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- 1 Badley EM, Tennant A. Changing profile of joint disorders with age: findings from a postal survey of the population of Calderdale, West Yorkshire, United Kingdom. *Ann Rheum Dis* 1992;51:366-71.
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New referrals, a decreasing phenomenon in 1971-94: analysis of registry data in the Netherlands

Eloy H Van de Lisdonk, C Van Weel

Referrals to secondary care are an important but incompletely understood feature of general practice,¹ particularly in health care systems where general practitioners are gatekeepers to secondary care. In the Netherlands from 1971 to 1994 the number of medical specialists increased by 128%, from 5909 to about 13 500, the number of general practitioners by 56%, from 4504 to 7013, and the population by 16%, from 13.3 to 15.5 million. The influence of such powerful external factors would suggest that the number of referrals should also have increased over that time. To test this hypothesis we assessed the mean referral rates in 1971-94 in relation to the incidence of new episodes of illness in the same population.

Methods and results

We calculated mean referrals and total numbers of new episodes of illness in five periods, standardised for age (in 10 year age categories) and sex distribution of the population in the period 1971-5. Clinical specialties were grouped as: surgical (general surgery, orthopaedics, urology, gynaecology, reconstructive surgery, cardiovascular surgery, neurosurgery, paediatric surgery, oral surgery); senses and skin (otorhinolaryngology, ophthalmology, dermatology); internal medicine (general internal medicine, cardiology, respiratory medicine, rheumatology, gastroenterology, haematology, nephrology, endocrinology); and other (paediatrics, neurology, psychiatry, radiotherapy, rehabilitation medicine, geriatrics, anaesthesiology).

The data were taken from the continuous morbidity registration system in Nijmegen, which has been collecting data from four general practices since 1971. The practices' population of about 12 000 patients is stable (annual turnover of about 5%) and compares well with the Dutch population for age and sex. The recorded data have passed stringent quality controls²

and are consistent over the years of registration.³⁻⁵ We used new referrals (not repeat referrals), being the first referral of a patient to a clinical specialty during an episode of an illness. We did not include second opinions, referrals by one specialist to another, or a second referral to the same specialty for the same episode of illness.

The standardised overall rate of referrals amounted to 127.8 per 1000 patient years. Almost half were to the surgical specialties, 30% to senses and skin, 13% to internal medicine, and 10% to other specialties. Together the specialties of general surgery, otorhinolaryngology, ophthalmology, and gynaecology accounted for over half of all referrals. Table 1 shows an overall decrease of referrals of 32% (36% for the surgical specialties, 30% for senses and skin, 15% for internal medicine, 9% for other specialties) from 1971-5 to 1991-4. Most of this decrease was observed between 1971 and 1985 with stabilisation between 1986 and 1994. In the five periods between 1971 and 1994 the number of new episodes were, respectively, 1710, 1939, 1694, 1919, and 1908 per 1000 patient years.

Comment

Over 24 years we found a 32% decrease in the rate of new referrals in a stable population, without major changes in the incidence of new episodes of illness during 24 years. New referrals obviously can be influenced by general practitioners. The decrease probably points to a more effective primary care.

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Department of General Practice and Social Medicine, Catholic University, Nijmegen, PO Box 9101, 6500 HB Nijmegen, Netherlands
Eloy H Van de Lisdonk, senior lecturer
Chris Van Weel, professor

Correspondence to:
Dr Van de Lisdonk.

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Table 1—Trends for new referrals. Numbers per 1000 patient years

	1971-5	1976-80	1981-5	1986-90	1991-4	Total
Surgery	76.8	73.7	52.5	51.8	49.5	61.2
Senses and skin	48.8	42.7	30.3	30.2	34.1	37.3
Internal medicine	20.1	17.0	15.0	15.4	17.0	16.9
Other	15.2	15.2	12.9	13.5	13.9	14.2
Total (raw) and 95% confidence interval	160.9 (157.7 to 164.1)	148.6 (145.5 to 151.8)	110.8 (108.1 to 113.5)	110.9 (108.3 to 113.6)	114.5 (111.4 to 117.5)	129.6 (128.3 to 130.9)
Total (standardised) and 95% confidence interval	160.9 (157.7 to 164.1)	148.2 (145.0 to 151.3)	109.2 (106.5 to 111.9)	107.8 (105.1 to 110.5)	108.4 (105.4 to 111.5)	127.8 (126.5 to 129.2)