

# Chronic Disease Management in Patients Attending Irish General Practice Training Practices

## Abstract:

B O'Shea, C Darker, F O'Kelly  
Department of Public Health Primary Care, Trinity College Centre for Health Sciences, Tallaght Hospital, Dublin 24

## Abstract

Complexity and workload for patients with chronic diseases in General Practice are poorly understood. Government policy envisages moving workload into primary care. Data was obtained from a GP delivered survey (58 GPs/ 33 practices) of 160 patients with one or more chronic diseases, and by concurrently extracting data from the patients electronic medical record. Care is physician intensive (average number GP visits 9.2 pa), with limited input from Practice Nurses (1.62 visits pa). Care co-ordination is significant, given complex co morbidity, polypharmacy (average number of medications per patient = 6.8), and numbers of OPDs attended (3.8). Over a quarter of patients (51/160 (27%)) required assistance attending their GP; 60 (31%) self rated their health as fair / poor. Patients are positively disposed towards transfer of care to General Practice. This study provides baseline data on complexity /workload in care delivered in GP Training practices, before implementation of change.

## Introduction

Irish health care is undergoing policy driven change<sup>1</sup> from a taxation funded two-tiered service to universal health care, with compulsory health insurance and universal access as the main driver. Economic contraction means no additional resources are available for transition, which includes establishing a universal system and providing care for those with chronic disease. Reform must be research driven, ensuring best outcomes and value. National policy favours shifting care from hospitals into primary care, but an agreed delivery model is not yet defined. Chronic diseases are a major issue (length and complexity of treatment, frequent hospital admissions, risks associated with polypharmacy, complex co morbidity). According to the ESRI<sup>2</sup>, Ireland has a rapidly ageing population. Over 30 years, numbers of patients over 65 years are estimated to triple; chronic diseases will increase proportionately. It is estimated 10% of patients (in Ireland) consume 60% of resources<sup>3</sup>. Recent research on GP<sup>4</sup> indicates most GPs report 'fundamental changes' are needed to make chronic disease management (CDM) effective. This study describes workload and complexity relevant to CDM; data may be useful as a baseline in the future, as care is reorganised.

## Methods

This study used a cross sectional design. Ethical approval was obtained (TCD HSE GP Training Programme Ethics Committee). GPs were invited from the TCD HSE GP Training Scheme, recruiting Trainees, Trainers, and Directing Team (58 GPs in 33 practices). Participating practices included those from rural (6), urban (10) and mixed (17) backgrounds; most (31/33) were group practices (2 or more GPs). Participating GPs each surveyed 5 patients (serial patients attending, children and adults), with one or more chronic diseases. Patients were given written explanation regarding the study and invited to participate or decline; none declined, possibly reflecting trust of these patients, known frequent users of GP services. Importance of inviting all patients meeting inclusion criterion was emphasised verbally, and in the protocol, in order to reduce probability of selection bias. The survey was piloted (n=20); pilot data was not included. The survey included a doctor delivered patient questionnaire (completed by carer if patient unfit) and concurrent review of electronic medical record. Questions included number of morbidities, (informed by access to the medical record), extent of polypharmacy, health service utilization, and by inference, requirement for care co ordination by the GP. Patient and doctor were asked to separately rate patient health. Data was analysed using SPSS.

## Results

### Response rate

Of 290 surveys sent, 190 were returned (66% response rate).

### Profile of patients

105 (55%) patients were female; mean age 61.5 years (19.3 sd), range 4- 98 yrs. Most (155 or 84%) were entitled to the General Medical Services (GMS) card.

### Morbidities

Patients had a range of multimorbidities, including cardiovascular, respiratory, nervous, endocrine, and musculoskeletal diagnoses. A total of 56 (29.5%) patients had one chronic condition, fifty-four patients (28%) had two, thirty-nine (20%) had three, twenty-four (13%) had four, and 17 (10%) had five or more. Average number of medications was 6.8 (4.9sd, range 0-30) per patient.

### Health service utilization

#### Within the practice

Average number of GP visits per patient per year was 9.2 (9.0sd), (group range 1-52). Average number of nurse visits was 1.6 (2.2sd) (group range of 0-15 visits). Average number of house calls per patient was 0.33 (1.5sd) (group range of 0-11 house calls). Average number of out-of-hours visits was 0.3 (0.7sd) (group range of 0-5).

#### Outside of the practice

Average number of OPD services patients attend was 3.8 (5.29sd) (group range of 0-7). Average number of acute admissions was 0.5 (1.1sd) (group range of 0-7 admissions). Data was obtained from medical record, and asking patients in consultation.

### Health service utilisation

Average number of consultations per patient (OPD, GP and practice nurse visits) was 14.8 (12.7sd) (data obtained from medical record, and on asking patient, adding figures for OPD/Practice Nurse/GP). Patients attended several associated professionals, including physiotherapy (n=29; 15%), occupational health (n=9; 5%), dietician (n=21; 11%), psychologist (n=9; 5%), counsellor (n=11; 6%), and social work services (n=7; 4%). Some patients had services at home, including palliative care (n=1; 0.5%) public health nurse (n=20; 11%), or home help services (n=12; 6%).

### Fee paying patients

The sample included 31 (16%) fee paying patients. When asked, over half (16 or 52%) indicated 'no difficulty' in paying, and similarly (16 or 52%) indicated this 'never' caused them delay in attending. However, almost one quarter (7 or 23%) indicated need to pay 'always' caused them delay in attending.

### Rating of health

A total of 14 (7%) patients rated their health as poor, 46 (24%) fair, 73 (39%) good, 47 (25%) very good, and nine (5%) as excellent. There was no statistical difference between doctor rated health of patient ( $X = 2.93$ ;  $sd = 1.02$ ) and the patient's ( $x = 2.95$ ,  $sd = 0.99$ ) self rating of their health ( $t = 33.96$ ,  $p = 5.99$ ).

