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Healthcare costs incurred by patients repeatedly referred to secondary medical care with medically unexplained symptoms: A cost of illness study

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ABSTRACT

Background: Some patients are repeatedly referred from primary to secondary care with medically unexplained symptoms (MUS). We aimed to estimate the healthcare costs incurred by such referrals and to compare them with those incurred by other referred patients from the same defined primary care sample.
Methods: Using a referral database and case note review, all adult patients aged less than 65 years, who had been referred to specialist medical services from one of five UK National Health Service primary care practices in a five-year period, were identified. They were placed in one of three groups: (i) repeatedly referred with MUS (N = 276); (ii) infrequently referred (IRS, N = 221), (iii) repeatedly referred with medically explained symptoms (N = 230). Secondary care activities for each group (inpatient days, outpatient appointments, emergency department attendances and investigations) were identified from primary care records. The associated costs were allocated using summary data and the costs for each group compared.
Results: Patients who had been repeatedly referred with MUS had higher mean inpatient, outpatient and emergency department costs than those infrequently referred (£3,539, 95% CI 1458 to 5621, £778 CI 705 to 852 and £99, CI 74 to 123 respectively. The mean overall costs were similar to those of patients who had been repeatedly referred with medically explained symptoms.
Conclusions: The repeated referral of patients with MUS to secondary medical care incurs substantial healthcare costs. An alternative form of management that reduces such referrals offers potential cost savings.

Introduction

Many patients attending medical services have symptoms which cannot be adequately explained by organic disease, so-called medically unexplained symptoms (MUS) [1,2]. This clinical description includes a range of symptom syndromes such as irritable bowel syndrome, fibromyalgia, and non-cardiac chest pain and tension type headache [3–6]. Patients with MUS may be high users of medical services [7–11]: whilst some are high users of primary care [12], the greatest costs are incurred by those who are high users of secondary care. One cause of a high use of secondary care is the repeated referral to specialists by their primary care doctor [13]. Patients with MUS are however unlikely to benefit from such repeated referral as secondary care medical services are designed primarily to identify and treat disease whereas the patients with MUS: (a) are likely to have already had many previous negative investigations and are unlikely to be reassured by more tests [14] and (b) have symptoms that are more likely to be relieved by addressing causes other than disease, such as depression and anxiety [15].

The decision of the primary care doctor to refer a patient to secondary care is a critical and potentially modifiable step in increasing the costs of care. That is why this study focuses on referrals. Alternatives to repeated referral such as enhanced assessment and better treatment of depression and anxiety in primary care could potentially be more effective and cost-effective [16]. Therefore knowledge of the secondary care costs incurred by repeated referral indicates the potential savings that could be achieved by such an alternative management strategy.

We have reported elsewhere our findings on a novel sample of patients selected from a defined primary care population as having been repeatedly referred to secondary care (defined as at least three times in five years) where they had received repeated diagnoses of MUS. We found the prevalence of such patients to be approximately 1% (1.1%, 95%CI 1.0–1.2) of 26,252 patients aged between 18 and 65 years who were registered at one of five primary care practices [13]. Approximately half of these patients had an anxiety or depressive disorder [15].

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In this paper we use data obtained from this sample together with standard cost estimates to estimate the costs incurred in the secondary care of such patients. In order to aid interpretation of these costs we compared them to those incurred by: (a) patients who had been infrequently referred; (b) patients who had been repeatedly referred for symptoms that the specialist had concluded were symptoms of disease (medically explained symptoms). The infrequently referred comparison group provides an indication of the savings that could be made by reducing the number of referrals. The repeated referral for medically explained symptoms (MES) comparison group provides an estimate of the costs of care of patients similarly frequently referred but with needs better served by disease focused secondary care.

Methods

The study was based in five National Health Service general primary care practices in Edinburgh, UK. The practices comprised 30 primary care doctors and 39,562 registered patients. Data collection took place between March 2003 and October 2005.

