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Journal of Medicines Optimisation

Developing a patient-centred approach to get best outcomes and value from medicines

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In this issue:

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Medicines optimisation is a person-centred approach to safe and effective medicines use to ensure that people obtain the best possible outcomes from their medicines. The aim of the JoMO is to contribute to that process and play an influential and key part in shaping better patient care and the role that medicines can play. The JoMO provides a vehicle to enable healthcare professionals to stimulate ideas in colleagues and/or disseminate good practice that others can adapt or develop to suit their local circumstances.

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GP practice clinical pharmacist posts have attracted a lot of attention - and no wonder given the potential to release GP time and better utilise the skills of such professionals in aspects such as the management of long-term conditions. Having said that, though, what does that really mean in practical terms? An article in this addition adds to the evidence base in looking at the impact that a clinical pharmacist can have in a GP practice. A total of 139 patient consultations were examined and it was concluded that 24 (17%) fulfilled criteria for potential referral to, and management by, the practice pharmacist. Most of the potential referrals (i.e. 15) were related to medication review. Of a total of 23 hours of consultations with the 139 patients analysed, 17% (4 hours) could have been undertaken by the practice pharmacist. It would be interesting to hear from other colleagues who are assessing the impact of these roles on GP time and patient care.

A significant number of patients with asthma and COPD continue to experience symptoms, exacerbations and hospitalisation. An audit in City and Hackney CCG found that 20% of patients had an incorrect diagnosis. When appropriately treated, however, patient care can be improved and many of the costs associated with an incorrect diagnosis can be avoided. The article in this edition outlines how the situation was improved by the appointment of a specialist respiratory pharmacist to work as part of a multidisciplinary team and see identified high-risk patients in GP practice level respiratory clinics. Not only has the quality of life for patients been improved but there has been a favourable reduction in the prescribing of high dose inhaled corticosteroids (ICS), GP emergency visits and A&E attendances. Colleagues in other areas will no doubt wish to review these findings and consider how the learnings can be applied to their local situation.

Immunomodulator drugs, which are widely used and effective in the treatment of inflammatory bowel disease (IBD). They do, however, have well recognised and potentially serious side effects. To help resolve these problems and improve the management of the condition, a pharmacist operated clinic was established, which subsequently developed into a 'virtual' clinic that avoided the need for the patient to attend in person. The pharmacist conducted a total of 367 outpatient appointments and 83 virtual clinic reviews for 176 patients. A total of 230 specific actions were required with 93% of the actions being conducted independently by the pharmacist. A total of 15 patients were referred to a physician, seven for the management of side effects of treatment and eight for the management of a flare of IBD symptoms. These are encouraging results that provide further evidence of the contribution that a pharmacist can make to patient care in a defined therapeutic area.

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If the JoMO is to continue to publish material that you would find interesting and helpful in your practice, it is clearly important that readers feedback their views. There are various ways in which feedback is currently obtained but a short SurveyMonkey questionnaire that will take just a couple of minutes to complete will be available for each edition.

Review to explore optimising access to pharmacy services in General Practice

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Abstract

Title

Review to explore optimising access to pharmacy services in General Practice.

Author list

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Introduction

The 'General Practice Forward View' from NHS England extended the clinical pharmacist programme to provide an additional 1,500 extra pharmacists in general practice. The NHS Long Term Plan suggests that practice pharmacists can help relieve pressure on GP appointments. A pharmacist in general practice was recently appointed at a small general practice in North West London where anecdotal patient feedback suggested a lack of availability of GP appointments. A review of general practice consultations, with a focus on medication review, was undertaken to explore whether the skill mix in the practice could be optimised utilising the new practice pharmacist.

Method

All patients presenting at the surgery for a GP consultation over one week in August 2019 were identified and data on consultation content was collected. Data was categorised according to available services for patients from pharmacists as detailed on the NHS website. These included medication review, long-term condition management, minor ailments, new medicines service and repeat prescriptions. Patients under 18 years were excluded.

Results

A total of 158 patient consultations were identified but 19 were excluded as they were patients under 18 years. Of the remaining 139 patients, 24 (17%) fulfilled criteria for potential referral to, and management by, the practice pharmacist. Most potential referrals were related to medication review (15/139, 11%).

Discussion

The review revealed that, of the total of 23 hours of GP consultations with 139 patients analysed, 17% (4 hours) could have been undertaken by the practice pharmacist. This proportion concurs with findings from a recent study in general practice, which estimated that 80 hours of GP time per month can be saved through use of a clinical pharmacist in a practice with ten GPs.

Conclusion

This review suggests that there is an opportunity to identify patients who require medication review and refer these patients to the practice pharmacist, releasing much needed GP appointment time. Next steps include exploring methods of identifying patients in most need of a medication review and educating reception staff about the role of the practice pharmacists to offer pharmacist appointments as an alternative to seeing the GP where appropriate.

Keywords: consultations, medication review, practice pharmacist, general practice, primary care network pharmacist.

Background

The 'General Practice Forward View' from NHS England¹ has promoted the inclusion of clinical pharmacists as part of the general practice team. This, together with the recent extension of the clinical pharmacist programme to provide an additional 1,500 extra pharmacists in general practice and the introduction of primary care network pharmacists, has been welcomed by the pharmacy profession. As well as improving prescription processes, pharmacists will now be better able to support patients through the provision of medicines optimisation, including structured medication review, managing minor ailments and long-term conditions as part of the multidisciplinary team.

In addition, the recent publication of the Community Pharmacy Contractual Framework² outlines the way patients can access a wider range of healthcare services in their community pharmacy, including repeat prescription services, advice on minor ailments and new medicine service, referrals from NHS 111³ and, from April 2020, from GP surgeries. This new contract also addresses the under-utilisation of community pharmacy resources. In 2014, less than 50% of adults in the UK were aware that community pharmacists were able to provide advice on minor ailments.⁴ Both the General Practice Forward View and the Community Pharmacy Contractual Framework support the recommendations of the NHS Long Term Plan, where the need to make better use of pharmacists' skills was highlighted as a method of relieving the pressure on GPs.⁵

Introduction

A pharmacist in general practice was recently appointed at a small general practice of nurses and doctors in North West London with 6,750 registered patients. This was a new role created as a result of recommendations in the General Practice Forward View.¹ Consideration was given on how best to utilise the pharmacist's skills, including through a formal referral system with specific criteria, by identifying patients who could benefit from structured medication review, which is included in the current GP contract.⁶ The practice also hoped to respond to the anecdotal feedback from patients which indicated strongly that there was a lack of availability of GP appointments. It was suggested that the practice pharmacist could potentially alleviate some of this pressure, both supporting the national directive to reduce GP workload and improve patient access to healthcare by the pharmacist. It was hoped that findings would be of interest to other practices with new practice pharmacists who are developing their roles.

