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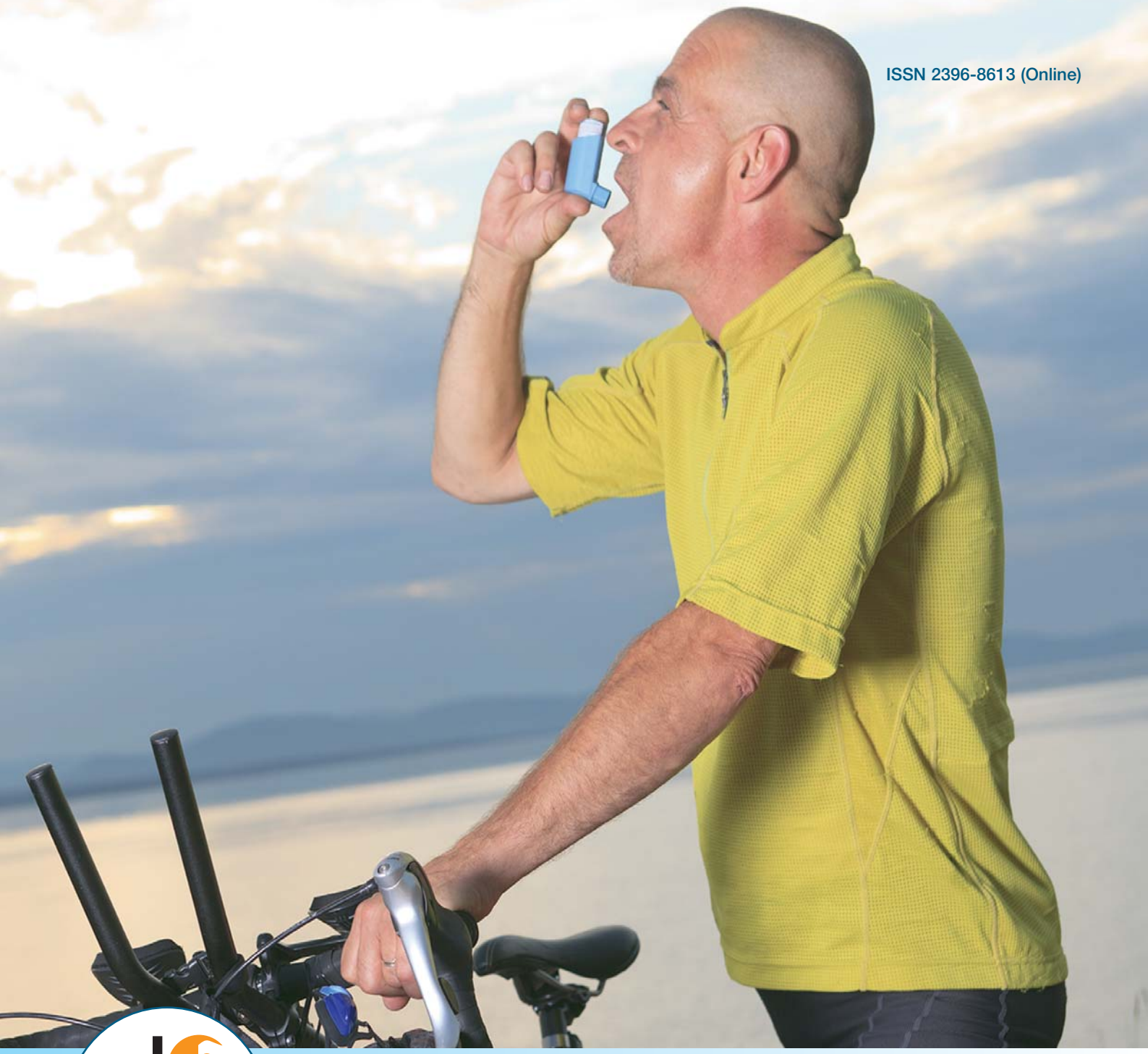

# Journal of Medicines Optimisation

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

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## In this issue:

## AIM OF THE JoMO

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.

## READERSHIP

The JoMO is made available on a controlled circulation basis to healthcare professionals (e.g. pharmacists, doctors, nurses, etc) and industry colleagues who work with them.

## EDITORIAL STAFF

The JoMO is supported with the staff shown at the end of the journal.