Identification of patients

We used national secondary care activity data (SMR00; Scottish Morbidity Records, Information Services Division of NHS Scotland) to identify all the patients from the participating practices who had been newly referred to a range of medical specialties at least three times over the previous five years. We only included specialties which commonly accept referrals for outpatient diagnosis of symptoms, rather than those concerned with treatment of already diagnosed problems (such as cardiothoracic surgery, palliative medicine, obstetrics or oncology); a list of eligible specialties is given in the footnote to Fig. 1. We chose a threshold of at least three new referrals because this identified the most frequently referred 10% of patients in our population. It also defined approximately 1% of the practice population as frequently referred with MUS; a number of patients that present a reasonable target for alternative management strategies in primary care.

We then linked this referral data to the individual practice databases using a unique patient identifier to identify the frequently referred patients. Within each practice, a researcher (KM) searched both handwritten and computerised records to extract data on each referral; this included the reason for the referral, the specialty referred to and the specialist's final diagnosis. Only referrals for the assessment of symptoms to an eligible specialist were included. The specialists' final diagnosis for that referral episode was categorised as being one of MUS or MES according to pre-specified criteria. Where there was uncertainty, cases were adjudicated jointly by a psychiatrist and a primary care practitioner (MS and DW). These methods had been tested in an earlier pilot study [17] and have been reported in detail elsewhere [13]. We tested the inter-rater reliability of identifying a referral outcome as MUS or MES on a random sample of 20 cases and found good agreement (pooled kappa 0.76). We also identified a sample of patients from the participating practices who had only been referred once in five years (the final diagnoses of these patients may have been MES or MUS).

Patients

Using the data obtained from case note review patients were allocated to one of three groups: (i) patients who had been repeatedly referred with MUS; these patients had been referred at least three times in the five-year study period and at least two of these referrals led to a final specialist diagnosis of MUS; (ii) patients who had been infrequently referred to secondary care; these patients had been referred only once in the five years; (iii) patients who had been referred at least three times in the five-year study period and all of these referrals led to a final specialist diagnosis of MES.

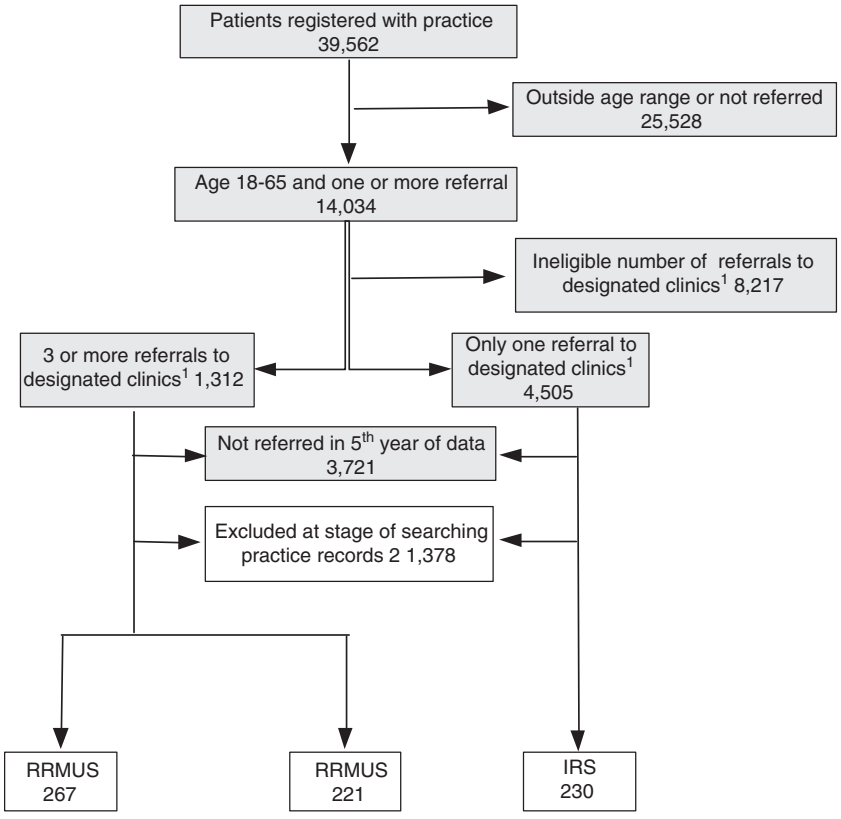

Fig. 1. Flowchart showing the stages of recruitment to the study.