Aim

To identify the number of GP consultations that could potentially be undertaken by a general practice pharmacist.

Method

All patients presenting at the surgery in person between 5th and 9th August 8.30am-6pm daily were identified using the practice software, EMIS. The study timescale allowed for fluctuation over one week and took account of resource limitations. Electronic notes were reviewed by an author (DD) and a permanent GP staff member. Data on age, gender and consultation content was collected if it related to the following

categories of services, which broadly aligns with those offered by pharmacists and made available to the public as stated on the nhs.uk website⁷ i.e:

- Medication review
- Long-term condition management
- Minor illnesses
- New Medicines Service (asthma, chronic obstructive pulmonary disease, type 2 diabetes, high blood pressure, people who have been given a new blood-thinning medicine)
- Repeat prescriptions.

In order to validate the process, the first and last consultations from each day were reviewed independently by another member of the medical staff with general practice experience at the practice. Any discrepancies were discussed and resolved. If the author was unclear whether the consultation could have been undertaken by the practice pharmacist, this was discussed with the GP who undertook the consultation for clarification of the content.

Anonymised data was entered into an Excel spreadsheet and analysed according to the categories above. As this was an audit and data were anonymised, ethical approval was not needed. Only anonymised data was stored.

Results

Validation of the process included 10 consultations, of which 8 were agreed without query and 2 were agreed after discussion.

A total of 158 patients were identified but 19 were excluded as they were under 18 years. The remaining 139 patients' notes were reviewed during the data collection period, corresponding to the workload, estimated in this practice, for two general practitioners per day over five days.

Of the 139 patients, 87 females (63%) and 52 males (37%). The mean age was 57 (range 18-92 years) with 57 (41%) being aged 65 years or over.

A total of 24 consultations (17%) fulfilled the criteria for potential referral to, and management by, a pharmacist (Figure 1).

Figure 2 categorises the 24 consultations with potential for management by a pharmacist.

There were no queries from patients about newly started medicines that would have resulted in a potential referral for a community pharmacy New Medicine Service review.

Discussion

Of the 139 GP consultations reviewed, 24 (17%) involved a service that could have been provided by a pharmacist. This was mainly for medication review (15/139, 11%). The categories of long-term condition management, minor illnesses and repeat prescriptions accounted for a combined total of 9/139 (6%).

Pharmacists have been shown to be of benefit to patients in

general practice by improving the safety and quality of care and improving timely access to healthcare and health screening as well as reducing emergency hospital attendance and admissions, appointment waiting times and medicines wastage.⁸

This study revealed that, of the total of 23 hours of consultation time with 139 patients included in the data collection, 17% of the consultations (4 hours) could have been undertaken by the practice pharmacist. For the two GPs lists per day reviewed, this equates to up to 2 hours per GP per week that could be potentially saved. The results in this study concur with the findings of Williams et al,⁹ which estimated that 80 hours of GP

time per month can be saved through use of a clinical pharmacist in a practice with ten GPs. The findings suggest that a significant amount of time could therefore be released in the practice to improve access to GP appointments.

During data collection the author (DD) observed that a number of the medication reviews were undertaken as a result of the GP noticing that these were overdue. It was not possible in this study to identify on how many occasions this occurred. However, this could be another opportunity to utilise the pharmacists' skills through contacting patients when a medication review is due.

All reviewed consultations

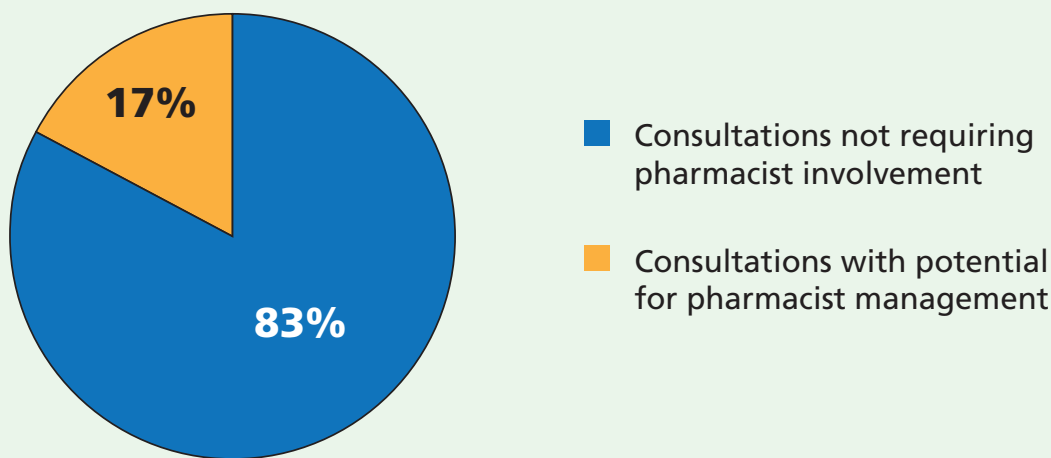


Figure 1: Proportion of consultations for pharmacist management

Consultations with potential for pharmacist management

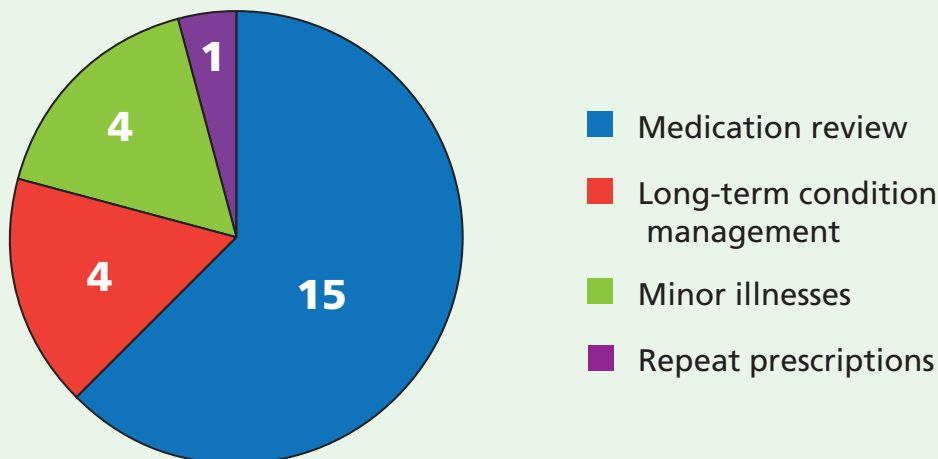


Figure 2: Categories of consultations with potential for pharmacist management

It was interesting to note from the results that no consultation documentation reviewed included a suggestion for a referral to a pharmacist for current or future management. This may be because clinical pharmacists in general practice are relatively new. It is possible that GPs are still in the process of fully embedding these new opportunities for patient care into everyday practice. The results suggest that there is further opportunity to refer to pharmacists.