## CLINICAL EDITORIAL GROUP

A range of experience covering various clinical specialties, organisations and disciplines is available to help steer the development of the JoMO and ensure that it provides a useful resource for readers. Details of membership of the group are shown at the end of the journal.

## PEER REVIEW/CLINICAL CONSULTANCY NETWORK

The JOMO has a network of persons available to provide advice and undertake peer review of articles. Material that appears in the 'Practice Research' and 'Insight' sections will have been subject to peer review.

The emphasis in the JoMO is on disseminating best practice through good quality publications. The aim of the peer review process is to provide advice on the suitability of an article for publication as well constructive comment to assist authors, where appropriate, to develop their paper to a publishable standard.

Peer review is conducted on a single blind basis and authors are not informed of the name(s) of Peer Reviewers.

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## COMMUNICATION CHANNELS

A learned journal should open its pages to scholarly debate and we hope that readers will share their views and questions in the following ways.

### LINKEDIN

Readers who use LinkedIn may like to know that there is a JOMO LinkedIn Group. It is a closed group but everyone who requests the JoMO will be permitted to join. Readers are encouraged to comment upon and discuss items about medicines optimisation.

### TWITTER

Readers are encouraged to follow Pharmacy Management on @pharman to use our dedicated Twitter hashtag (#jmedopt) to draw attention to and debate topical issues having to do with medicines optimisation.

### CORRESPONDENCE

Constructive comment to further understanding and debate about a topic is encouraged and welcomed.

Any competing or conflicting interests should be declared at the time that the correspondence is submitted.

Correspondence should be submitted within one month of the distribution date for the Journal.

Correspondence may not be accepted in certain circumstances e.g. if it is discourteous, inaccurate, potentially libellous, irrelevant, uninteresting or lacks cogency.

Correspondence may be edited for length, grammatical correctness, and journal style.

Authors of articles discussed in correspondence will be given the opportunity to respond.

The correspondence, together with a declaration of any interests and any subsequent comment from the author, may be published in the Journal and/or on the website.

Please submit your correspondence to the Correspondence Editor (correspondence@jmedopt.com).

## PUBLISHING YOUR WORK

The JoMO aims to disseminate good practice about medicines optimisation to pharmacists, doctors, nurses and other healthcare professionals. The focus is on 'optimisation', which relates to quality and improving patient care, rather than cost aspects.

The JoMO aims to follow the 'Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals' published by the International Committee of Medical Journal Editors (ICMJE) and known as 'The Uniform Requirements' and the Committee on Publication Ethics (COPE) 'Code of Conduct'.

Guidance for Authors is available at http://www.jmedopt.com.

All material should be sent electronically to the Editor-in-Chief (alex.bower@pharman.co.uk).

# Editorial

Medicines optimisation is about patients – but what is it really like to be a patient? What is it like living with a particular therapeutic condition? How do you cope? Do you get the support and information on medicines and other aspects that you need? If not, how do you manage in your daily life? The JoMO seeks to answer these questions by contributions from patients who 'tell it like it is'. In this edition we get to know about the challenges for someone who has always wished to compete in sport but who had a diagnosis of asthma in childhood and then a diagnosis later in life of COPD. This article will be useful to healthcare professionals who wish to reflect on their own performance. What advice, counselling and support would you have provided if the patient had described their symptoms and care to you at different times throughout their journey?

Another contribution looks at the involvement of people generally at the macro level. What structures and processes need to be in place to get the desired outcomes and how can people be supported to navigate their way through what can be complicated and confusing arrangements? A helpful framework for involvement at the individual, community and population level is proposed.

Medication history reviews are commonly hailed as an essential part of ensuring that appropriate care is provided – but how valuable are they in practice? This has been evaluated in an acute mental health service by assessing the opinions of consultant psychiatrists. The results are both illuminating and encouraging.

The theme of medication histories is continued in the article on the Summary Care Record – but this time from a hospital perspective. The sharing of this key clinical information electronically would seem to be an important advance in improving the accuracy and efficiency of the medicines reconciliation process.

An article on the benefits of Community Pharmacists having remote access to GP records clearly points the way to how the profession can further contribute to health care. It is hoped, however, that it will inspire for another reason. The JoMO seeks to encourage the publication of practice research but Community Pharmacists do not tend to be as prolific as other colleagues within the profession in this respect. It is therefore most heartening to publish an article from a Community Pharmacist in this edition - and more so because it is the first time that they have published anything in an extensive career. That might sound a bit surprising after having been many years on the register - but it will quite a common occurrence! Practice research is far from embedded in the psyche of a Community Pharmacist. Provided it is a topic that is worthy of publication, the culture of the JoMO is to be supportive and provide authors with comment as appropriate to assist them in developing material to a publishable standard. It is hoped that this example will inspire others to write up their work.


