	46.07
1994	31 937	7717	24.16	31 929	9842	30.82	31 057	7416	23.88	31 937	14 255	44.63
1995	33 100	7812	23.60	32 931	10 153	30.83	32 262	7453	23.10	33 101	14 732	44.51
1996	32 242	7574	23.49	32 049	9798	30.57	30 056	7153	23.80	32 243	14 308	44.38
1997	34 300	7887	22.99	34 115	10 176	29.83	32 573	7891	24.23	34 301	15 326	44.68
1998	36 382	8622	23.70	36 376	10 666	29.32	34 809	8410	24.16	36 384	16 155	44.40
1999	38 242	9325	24.38	38 235	11 137	29.13	36 359	8874	24.29	38 243	16 950	44.32

N=number of valid cases for analysis.

n=number of cases with measure of severity.



Background information about emergency care in Switzerland appears on bmj.com

- 2 Hull SA, Rees Jones I, Moser K. Factors influencing the attendance rate at accident and emergency departments in east London: the contribution of practice organization, population characteristics, and distance. *J Health Serv Res Policy* 1997;2:6-13.
- 3 Morgan K, Prothero D, Frankel S. The rise in emergency admissions: crisis or artefact? Temporal analysis of health services data. *BMJ* 1999;319:158-9.
- 4 Meggs MJ, Czaplinski T, Benson T. Trends in emergency department utilization: 1988-1997. *Acad Emerg Med* 1999;6:1030-5
- 5 Tryba M, Brüggemann H, Echtenmeyer U. Klassifizierung von Erkrankungen und Verletzungen in Notarztrettungssystemen: National Advisory Committee for Aeronautics (NACA). *Anesthesiol Intensivmed Notfallmed Schmerzther* 1980;6:725-7. (Accepted 22 October 2001)

Prescribing incentive schemes in two NHS regions: cross sectional survey

Mark Ashworth, Stacey Golding, Lindsey Shephard, Azeem Majeed

The introduction of fundholding in primary care in the United Kingdom contained prescribing costs, although the effect was modest and seemingly not accompanied by parallel improvements in the quality of prescribing.¹ With the advent of primary care groups in 1999 a new incentive scheme was devised to influence prescribing. Financial rewards to general practices could be linked more explicitly to improvements in the quality and appropriateness of prescribing than under fundholding schemes. The money had to be invested in improvements to services available to patients.² We surveyed prescribing indicators and financial rewards associated with such schemes in two NHS regions in England.

Methods and results

In 2000 we sent two questionnaires to the prescribing adviser of each primary care group in the 66 London and 79 South East regional offices of the NHS Executive. One hundred and twenty one (83%) responded with details about their incentive scheme, and 129 (89%) provided financial information on prescribing.

The table shows the categories of indicator most often included in the schemes. Quality based indicators were reported by 83% (100) and cost based indicators by 78% (94) of primary care groups. Some categories were used to indicate both quality and cost. Sixty three per cent of schemes (76) required the collection of data not based on prescribing analysis and cost (PACT), such as data from prescribing audits or reviews of repeat prescribing.

Prescribing costs ranged from an underspend of 7% to an overspend of 14% (median 4.5% overspend). Eleven (9%) primary care groups made no incentive payment to any practice, whereas 29 (22%) groups made some payment to every practice. Primary care groups offering rewards to a higher proportion of practices were as likely to have overspent their prescribing budget as those offering rewards to fewer practices (Spearman's correlation coefficient -0.15, $P=0.10$). Altogether 66 (61% of the 109 primary care groups that responded to this question) of primary care groups gave a reward only if practices had also achieved one or more of the quality indicators in their incentive scheme. The size of reward varied: 40 (70% of the 57 primary care groups that responded to this question) restricted the maximum payment to £3000 (€4900) or less, five made payments exceeding £10 000, and two made payments exceeding £20 000 per practice. Although 22% of primary care groups had declared that up to £45 000 per practice was avail-

able under the scheme, just two made payments of this magnitude. We did not find a significant relation between the size of reward offered or received and the prescribing overspend of the primary care group.

Comment

The lack of an association of the incentives with prescribing overspends in primary care groups implies an inefficient system, in which large rewards are not clearly connected with either cost or quality based prescribing achievements. Prescribing incentive schemes in primary care are characterised by a wide range of prescribing indicators and an emphasis on improving the quality and controlling the costs of prescribing. Over half of the groups included non-PACT based indicators, which generally favour quality improvement since PACT data alone tend to be more useful in controlling costs.³ Further evidence that quality improvement was important came from those groups that withheld financial rewards to underspending practices unless quality criteria were also achieved. In a national tracker survey of 77 primary care groups a similar spread of prescribing indicators was noted, with an emphasis on quality (the results of financial aspects of the prescribing incentive scheme have not yet been

Guy's, King's College, and St Thomas's School of Medicine, Department of General Practice and Primary Care, London SE11 6SP

Mark Ashworth
STaRNet lead general practitioner

Lindsey Shephard
research nurse

North Lambeth Primary Care Group, London SE1 8RG

Stacey Golding
prescribing adviser

School of Public Policy, University College London, London WC1H 9EZ

Azeem Majeed
senior lecturer in general practice

Correspondence to: M Ashworth
mark.ashworth@kcl.ac.uk

BMJ 2002;324:1187-8

Categories of prescribing indicators used by primary care groups in two NHS regions in their prescribing incentive schemes

Prescribing indicator	% (95% CI) of primary care groups (n=121)
Quality	
Antibiotics	73 (66 to 82)
Cardiovascular drugs	31 (22 to 39)
Gastrointestinal drugs	23 (15 to 30)
Non-steroidal anti-inflammatories	22 (14 to 29)
Benzodiazepines	17 (10 to 24)
Asthma drugs	16 (9 to 22)
Antidepressants	3 (0.1 to 7)
Diabetes drugs	3 (0.1 to 7)
Osteoporosis prophylaxis	3 (0.1 to 7)
Cost	
Generic prescribing	88 (82 to 94)
Gastrointestinal drugs	59 (50 to 68)
Non-steroidal anti-inflammatories	24 (17 to 32)
Modified release preparations	18 (11 to 25)
Drugs of limited clinical effectiveness	13 (7 to 20)
Antibiotics	12 (6 to 18)
Combination products	7 (2 to 11)
Emollients	5 (1 to 9)
Cardiovascular drugs	3 (0 to 5)
Antidepressants	2 (0 to 4)
Antipsychotic drugs	1 (0 to 2)