Anecdotal feedback from patients and staff in the practice suggests that the pharmacist's role is well accepted. Although the pharmacist in the practice had limited capacity to expand the service, the introduction of the NHS Community Pharmacy Consultations Service, which was launched in October 2019, will increase medicines-related services for patients. In order to maximise this opportunity, patients will need to be made aware that these services are available. This will be supported by the introduction of GP referral to community pharmacists in the near future. Next steps could include evaluation of the GP pharmacist service through feedback from practice staff and patients.

Limitations included that the consultation documentation may not have accurately reflected potential for pharmacist consultations. In addition, not all medication review may have been documented or coded and the extent of the review was not known.

Conclusion

This review suggests that there is an opportunity to identify patients who require medication review and refer these patients to the practice pharmacist, releasing much needed GP appointment time. Other roles for the pharmacist could include minor ailments, repeat prescriptions or long-term condition management. The new pharmacist role is an ideal opportunity for the introduction of structured medication review, which is part of the general practice contract. Next steps include exploring methods of identifying patients in most need of a medication review, particularly where problematic polypharmacy may be occurring and educating reception staff about the role of the practice pharmacists to offer pharmacist appointments as an alternative to seeing the GP where appropriate.

Declaration of interests

Dina Davis has nothing to declare. Nina Barnett is part of the Primary Care Network Medicines Review Working Group focusing on structured medication review and Chair of the subgroup on polypharmacy within the London Regional Medicines Optimisation Committee.

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Respiratory Medicines Optimisation in Primary Care - how to create an effective cost saving programme

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Abstract

Title

Respiratory Medicines Optimisation in Primary Care - how to create an effective cost saving programme.

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Summary

Respiratory disease is estimated to cost the UK health economy approximately £9.9million each year and yet a significant number of patients with asthma and COPD continue to experience symptoms, exacerbations and hospitalisations. When appropriately treated however, many of these costs can be avoided. One of the key factors identified has been the quality of diagnosis, which has resulted in inappropriate escalation of treatments or a lack of evidence-based treatment being prescribed. The NHS Long Term Plan has identified early detection and diagnosis of respiratory disease as a priority area.

This paper illustrates the local issues that have been identified in City and Hackney, and some of the solutions in tackling these problems. The employment of a specialist respiratory pharmacist as part of a wider team, has facilitated an improvement in the quality of care received by patients but there still remains a lot of work to do in ensuring that all patients with respiratory disease are appropriately managed.

Introduction

Respiratory disease, including lung cancer, is estimated to cost the UK health economy approximately £9.9 billion each year, with a significant amount attributed to the management of asthma and COPD.¹

Asthma is defined as a chronic inflammatory disorder of the airways associated with an increase in airway hyper-responsiveness that leads to recurrent episodes of wheezing, breathlessness, chest tightness and coughing (particularly at night). These episodes are usually associated with widespread but variable airflow obstruction, which fluctuate in frequency and severity, from intermittent and mild, to frequent and severe.^{2,3} Symptoms are often reversible, either spontaneously or with treatment.^{2,3} When treated correctly, the majority of patients with asthma should remain asymptomatic and without exacerbations but, unfortunately, this is not the case in the UK.

Asthma is the most common lung disease in the UK, with up to 5.4 million people receiving active treatment. Asthma poses a significant burden on healthcare resources and society as a whole.⁴ While some countries have seen improvements in asthma care, the UK continues to experience a high prevalence of poor asthma control, resulting in the need for both

controller and rescue medication, an increased likelihood of exacerbations, high rates of emergency healthcare use, hospitalisation and death.⁴ With 60,000 hospitalisations each year involving 200,000 bed days, asthma accounts for £1.1 billion in direct costs in the UK.^{5,6} Of this, £666 million is spent on prescription costs each year, £160m on GP consultations, £143m on disability claims and £137m on hospital care.⁶ When appropriately treated, many of these costs can be avoided.

Similarly, expenditure associated with Chronic Obstructive Pulmonary Disease (COPD) is equally as significant. COPD is an umbrella term that describes airflow limitation that is due to airway and/or alveolar abnormalities usually caused by significant exposure to noxious particles or gases, such as cigarette smoke.⁷ COPD is a leading cause of morbidity and mortality and the second most common lung disease in the UK after asthma, affecting an estimated 1.2 million people (2% of the UK population).⁸ Though COPD is not reversible, appropriate treatments, both pharmacological and non-pharmacological, can reduce disease progression, improve symptom burden, quality of life and reduce the risk of exacerbations.

The UK is among the top 20 countries for COPD mortality in the world.⁹ In 2012, almost 30,000 people in the UK died as a result

of COPD, accounting for 5.3% of the total number of UK deaths.⁹ Furthermore, it is the second most common cause of emergency admissions to hospital, the fifth largest cause of readmissions in the UK and accounts for over one million hospital bed days in England.⁹

The problems affecting medicines optimisation in respiratory care

The National COPD Audit Programme's Welsh primary care audit, published in 2017, concluded that there were several inconsistencies with the diagnosis of COPD. 280 practices were included and provided information about the care of 48,029 patients living with COPD.¹⁰ They found that only 20% of people on the COPD registers had an electronic record of the post-bronchodilator FEV1/FVC ratio, which is necessary for diagnosing COPD. 63% of patients on the COPD register had a record of an X-ray at the time of diagnosis, which NICE recommends for all COPD patients to exclude any co-morbidities.⁸ There was considerable variation in data accuracy and coding; the data extraction provided confidence in the quality of COPD diagnosis in only 14% of people on the COPD register.¹¹ Additionally, 41.9% of this cohort, had a co-diagnosis of asthma. This is likely to reflect diagnostic uncertainty as it is not in keeping with epidemiological data of validated diagnostic overlap. It is important to confirm diagnosis for these patients as treatment pathways are different and may result in incorrect treatment if diagnostic confusion exists, often leading to inappropriate escalation of treatment or the absence of appropriate treatment. The absence of an inhaled corticosteroid for an asthmatic patient diagnosed with COPD only could lead to uncontrolled symptoms and an increased risk of exacerbations.