## HYPERLINKS

References and other resource material as appropriate can be accessed directly via hyperlinks in the Journal.

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# Contents

# A patient perspective of living with a diagnosis of asthma

**Luke Lawrence**
Correspondence: see below

## Abstract

*Title*

A patient perspective of living with a diagnosis of asthma.

*Author*
Lawrence L.

Summary
The challenges associated with having a diagnosis of asthma since childhood and then getting a diagnosis later in life of COPD are explained from the perspective of a patient who wishes to compete at a high level in sport.

The importance of early and correct diagnosis is stressed.

*Keywords:* asthma, COPD, sport, exercise, inhaler

## Introduction

I'm writing this update to help give an understanding of what it's like to have asthma, how the disease can change through your life and how that impacts on someone who leads an athletic life and is looking for sports performance. Through my journey I have also been diagnosed with Exercise Induced Asthma (EIA) and now COPD. However, I'm still pushing to remain fit and keep competing - it's been a long journey. My core point is that each case of asthma/lung problems needs to be reviewed individually, with empathy. COPD for an athlete is a different situation to COPD for an overweight smoker in later life – and yet our treatment course can be the same.

You can read in more detail about what I've been through on my blog
**https://lukelawrenceocr.wordpress.com/2015/05/05/asthma-what-its-like-both-in-life-in-sport/** .

My asthma started as a child. I was one of the only children at my school to have asthma, which was rarer back then. These days it's either more common or the issuing of blue reliever inhalers is more widespread as I see many children with inhalers these days.

## Diagnosis

The diagnosis of asthma or EIA correctly at a young age is something that I'm passionate about. A full asthma attack is an obvious thing to manage/be aware of, however lesser symptoms of EIA or similar can leave a child simply feeling unfit or struggling in sport, which could in turn lead to them staying clear of athletic activities throughout their life as they always struggled. This, in turn, could lead to obesity. I think it's key to enable children (and anyone getting involved with fitness) to be able to do as much as they can – the wider benefits are clear.

## Treatment

My asthma treatment switched in my teens and became simply reliever inhalers for around 20 years. I had no real reviews - just a repeat prescription for the blue salbutamol. Fast forward to March 2014 and I was at my peak fitness. Training hard to compete in national level and even world championship status athletic events. However, I started to struggle. It made no sense that I was fitter than ever and yet just fatigued so quickly in races. I worked through things, increased my training/running and reviewed my already focused clean diet. I simply felt out of breath - I could not suck enough air in to keep my energy levels up.

I went to the doctor who enquired about my normal day-to-day asthma, which I said was OK and he suggested that perhaps I stop running if that aggravated the asthma. Unreal! Fitness is important to us all however, for me, I had pushed to the front of my sport. It took me out of years of a motivation slump that lead me to putting on weight and slight depression. This sport, which I had grown good at, was my focus and reason to eat well and train well. I needed help to continue or be as good as I could be.

Over the next 6-8 months the doctors tried the same basic steps following their set guidelines: corticosteroids - first the brown inhaler through two cycles. I updated the doctor that this wasn't making any difference and, in fact, felt that my day-to-day asthma had worsened but understood we needed to give it time. Then onto combination inhalers; but I felt I was never listened to on what the results were and the difference between 'normal' life and 'athletic performance'. Regardless of what I said, I was on a conveyor belt of care which was taking months. I'm very analytical and came to sessions armed with info about how I had been and yet it didn't seem to help so much.

## Testing

Finally, I went privately to a sport uni to have some testing: spirometry and gas exchange - not just at rest but while exercising. They found my forced expiratory volume (FEV) was low, around 60%, and that I did see some reversal on inhalers (70%). Additionally, whilst in the lab on the bike, they proved I had EIA as well, which was the first time I was made aware of that.

I took the report to the doctors. It was initially dismissed on the basis that private tests were not needed since the NHS has its own tests. I escalated this again and was then asked to see an asthma nurse, who followed the same basic steps. She did, in fact, change my inhaler only to get a call from the GP the next day to say it was wrong and to try another instead. I was becoming frustrated.