### Functionality and mobility

One quarter (51 or 27%) indicated requiring help attending their GP. Assistance was provided by daughters (n=16; 31%) or spouses (n=11; 21%). A total of 75 patients (40%) indicated limited functional activity; 41 patients (21%) indicating functional activity as 'severely restricted.'

### Practice Interactions

Patients rated themselves 'very interested' in receiving more care within the practice on a 1-5 rating scale (mean=4.2, sd=1.14). Thirty-four patients (18%) indicated paying money to attend their GP, with 3 (8%) indicating

payment was a major difficulty.

### Discussion

Results indicate complex, intensive and predominantly physician driven care. Most patients (84%) were GMS eligible, possibly reflecting concentration of morbidity within the sample, given the long established practice of granting medical card eligibility on medical grounds. For that minority of fee paying patients, it is of concern that almost 1:4 (7/31 or 23%) indicated need to pay caused them to always delay attending. The inference is that for this minority, payment remains a barrier to general practice care. A total of 80 (43%) of patients had three or more chronic conditions. Intense services utilization was evident (use of OPDs, average number (9.2) of visits annually to the GP). While a significant proportion of patients were managed solely by their GP, average number of OPD services patients attended was 3.8. This data can be used as a baseline, against which transfer of care into the community can be measured. There was evidence of limited independent function and mobility, with over a quarter of patients requiring help attending their GP; one third of patients self-rated their health as fair or poor.

Polypharmacy was evident with over six medications per patient on average, with clear cost and safety implications; the discipline of pharmacy should be more closely integrated with clinical programmes, particularly from the perspective of rationalised dispensing in these patients. Low recorded prevalences for COPD and depression are significant, indicating need for GPs to engage more closely in diagnosis, coding, documentation and managed care of these conditions. Rates for these conditions are in keeping with low self reported use of guidelines in these conditions also reported among Irish General Practitioners. Prevalence of diabetes and malignant conditions were comparable / consistent with known national prevalences; for example the population prevalence for Diabetes for Ireland is 4.5%, for adults over 60 yrs is 13.2%, and the prevalence in this sample (mean age 61.5 yrs) was comparable at 17%. Low involvement of practice nurses and primary care team members is striking. Data suggests predominantly GP driven patterns of consulting, and will act as particularly useful baseline for the future.

The Programme for Government<sup>1</sup> is examining models of practice within primary care, and may result in developing the role of practice nurses, as in the UK, where nurse led, GP supervised clinics in diabetic and cardiovascular care are usual. Previous research has noted Irish GPs are concerned in relation to their work load, with 12% reporting morale as poor or very poor, and 16% reporting stress levels as high or very high. Low involvement by practice nurses prompts further study into what activities nurses are actually engaged in? Transferring more care to nurse practitioners may facilitate better use of well-trained nurse colleagues, reduce pressure on GPs, enabling more care to be delivered in General Practice. Exploration of less specialised grades may be appropriate (e.g. Practice Orderly), trained to carry out discrete tasks relevant to chronic disease management (e.g. spirometry, ECG, ABPM, short interventions on smoking cessation, dietary advice, recall systems).

High consultation rates for patients with co-morbidities require to be considered in the context of concentration of such patients into the GMS eligible pool. GMS funding is predicated on population based disease prevalences, and resourcing will become increasingly inadequate if such concentration of complex patients continues, without adequate recognition of workload; funding is presently calculated on assumption of normal distributions of morbidities. Data presented describes complex co morbidity. Current approaches to service delivery are undertaken through expert clinical leads appointed by the Irish College of General Practice and The Royal College of Physicians, based on a single disease approach. Much research on chronic disease management has not translated into community practice. It has been based on single diseases, on highly selected cohorts of patients, and predominantly in hospital settings. Given the complex comorbidities evident in these patients, appointed clinical leads need to effectively take co morbidity into account, perhaps with reference to the chronic care model. Clinical experience of GPs historically embraces the challenge of co morbidities; this requires to be practically acknowledged and built into the model under discussion.

This study uses effective methodology for observation of co morbidities in patients presenting to their GP, including use of electronic medical records concurrently with doctor administered survey. Use of training practices influencing data collected has been considered. Training practices are well organized, and levels of documentation / detail available in medical records may be higher than in non training practices. It is unlikely these characteristics unduly affect case mix of patients attending practices. Comparability of prevalence for Diabetes between the sample and for the population underlines generalisability of data collected. This study confirms patients with chronic diseases have complex needs (medicines management, care co ordination, high levels of dependency, complex co morbidities, poor self rated and doctor rated health status). Data described a doctor intensive system, with minimal input from Practice Nurses / Primary Care Team. Volumes of consulting, polypharmacy, and the imperative to provide good care in patients with complex multimorbidities all underline the need to ensure adequate resources, should the proposed transfer of chronic disease management from secondary to primary care progress.

The overall extent to which patients diagnosed with chronic disease have been concentrated in the GMS eligible proportion of the population is uncertain; 84% of this sample described themselves as GMS eligible; close to 1:4 of those who did not (ie private patients) indicated need to pay for service always caused them to delay attending their GP, in keeping with international consensus that payment at point of service is known to impact negatively on accessing care. Patients view positively the prospect of more care delivered in general practice.

Correspondence: B O'Shea  
Department of Public Health Primary Care, Trinity College Centre for Health Sciences, Tallaght Hospital, Dublin 24  
Email: [drbrendanoshea@gmail.com](mailto:drbrendanoshea@gmail.com)

### Acknowledgements

Trainers and GP Registrars on the TCD HSE General Practice Training Scheme, and especially their patients.

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