The diagnosis of asthma can be difficult and should be based on the symptoms described as well as evidence of variable expiratory airflow limitation.¹² The prevalence of asthma varies and it is suggested that 20-70% of people with asthma in the community remain undiagnosed and hence untreated. Studies however also suggest that 30-35% of patients diagnosed with asthma do not have that condition, suggesting an over-diagnosis in some patients where their symptoms may be interpreted as asthma instead of gastro-oesophageal reflux disease (GORD) for example. Disease severity and co-morbidities may also be missed when an inaccurate diagnosis has been made. It is highly likely that this audit is representative of clinical practice across the UK, highlighting an urgent need for review to ensure accurate diagnoses of both asthma and COPD.

Several medicines optimisation frameworks suggested room for improvement with regards to the prescribing of respiratory medicine. The RightCare programme places the NHS at the forefront of addressing unwarranted variation in care and delivers the best possible care in the most cost effective, valuable way.¹³ One important area identified is the recorded prevalence of both asthma and COPD, especially for those in London. Early and accurate diagnosis can prevent disease progression, improve quality of life and reduce exacerbations and healthcare costs. The NHS Long Term Plan has also identified early detection and diagnosis of respiratory disease as a priority.¹³ Currently, around a third of people with a first hospital admission for a COPD exacerbation have not previously

been diagnosed.¹³ Current workstreams are being developed to help identify these patients and ensure correct and timely early diagnosis.

The local problem in City and Hackney

The recorded prevalence of asthma and COPD in City and Hackney is 4.37% and 1.08% respectively. These are significantly lower averages than the national averages of 5.93% for asthma and 1.91% for COPD.¹³ Local data also suggests that of people aged over 18 years in City and Hackney, 19.3% are self-reported smokers, compared to the English average of 14.6%, suggesting there should be expected to be a consequential larger percentage of patients with undiagnosed lung disease.¹⁴

In addition to a low reported prevalence of asthma and COPD, a recent audit found that in City and Hackney approximately 20% of patients had an incorrect diagnosis, resulting in incorrect treatment often prescribed.¹⁵ As highlighted by a Welsh audit,¹⁰ which had similar findings, it is of upmost importance that patients are prescribed the right medication which is based on accurate diagnosis as previously discussed.

Despite the low reported prevalence of asthma and COPD locally across City and Hackney, A&E attendances and admissions remain significantly high. A possible reason for this may be the number of patients who continue to receive acute care from A&E for the management of their symptoms and are not registered with a local GP.

Poor control may also be a result of non-adherence to preventer inhaled therapies. Up to 90% of NHS spend on asthma goes on medication but incorrect use of medication can also contribute to poorer health outcomes and increased risk of exacerbations and admissions. A City and Hackney CCG audit in 2013 revealed that unused medicines were costing the local NHS approximately £1 million per annum, with inhalers being the costliest proportion of returned items to pharmacies. This suggests that, locally, non-adherence to inhaled therapies may be a contributing factor to poor control and the high rates of exacerbations in both asthma and COPD.^{16,17}

The lack of English proficiency may also be contributing to adherence and health inequalities but this has not been evaluated. The total population in Hackney is 279,700 people of which 36.2% are white English, compared to the London average of 44.9% and national average of 79.8%. Over three quarters of the population speak English (75.9%), 4.5% speak Turkish, 1.7% Polish, 1.5% Spanish and 1.4% French.¹⁴ Asthma and COPD self-management plans have, however, recently been translated into Turkish in City and Hackney in an effort to address this language barrier. Asthma UK have self-management plans available in other languages also.¹⁸

Local solution - Specialist Respiratory Pharmacist-led clinics

A way of identifying correct and appropriate prescribing, prescription refill information by the NHS business services authority (NHSBSA) can be used. EPACT2 is a NHS online application giving authorised users access to prescription

data.¹⁹ One of the areas of focus is respiratory disease. EPACT2 reports selected metrics, such as salbutamol prescribing, frequency of prednisolone courses issued and high dose inhaled corticosteroids (ICS) as a percentage of all ICS items. The prescribing data provided within the respiratory dashboard is based on the prescription data available to the NHSBSA at the time of publication. It can be used to establish prescribing trends in general practices and identify areas for improvement by comparing CCGs to the national average. This has been a useful source of information that is very easily accessible.¹⁹

In City and Hackney, the EPACT2 reporting data is regularly used by the medicines management team to identify high risk patients, defined as those using large quantities of salbutamol, on high dose inhaled corticosteroids and prescribed more than two courses of prednisolone in 12 months.¹⁹ A Band 8b specialist respiratory pharmacist has been employed by City and Hackney CCG since 2015. Practices requiring the most support, as identified by EPACT2 data and in-house reporting, are prioritised on a rolling basis. Before initiation of a clinic at each practice, prescribing data was reviewed and discussed with the lead GP and/or the team to ensure engagement and the necessity of a review. In addition to the patients identified by the searches, GPs and nursing staff were encouraged to book in any difficult patients who they felt may benefit from a review or those with an uncertain diagnosis. Practice nurses, GPs and pharmacists often shadowed clinics.

These patients were then invited into specialist respiratory clinics with a view to optimise treatment. Each appointment was 20 minutes unless the patient required longer due, for example, to language barriers or if diagnostic spirometry was needed. The clinic at each practice runs until all selected patients have been invited for review and their treatments optimised before setting up clinics in other practices. These clinics took place every week in larger practices and monthly in smaller practices. A report or summary of findings and teaching took place at every practice to engage and upskill all staff members.

There were often barriers in implementing this service in some practices with lack of room availability often being an issue. It was also very important to engage the practice manager and reception staff to book in patients. There were some instances where clinics had been cancelled and/or poorly booked clinics and attendance due to lack of practice staff resource and time.

A comprehensive review confirms diagnosis, addresses non-adherence, checks inhaler technique, lung function testing and symptom burden. It also discusses the management of confounding triggers including, for example, allergic rhinitis or GORD. Non-pharmacological interventions which are considered to be of low cost and high value are also optimised; examples include smoking cessation, immunisations, social prescribing, pulmonary rehabilitation (PR) and access to healthy living programmes in the Borough.

The specialist pharmacist may also receive referrals from other health care professionals within the practice for 'difficult to manage' patients and undertakes home visits. Referrals have also been received from secondary care consultants, physiotherapists and other pharmacists employed by GP practices.

High dose ICS should only be required for patients with severe

asthma. However, data suggests that a large proportion of patients with asthma and COPD are prescribed unnecessarily high doses. The specialist review of medication has often resulted in a reduction of ICS or cessation where ICS is in fact not indicated at all, thus reducing the ICS burden to patients. This is particularly important for patients with COPD; recent data suggests that high dose ICS increases the risk of pneumonia.²⁰

Case study

A case study example is shown in Figure 1.