## Specialist help

All the inhalers tried only seemed to make my asthma worse, which I was told can't be possible. In the end and over a year into the process I escalated again stating that I was sure something was very wrong. This time, the fear was that I could have any form of lung disease or other issues. Finally, I was referred to a respiratory consultant and at my first meeting it was clear he had spent time to read all my notes, including my private test results which he said were a godsend. This guy listened and used all the data in front of him, including my feedback and combined this with further tests of his own to confirm a further diagnosis of chronic obstructive pulmonary disease (COPD) on top of everything else. Just a shame this was 18 months later.

That year or so was very hard for me motivationally. I'm quite driven and having artificial limitations put on my performance was very hard to handle; it affected me in quite a broad way and actually led to a reduction in training effort over the winter. It felt like, what was the point to keep pushing so hard and not be able to release my potential? Finally, after repeat visits to the Consultant, some of that drive came back and I've continued to fight. However, I'm still no closer to a solution - just slightly improved day-to-day/situational management wise. Maybe that's as good as it can get.

## A final thought

I understand process needs to be followed and that the demand on the NHS is incredibly high. However, the time and cost of misdiagnosis and my repeated chasing, appointments, phone calls and wrong inhalers would all have been improved with a better initial assessment - or at least an understanding and empathy with my case.

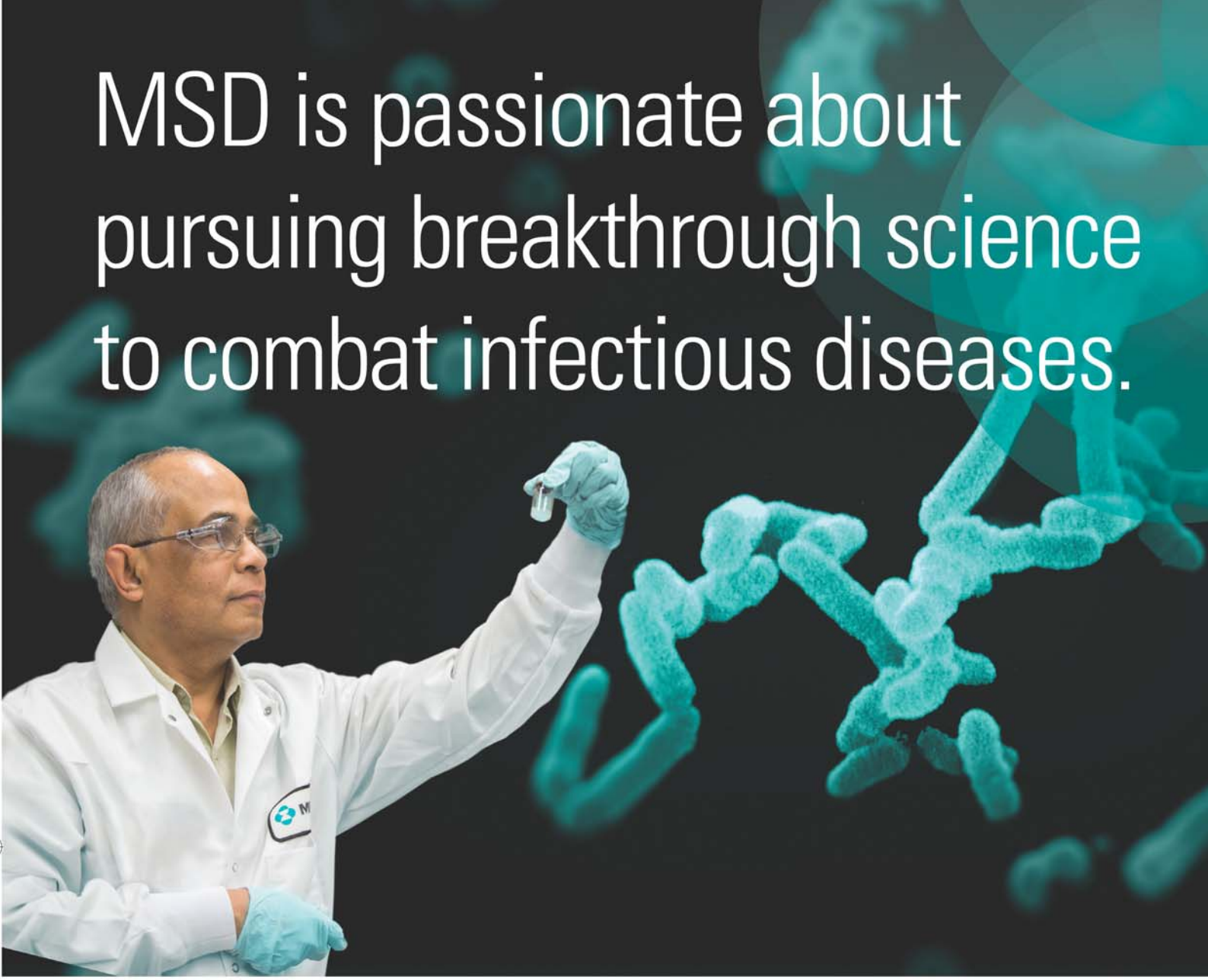
## Further contact/information

Twitter: @LukeLawrenceOCR or
Blog: www.lukelawrence.co.uk

## Declaration of interests

Luke Lawrence has nothing to disclose.

# MSD is passionate about pursuing breakthrough science to combat infectious diseases.



There was a time when there were no medicines to fight some of the most common infections – but the introduction of antibiotics in the 1940s changed that. MSD is proud of our legacy of progress in this fight, which includes producing penicillin to help American soldiers during World War II.

Our commitment continues.

Today, the rise in infections caused by resistant bacteria has become an urgent global health issue. Our researchers are hard at work developing the next generation of antibiotics – and the best ways to use them. We believe that creating new medicines, and using them correctly, are essential in the fight against infectious diseases.

And our determination does not stop there.

Through engagement with global policy-makers we are working to ensure a sustainable antibiotic future, that not only welcomes innovation, but actively embraces it. Together we can ensure that these life-saving treatments are valued the world over and used appropriately to combat what is undeniably one of the greatest societal challenges of our age. Science will get us half way there, but effective political and policy collaboration will take us over the line.

We are willing to do our part, and continue to work with others. We are in this fight together.

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MSD

# Involving patients and the public: a view from the public gallery

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## Abstract

*Title*
Involving patients and the public: a view from the public gallery

*Author*
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*Summary*
