An Analysis of the Utilisation and Expenditure of Medicines Dispensed for the Management of Severe Asthma

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Abstract
There are approximately 6,300 people in Ireland with a diagnosis of Chronic Obstructive Pulmonary Disease (COPD) and with a fast growing elderly population the incidence of COPD is likely to increase. This study examines the prescribing patterns of medicines dispensed for the management Asthma/COPD in patients over the age of 35 years of age, 2005/ 2006. The study found that in 2006 approximately 148,037 patients over the age of 35 yrs were prescribed a respiratory drug for the management of Asthma/COPD on the HSE-PCRS Schemes with an associated total expenditure (Ingredient cost plus VAT) of €62,365,956. The overall number of prescriptions for Asthma/COPD in all age groups were prescribed a respiratory drug for the management of Asthma/COPD on the HSE-PCRS scheme with an associated total expenditure (Ingredient cost plus VAT) of €62,365,956.

Methods
The HSE-Primary Care Reimbursement Services (HSE-PCRS); formerly General Medical Services (GMS) Doctors’ Remuneration Board scheme provides free healthcare to approximately 30% of the Irish population (approximately 1.2 million). Eligibility for the scheme is means tested and limited to those under 70 years of age, and is confined to those who are unable without undue hardship to arrange general practitioner services for themselves and their dependents. All patients registered under this scheme are dispensed all medicines free of charge. Since July 2001, the service has been made available to all those over 70 years of age. The data for this study was derived from the HSE-PCRS pharmacy claims data for 2006.

Discussion
The analysis shows that patients who continue to have asthma related symptoms over the age of 35 years are more likely to have COPD as an irreversible component of the disease comes into play. The prescribing patterns for patients on these medications were examined: a) the utilisation and expenditure of the different drug classes prescribed for the management of respiratory disease, b) the different combinations of drugs prescribed in the management of asthma/COPD, c) the number of patients who were co-prescribed drugs which have the potential to interact during a 12 month period and the number of patients on combination therapy who were co-prescribed antibiotics, and d) the number of patients on combination therapy who were co-prescribed nicotine replacement therapy. The British National Formulary (BNF) March 2006 edition and Standard of Care Guidelines seventh edition were used to identify all drugs that could potentially interact with drugs prescribed for the management of Asthma/COPD. All potential interactions were identified. Each drug was classified separately. Included in the analysis were all items on the same prescription claim over the 12 month period January 2006 to December 2006. SAS statistical software (v 9.0) was used for analysis and descriptive data presented.

Results
There were 148,037 patients over the age of 35 years prescribed a respiratory drug on the HSE-PCRS scheme in 2006. This accounts for 19.8% of the GMS eligible population in the over 35 year age group. The total HSE-PCRS expenditure (ingredient cost plus VAT) on respiratory drugs were accounted to €62,365,956 in this age group. The adrenergics and glucocorticoids were the highest contributors accounting for 40% of this expenditure. The glucocorticoids (ATC R03BA) such as beclometasone and budesonide accounted for a further 20% and the anticholinergics tiotropium bromide and ipratropium bromide and the selective beta-2-adrenoreceptor agonists accounted for a further 13% and 10% respectively. Approximately 26,548 (17.9%) of patients who were prescribed a respiratory drug received inhaled corticosteroid in combination with a regular standard-dose inhaled long-acting beta2 agonist (salmeterol or formoterol). A further 5,044 (3.4%) were also prescribed a regular inhaled long-acting beta2 agonist (salbutamol or fomoterol). A total of 2516 patients (6.2%) on combination therapy were co-prescribed four different anti-asthmatic treatments inclusive of oral prednisolone. A small proportion of the patients prescribed a respiratory drug were co-prescribed nicotine replacement therapy (n=5177, 3.5%). In total there were 9,728 (6.2%) patients prescribed a mucolytic drug in combination with a respiratory drug and the rate of co-prescribing with antibiotics was 22%. COPD is a disease that is primarily caused by smoking and is therefore largely preventable. The findings of this study were to determine the prescribing patterns and expenditure of medicines dispensed for the management of severe asthma/COPD in patients over the age of 35 years.

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