Pulmonary rehabilitation (PR)

One of the key interventions made is to ensure patients with COPD are referred to PR. Evidence suggests that 90% of patients who complete the PR programme experience improved exercise capacity and/or increased quality of life.¹³ Nationally, it is only offered to 13% of eligible COPD patients, with a focus on those with more severe disease. If all eligible patients were offered PR, over the next 10 years it is estimated that 500,000 exacerbations and 80,000 admissions could be avoided.¹³ One of the key barriers to optimising referrals to PR may be influenced by the amount of information and enthusiasm of the referring healthcare professional.²¹ Language barriers may also prevent patients from attending PR. Location and transport have also been identified as possible reasons for poor referral rates to high value interventions.¹⁸

The pharmacist also attends regular PR programme meetings to discuss education with regards to inhaler technique and self-management. Additionally, this provides an opportunity for patients to ask any further questions they have about their treatments. The group consultation format means that learning is both from healthcare professionals and patients themselves.

Self-management and admission avoidance

City & Hackney CCG and Homerton University Hospital NHS Foundation Trust have developed integrated working to prevent hospital admissions. Many patients with severe COPD are managed by an Adult Cardiorespiratory Enhanced and Responsive Service (ACERs) – a local consultant-led community respiratory team. The specialist respiratory pharmacist attends multi-disciplinary team meetings and, where appropriate, will discuss patients with the ACERs team to make informed decisions.

Due to the burden of disease and prevalence of exacerbations, guidelines recommend that patients who have either had or are at risk of having an exacerbation keep a rescue pack with antibiotic and oral corticosteroids, to use in the event of an exacerbation. The goal of treatment in COPD exacerbations is to minimise the impact of the current exacerbation and to prevent the development of subsequent exacerbations. COPD is the second most common cause of emergency admissions to hospital in the UK.

Costs associated with COPD increase as disease severity progresses, with the Department of Health (DH) suggesting that it costs nearly ten times more to treat severe COPD compared to

mild disease.²² Depending on the severity of exacerbations, the vast majority of patients can be managed in primary care, with only a small proportion requiring admission into hospital.¹⁶ Approximately a third of those admitted to hospital as a result of their COPD are readmitted within a month of discharge.

Corticosteroids and antibiotics can shorten recovery time, improve lung function, prevent admission or decrease the length of inpatient stay and reduce the risk of early relapse and treatment failure. If, however, rescue packs are used incorrectly this can be detrimental, increasing the steroid burden inappropriately and/or the risk of antibiotic resistance. Only those patients with COPD who understand how to recognise an exacerbation and use rescue packs correctly are issued with a self-management plan, antibiotics and steroids. They are advised to call the ACERs team to ensure that it is medically safe to take the rescue medication, with the aim of avoiding an admission to hospital.

Improving the Annual Review

The local Quality Outcomes Framework (QoF) electronic template for asthma and COPD used in general practices has also been updated to include prescription refill adherence records (manually counting the number of prescriptions of ICS and short-acting beta agonists (SABA) in the last 12 months) when reviewing these patients, with prompts added to improve the quality of annual reviews. An example of this is, if a patient has been issued 2 x ICS and 8 x salbutamol, the healthcare professional is prompted to discuss adherence. This also ensures that symptomatic patients are not inappropriately stepped up before issues affecting adherence are explored and addressed.

Education

Due to the large number of patients with respiratory disease, it is important to also educate and support the wider multidisciplinary team in improving patient outcomes. Recent

data suggests that incorrect inhaler technique continues to be a problem for patients and has not improved over the past 40 years.²³ A systematic review found that healthcare professionals incorrectly used an inhaler almost 85% of the time, suggesting educational efforts to improve inhaler technique amongst healthcare professionals is desperately and imminently needed.²⁴ As highlighted by the Welsh and City and Hackney audits, primary care healthcare professionals also need to appraise and review diagnosis continuously. Upskilling the workforce will ensure that diagnosis is correct, treatment is appropriate and patients are able to benefit from use of their inhalers. In City and Hackney, education has been offered to all healthcare professionals on an annual basis as well as any ad-hoc training that is requested or identified.

To ensure the whole local health economy is appropriately skilled, community pharmacists in Hackney have also received additional training on how to counsel patients on adherence, self-management and inhaler technique with access to local guidance and resources. Staff in care homes and some respiratory patients in these care homes have also received education and training. This highlighted the number of patients using inhalers incorrectly and those using a salbutamol MDI without a spacer, further emphasising the need for all healthcare professionals to be adequately trained to manage patients with respiratory conditions. Where necessary, the specialist respiratory pharmacist will ensure the provision of spacers and rescue packs are made by GP practices.

Local guidelines, inhaler flashcards with instruction of technique and inhaler summaries have been produced and distributed to all involved in patient care to ensure consistency in prescribing and advice given to patients. These have been very useful for healthcare professionals to distinguish between the myriad of inhalers and devices now on the market and choose the most appropriate device and treatment for patients. Patients also complain of different healthcare professionals giving conflicting inhaler technique advice – inhaler flashcards produced locally

An example demonstrating the role of a pharmacist of a patient with COPD who was frequently exacerbating found that the patient was receiving inhalers every month but was not administering these as he had dementia and would often forget. His inhaler technique was good but he was using 3 different devices; an accuhaler, handihaler and MDI with differing frequencies. In 12 months he had experienced 8-9 exacerbations, of which 3 had resulted in a hospital admission. In addition to his ICS/LABA/LAMA, he was prescribed theophylline and both salbutamol and ipratropium nebulas.

Both prescription refill information and patient-reported adherence suggested that the patient was adhering to his treatment but, on a home visit, a bag full of unused and expired inhalers was found and returned. The cost of this unused medication was over £1,000. The patient was issued with a simpler inhaler regime facilitated by a district nurse. This was an intervention that could only have been identified on a home visit; prescription records suggested he was adherent, the patient also believed he was adherent but this was proven to be untrue on identification of the number of unused inhalers.

Not only did this intervention impact prescribing costs, there was also a reduction in the number of hospital admissions for this patient.

Figure 1: Case study

and use of RightBreathe inhaler videos (www.rightbreathe.com) ensures that the same message is delivered by all and reduces confusion often experienced by patients. Additionally, the RightBreathe application is encouraged for use by patients who have been identified as being unintentionally non-adherent to their medication due to forgetfulness.