The structure and organisation of the NHS does not make it easy for patients and the public to contribute their experiences and knowledge to the many elements of a patient journey through the service. Clinical leadership is critically important in enabling patients to make their contributions heard and felt in order to drive and contribute to continual quality improvement - a key NHS goal.

In order for patients and the public to shape a complicated system, it is helpful to break the processes down into small sections and then support people to contribute their experiences and knowledge to each stage.

The choice and use of medicines is an example of the need to optimise the approach. By having a transparent structure and process, patients and the public will be helped to add considerable value and benefit to service design and improvement.

Good quality care is the result of designing and then delivering effective and safe patient-centred services.

*Keywords:* patients, public, medicines optimisation

## Introduction

NHS organisations have a legal duty to involve and consult the public about the running of local health services. Patients should be listened to and actions taken to meet their concerns (see NHS Choices website at http://www.nhs.uk/NHSEngland/thenhs/about/Pages/getinvolved.aspx ).

The division of the NHS into separate 'boxes' for the purposes of commissioning and organising services does little to help people who use, or may need, those services contribute to them. What is more, how services are commissioned and managed is of limited interest or value to anyone when they are actively seeking planned or unplanned care.

In addition, social care has many links and interdependencies with health care so there is yet another separation that does not assist users of services to navigate, make sense of and, importantly, contribute their personal knowledge and experiences into the design and evaluation of the services they have received or will receive in the future.

The growing role, impact and influence of those involved in the provision of primary care in the commissioning of health and wellbeing services means that having a clear and explicit description of what good public and patient involvement looks like will be an enormous asset to citizens, health professionals, managers and the sustainability of the NHS. The benefit will be to enable everyone who contributes to good quality care, and the patient is a major contributor, to have a focussed conversation about shared goals, albeit from their valuable and different perspectives.

## Achieving authentic patient and public involvement

The achievement of authentic patient and public involvement is often hampered by failing to enable the right conversation at the right time. The three main factors that contribute to this are not knowing exactly what the question is, not preparing people to be able to contribute to honestly answering that question and, finally, not asking the questions in the right order.

Why involve people? Because that is the only way to design, develop and deliver good quality services i.e. services that meet and strive to exceed the needs and reasonable expectations of those for whom those services exist in the first place. Involvement activities therefore need to concentrate on helping to enable the right service to be provided to meet individual needs at the right time. With finite resources this means making sure that the process optimises the application of those limited resources in as fair and equitable a manner as possible.