Further and continuous education is required in City and Hackney to ensure that patients are receiving the correct diagnoses and thereby the correct medication to help manage their conditions. There still remains a high number of salbutamol inhalers issued with 27.12% of patients receiving more than six inhalers per annum across the CCG, compared to the national CCG average of 26.03%,¹⁹ often issued concurrently every month with preventative treatments. Prescribing habits therefore need to change and GPs need to be supported in doing this by engaging community pharmacists, GP practice staff and patients to only request salbutamol when required and not automatically each month.

Patient education of good asthma control also needs to be highlighted and those genuinely using large quantities of salbutamol need to be urgently reviewed as highlighted by the national review of asthma deaths report published in 2014.²⁵ These patients can often be difficult to identify as there is a large number of medication that is not in-fact used; i.e. when salbutamol is stored in multiple locations, thus also highlighting the importance of only ordering medication when required.

Medicines optimisation of respiratory care therefore needs to involve the whole community, patients, healthcare professionals as well as addressing ordering systems in changing behaviours. By ensuring adherence to inhaled therapies, symptom burden can be reduced and have a significant impact on healthcare utilisation and the health economy.

The role of the specialist respiratory pharmacist in general practices

The role of the specialist respiratory pharmacist in primary care was implemented in 2015 when pharmacists in general practice were a rarity and the role was not established. There was also a lot of resistance from GPs who were worried about the impact a pharmacist would have on the care of their patients. This changed very quickly when patients reported improvements in their symptoms and management of disease. Not only has the impact of a specialist pharmacist in primary care improved the quality of life, it has shown to reduce the prescribing of high dose ICS in both asthma and COPD (30.69% of all ICS prescriptions in June 2015, compared to national average of 36.71% to 29.69% in June 2019, national average of 38.30%),¹⁹ GP emergency visits and A&E attendances. This is continuously reviewed at each practice as prescribing habits can influence these outcomes. Upskilled practice support pharmacists regularly review prescribing indicators, facilitated by EPACK2 data, such as high dose ICS prescribing and salbutamol prescribing with lead GPs and disseminate information and suggestions for change.

GPs particularly have found having a specialist respiratory pharmacist in practice to be useful in managing their patients and reducing emergency GP appointments affiliated with poor

symptom management and exacerbations. With the myriad of inhalers now available, the support of a specialist in primary care has been important and timely.

"The pharmacist is an exceptionally skilled clinician with great expertise in asthma and COPD. She has changed the diagnosis and treatment of several of our patients at the Group Practice, Hackney, helping their care and our costs. She also helps our clinical staff improve their own skills"

GP Partner, January 2020

"The Pharmacy Respiratory Service has been absolute invaluable for our patients here at the Practice. Since initiation of the service, I can confidently say that the team have significantly improved the control of our patients with Asthma and COPD; whom we had previously struggled to manage. They have been exceptionally thorough in their care and identified many novel ways to support our patients with their respiratory health. Feedback from patients has always been positive and they have truly valued the teams' commitment to improving their health and well-being."

The respiratory pharmacist has been a great support to all the clinical staff here at the practice; for whom she has led dedicated teaching sessions and answered multiple patient queries. She has gone out of her way to support our practice both in-house and with our borough-wide health campaigns, in which her presence has always been extremely well received.

We could not recommend the service highly enough. It has truly made a positive difference to the health of our patients and we are very grateful for their support. Thank you"

GP Partner and Clinical Director - South West of Hackney and the City of London.

Future initiatives include the utilisation of virtual reviews – where the specialist pharmacist can review patients in collaboration with the practice pharmacist or primary care network pharmacist, GP and practice nurse to further share learning and education. The teachings from these reviews can then be applied to everyday practice and ensure correct diagnosis and treatment for all patients.

Summary and Conclusions

Medicines optimisation in respiratory medicine requires identification of high risk patients to ensure correct diagnosis and identification of confounding co-morbidities to optimise management.

Adherence to inhaled therapies is known to be poor but identification of this and discussing the barriers to adherence can help influence control. The role of the pharmacist here is of upmost importance. This, in turn with good inhaler technique, can improve symptom burden, reduce exacerbations and improve patient quality of life.

Reduced healthcare utilisation will not only make medication cost savings but also indirect cost savings to the health economy.

Declaration of interests

- Hetal Dhruve declares a payment offered from Pharmacy Management for writing the article.
- Hashi Sagal and Rozalia Enti have nothing to declare.

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THINK JOURNAL OF PHARMACY MANAGEMENT (JoPM)!

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Is it about good practice in medicines optimisation with a focus on '**optimisation**', which relates to quality and improving patient care, rather than cost aspects?



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Why not write an article that addresses the medicines optimisation initiative for *specific therapeutic areas*?
Sharing such targeted work will hopefully facilitate discussion and the implementation of best practice within specialisms.

A pharmacist working in an outpatient clinic improves safety for patients with Inflammatory Bowel Disease (IBD)

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Abstract

Title

A pharmacist working in an outpatient clinic improves safety for patients with Inflammatory Bowel Disease (IBD).

Author list

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Introduction

Immunomodulator drugs are widely used in the treatment of IBD. These drugs are effective but also have well recognised, potentially serious, side effects. In November 2015 we set up a pharmacist clinic to assist with the prescribing and supervision of these potentially harmful medications. As the pharmacist clinic was becoming established, virtual clinics evolved for patients who did not need to attend in person and also a pharmacist telephone/email helpline was set up.

Method

We reviewed clinical details for all patients who attended the pharmacist clinic from 27th Nov 2015 to 28th February 2017. We obtained details from the hospital patient information system and the clinic letters. We sought patient feedback via a questionnaire.

Results

The pharmacist conducted a total of 367 outpatient appointments and 83 virtual clinic reviews for 176 patients. 230 specific actions were required by the pharmacist for 196 of the appointments (mean of 1.2 actions per appointment). 254 (56%) of the appointments required a blood review alone. 93% of the actions performed were conducted independently by the pharmacist. The pharmacist referred 15 patients to the physician who then took over the care of the patient. Seven of these referrals were for the management of side effects of treatment and eight were for the management of a flare of IBD symptoms.

Conclusions

The IBD pharmacist has a key role in the management of IBD patients, contributing not only to medication monitoring, prescribing and safety but also allowing greater capacity in the physician's busy IBD clinics.

Keywords: immunomodulators, patient safety, medicines optimisation, medication review.

Introduction

Immunomodulator drugs are widely used in the treatment of IBD. These drugs are effective but also have well recognised, potentially serious, side effects including bone marrow suppression, liver toxicity and pancreatitis.^{1,2,3,4} Immunomodulator drugs include azathioprine, mercaptopurine, methotrexate, ciclosporin and tacrolimus. Analysis of patients' blood levels of thiopurine metabolites enables optimisation and individualisation of these drugs, thus guiding effective treatment decisions and improving clinical outcomes.⁵

In November 2015, at the request of increasingly busy consultants, we set up a pharmacist clinic to assist with the prescribing and supervision of patients on these potentially harmful medications.

The role of the pharmacist in initiating immunomodulator therapy includes providing information to patients about their medication, answering any questions they have, prescribing and then arranging blood tests and follow up appointments so that clinical response and safety can be monitored. The pharmacist also reviews and monitors patients on maintenance therapy every three months, provides follow up for patients who have been initiated on therapy by the doctor, provides additional monitoring following dose adjustments and reviews patients to optimise dosing.

As the pharmacist role in clinic was being established it became clear that, for some patients, an attendance at the outpatient clinic was not essential; for example, when a blood test was required after a dose change. In these situations the patient can come in for a blood test on an agreed day and then the pharmacist can review the results and liaises with the patient via phone as necessary. This has proved to be a popular option with some patients as it gives them flexibility to co-ordinate their healthcare needs around other commitments. These 'virtual clinics' have an additional benefit in that they free up space in the outpatient clinics for patients who require a face-to-face review. Previous work in

this area has shown that a virtual pharmacist led clinic is a safe alternative to conventional gastroenterology clinics for patients on immunomodulators and that an average of ten clinic visits per patient can be saved.⁶

The pharmacist presence in the clinic resulted in the development of a pharmacy helpline with patients calling or emailing the pharmacist for advice between clinic visits.

At the inception of the pharmacy clinic we set up a database to record details of patients who had been reviewed by the pharmacist. This database is updated at each patient visit with details of their prescription, significant blood results and follow-up appointments.

After fifteen months we conducted a service review to assess the impact of the pharmacist clinic on patient experience and care.

Objectives

- To identify the number and type of actual and virtual clinic appointments.
- To categorise the actions taken by the pharmacist.
- To quantify the referrals made to a physician.
- To determine the helpline use.

Method

In terms of process, we:

- reviewed patient notes for all who had attended the pharmacist clinic from 27th Nov 2015 to 28th February 2017
- identified patients from our database
- recorded clinical history, demographics and side effects
- obtained blood results from the hospital patient information system and clinical history from clinic letters
- determined the total number and type of actual and virtual clinic visits managed by the pharmacist

Parameter	Number (n=176)
Gender	
Male	100 (57%)
Female	76 (43%)
Age range	
Age	Range 19-83 (median 33)
Disease subtype	
Crohn's disease	101 (57%)
Ulcerative colitis	69 (39%)
IBD Undetermined Subtype (IBDUS)	6 (3%)

Table 1: Patient demographics

- categorised the outcomes of these visits
- identified the number of IBD pharmacy helpline calls/emails from the pharmacist's records
- quantified the number and type of referrals made to a physician
- sought feedback from patients via a questionnaire. This was given out in the outpatient clinics during August 2018 to patients who had attended the pharmacist clinic on at least one prior occasion.

Ethics approval was not required for this service review.

Results

Between November 2015 and February 2017 the pharmacist conducted a total of 367 outpatient appointments and 83 virtual clinic reviews for 176 patients. The most commonly monitored drugs were thiopurines (91%, n= 413) followed by methotrexate (5%, n=22) then ciclosporin (2%, n=8). 2% (n=7) of patients were on dual therapy.

Type of clinic appointment	Number of appointments (actual + virtual)
Initiation of treatment - includes counselling, prescribing of medication, dose titration and initial 2 weekly bloods and assessment of response and side effects	92 (20%)
Monitoring immediately post initiation of treatment by physician	95 (21%)
Three monthly routine monitoring	145 (32%)
Intensive monitoring e.g. after dose increase, abnormal blood result	45 (10%)
Dose optimisation including addition of allopurinol and dose adjustment	63 (14%)
Other	10(2%)
Total	450

Table 2: Types of pharmacist appointment

Action taken by the pharmacist	Number
Side effects assessed and patient reassurance given	37 (16%)
Other	34 (15%)
Dose decreased - high TGN, abnormal bloods or side effects	32 (14%)
Symptoms assessed and patient reassurance given	27 (12%)
Dose increased - low TGN or dose too low for patient's weight	27 (12%)
Adherence support given	15 (7%)
Non-immunomodulator medicine started e.g. Vitamin D	12 (5%)
Allopurinol added - high 6MMP	11 (5%)
Advice on dosing given	8 (3%)
Patient care handed over to the physician due to flare of symptoms	8 (3%)
Treatment stopped - side effect or abnormal bloods	7 (3%)
Patient care handed over to the physician due to side effects	7 (3%)
Azathioprine switched to mercaptopurine due to side effects	5 (2%)
Total	230

Key: TGN, Thioguanine Nucleotide; 6MMP, 6-MethylMercaptopurine.

Table 3: Actions taken by the pharmacist

The patient demographics are shown in Table 1.

The types of pharmacist appointment are shown in Table 2.

230 actions were required by the pharmacist for 196 of the appointments (mean of 1.2 per appointment). The types of action taken are detailed in Table 3.

254 (56%) of the appointments required a blood review alone with no specific actions. 93% of the actions performed were conducted independently by the pharmacist.

15 patients were referred by the pharmacist to the consultant or specialist registrar who then took over the care of the patient. The reasons for referral and details of subsequent management of the patient are detailed in Table 4. Seven of these referrals were for management of side effects of treatment and eight were because the patient had a flare of IBD symptoms.

The IBD pharmacy helpline received a total number of 122 calls/emails over 37 weeks with an average of 3 calls/emails per week.

16/20 (80%) of questionnaires were returned by patients. The results are shown in Table 5. Individual quotes from patients are shown below.

Quotes from patients

- “The pharmacist is always very helpful.”
- “Fully approve of this service alongside seeing a consultant when appropriate.”
- “Always had excellent care from the IBD pharmacist.”
- “The pharmacist is extremely helpful and knowledgeable and if she doesn’t know the answer to a question she always finds out and lets me know which is very reassuring.”
- “I’ve found the pharmacist to be very professional and seems knowledgeable and has been extremely valuable to my recovery.”
- “Very good service.”

Discussion

The IBD pharmacist is improving patient safety and the patient’s hospital experience by providing a comprehensive medication monitoring and medicine optimisation service. This ensures that any abnormal blood results or side effects as a result of immunomodulator therapy are identified and actioned in a timely manner. Doses of immunomodulator therapy are tailored to individual patients to ensure maximum efficacy whilst limiting the risk of side-effects developing.

Working in outpatient clinics is a developing role for pharmacists. It utilises their specialist knowledge and skills in line with the Carter Report, which suggests that more pharmacist time should be spent in direct patient facing activities.⁷

As can be seen by the actions taken in clinic, an appropriately trained pharmacist can develop the skills to review symptoms and assess side effects and manage these independently whilst also recognising patients who need input from medical staff and referring these patients as required. The fifteen patients who were referred during the review period required action to be taken by the physician showing that the decision made to refer them was appropriate.

In clinic, the pharmacist provides support to patients to encourage them to continue with their therapy. They facilitate adherence by management of side effects, giving of advice with regard to the timing of doses to suit patients’ lifestyles and reinforcement of the importance of continuing with maintenance therapy despite symptoms improving. This support provides a better experience for patients, who are then more likely to continue with these treatments thereby preventing the need for escalation to additional therapies.

Feedback from patients regarding the pharmacist clinic has been very positive as shown by the responses to the questionnaires. Also, unprompted feedback included a patient who stated: “It is reassuring to know that someone is keeping an eye on things in the background” when he was called by the

Reason for referral of patient to physician	Action taken by physician	Number of patients (n=15)
Flare of IBD symptoms	Additional treatment prescribed and/or diagnostic tests requested	8
Abdominal pain and inflammatory markers raised	Pancreatitis diagnosed and patient admitted to hospital	1
Worsening renal function	Patient admitted to hospital for assessment and treatment	1
Patient developed severe rash	Patient referred for dermatology review	1
Patient complained of ocular symptoms	Patient referred for ophthalmology review	1
Joint pain and inflammatory markers raised	Patient referred for rheumatology review	1
Haemoglobin significantly low	Intravenous iron advised	2

Table 4: Reason for referral to a physician

pharmacist to tell him that his blood results showed that his renal function had worsened. A patient who was having her bloods reviewed via the 'virtual clinic' provided feedback to say: "Thank you for making this process so easy for me". When the pharmacist clinic was first set up some patients were surprised that they were not seeing a doctor. However, when the pharmacist explained their role all patients were happy to see the pharmacist and none requested to see a doctor instead.

In addition to the direct management of patients, pharmacists are now better supporting the multidisciplinary team with general pharmacy advice (for example high cost drug funding queries and dosing of supportive therapies such as intravenous iron). They also liaise with General Practitioners (GPs) to facilitate the transfer of clinical responsibility for prescribing of the immunomodulators to GPs where they are happy to take on this role. Some GPs do not feel able to take on the clinical responsibility for prescribing and monitoring stable patients.

Question	Scale	Number of responses	Percentage of responses
How well does the pharmacist explain the reason for your medication?	Extremely well	12	75
	Very well	4	25
	Somewhat well	0	0
	Not so well	0	0
	Not well at all	0	0
How well does the pharmacist explain the side effects to watch for?	Extremely well	10	67
	Very well	4	27
	Somewhat well	1	7
	Not so well	0	0
	Not well at all	0	0
	n/a	1	n/a
The pharmacist tells me how to take my medication in a way that I can understand	Strongly agree	13	81
	Agree	3	19
	Not sure	0	0
	Disagree	0	0
	Strongly disagree	0	0
How helpful did you find the IBD pharmacist clinic? (Scale of 1-10, 10 = very helpful)	10	13	81
	9	2	13
	8	1	6
	7	0	0
	6	0	0
	5	0	0
	4	0	0
	3	0	0
	2	0	0
	1	0	0
	0	0	0

Table 5: Responses to questionnaires

Currently, these patients return to the hospital for their three monthly reviews. A future development would be to explore the options of an IBD pharmacist clinic being run in GP surgeries to move this aspect of care closer to the patient and prevent the need for frequent hospital visits for stable patients.

The pharmacist in the outpatient clinic focuses on the pharmaceutical aspects of patient care. This uses the pharmacist's specialist knowledge of drug therapy and also ensures appropriate use of skill mix. The pharmacist clinic frees up slots in the physician clinics for patients who require a medical review. This is important with the current pressure on the health service since it targets patient care resources to where they are most needed. The NHS target for referral to treatment for new patients is eighteen weeks and for new cancer referrals is two weeks. Therefore, in addition to contributing to patient care, the pharmacist clinic is supporting the hospital in achieving its efficiency targets and avoiding financial penalties.

Conventionally, in IBD patients requiring escalation of medical therapy following immunomodulators, the next step is usually to initiate biological therapy, for example anti-TNFs or the newer small molecules (JAK inhibitors). Since the introduction of the IBD pharmacist the role has been expanded to include developing clinical protocols, shared care guidelines with primary care and also for therapeutic drug monitoring.

Furthermore, immunomodulator drugs are used in other specialties e.g. rheumatology and dermatology. A future development for Chelsea and Westminster Hospital would be to extend pharmacist support to these specialities as it is expected that similar benefits would be seen in these areas.

Conclusion

The IBD pharmacist has a key role in the management of patients with IBD contributing not only to medication monitoring, prescribing and safety but also allowing greater capacity in the physician's busy IBD clinics.

Declaration of interests

The authors have nothing to disclose.

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Diary Dates with Pharmacy Management in 2020



JoMO-UKCPA Respiratory Workshop

Date: Thursday 12 March 2020

Venue: The MacDonald Burlington Hotel, Burlington Arcade, 126 New Street, Birmingham B2 4JQ



PM Celtic Conference

Date: Thursday 26 March 2020

Venue: Mercure Cardiff Holland House Hotel, 24 - 26 Newport Rd, Cardiff CF24 0DD



JoMO-UKCPA Diabetes Workshop

Date: Tuesday 12 May 2020

Venue: Amba Marble Arch Hotel, Bryanston St, Marylebone, London W1H 7EH



Pharmacy Management National Forum for Scotland

Date: Thursday 27 August 2020

Venue: DoubleTree by Hilton Glasgow Central Hotel, 36 Cambridge St, Glasgow G2 3HN



JoMO-UKCPA Cardiovascular Workshop

Date: Wednesday 30 September 2020

Venue: Amba Marble Arch Hotel, Bryanston St, Marylebone, London W1H 7EH

Pharmacy Together Conference

Date: Friday 13 November 2020

Venue: Novotel London West Hotel, Hammersmith International Centre, 1 Shortlands, Hammersmith, London W6 8DR

Pharmacy Management National Forum for Wales

Date: October 2020

Venue: Swansea

Northern Ireland's Medicines Safety/WHO Conference

Date: Thursday 19 November 2020

Venue: Belfast



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