For many organisations, the incorporation of the patient story with the medical, nursing, managerial, and other health professional perspectives becomes a challenging deliverable; particularly as it is expected to guide transparent decision making and prioritisation across the whole organisation. Add into that the mixed outcomes of professional, patient and public involvement experiences, ranging from the very good to occasionally being quite confrontational and having no apparent value or benefit despite the investment of professional time, and the barriers get higher.

Take anticoagulation for the prevention of stroke in a person with atrial fibrillation as an example. Effective treatment requires very good adherence to a tablet taking routine, and that may include occasional changes and adjustments. Safety includes significant dietary and lifestyle changes as well as changing to the threshold for seeking urgent and emergency care. The person will have to attend far more clinics and organise other activities to ensure continual treatment for life. The patient is by far the most important stakeholder; making sure that they can play their part in this means involving them at every stage in the choice, design and implementation of their care in order to achieve the objective of greatly reducing the likelihood of suffering from a stroke. If patients who take anticoagulation treatment for life are involved in the design of that service it is more likely to be an effective and safe service that is as positive an experience as possible.

Failure to achieve authentic patient and public involvement will lead to services being designed to meet interests rather than needs, services that are less and less accessible by those with greatest need and constantly worsening outcomes as users become less engaged and thus make a diminishing contribution to their own health and wellbeing. The same principles apply to all staff involved in service delivery.

## Desirable outcomes from patient and public involvement

Ideally, what would really effective patient and public involvement help deliver? This can be summarised as:

- a better informed understanding of the diverse needs of the population
- insights into the appropriateness and efficiency of service delivery
- collaborative service design leading to improved effectiveness, experience and safety
- evidence of the experiences and outcomes of services being delivered
- opportunities and ideas for continual improvement
- transparency and openness in decision making and prioritisation
- robust challenge to traditional methods and approaches
- good quality and continually improving health and care services.

In a nutshell, this means good quality and continually improving health and wellbeing.

With the current trends of demand for services growing faster than the growth in funding available for health and social care services it is necessary, now more than ever, to have an effective solution to the authentic involvement puzzle.

## Incentives to become involved

A further issue to take into account is the varying degree to which people are prepared to become involved, compounded by the fact that those with the greatest needs and potential to benefit seem less likely to participate. This leads to consideration of the incentives that are necessary to encourage and reward meaningful participation.

For many, the reward is seeing how personal effort leads to a direct and tangible difference to themselves and others. Evidence of the actual difference that involvement has made is sufficient reward for most people if that evidence is effectively communicated to those who contributed. Failure to complete this aspect as fully as possible leaves people less interested and willing to take their time to share views in the future, and less likely to have belief and faith in the outcome of the work that has been completed.

## Medicines

Medicines are the most common intervention used by the NHS to prevent illness and improve health and wellbeing. The scope for improvement in the effective use of medicines is considerable and widely documented.

Patients have a direct and clear role in achieving a good result because they can choose to take their medicines or, indeed, choose not to take them. As Benjamin Franklin said, “Tell me and I forget. Teach me and I remember. Involve me and I learn”. The goal has to be for patients to learn how to use medicines to the greatest benefit. This learned behaviour will serve them for the rest of their lives.

Someone diagnosed with diabetes is a good example to illustrate the importance of involving the individual in their care. Effectively controlling risk factors through the appropriate use of medicines and taking action to improve diet and exercise make a huge difference to life expectancy and quality of life. This is largely in the hands of the individual and the coaching and the support they receive to help make this happen.

## How can an involvement processes be designed and structured to achieve all that?

The starting point is to organise all the involvement opportunities into clear and discrete actions, based on a simple structure of three stages of involvement and on three levels of involvement.

The three stages are:

- involving people in understanding the problem by contributing their lived experience
- involving people in the design of the solution because they are part of that solution

- involving people in assessing how well that service has delivered on what it was designed to achieve, as that is what is most important.

There is usually a lot of information and insight to take into account in truly understanding the problem to be solved. That insight comes from a wide range of stakeholders and needs to be assimilated into a clear articulation of the problem and then shared back with everyone who has a contribution to make to the design of the solution. Then, and only then, can the design of the solution begin with everyone working to design and coproduce a solution to the same agreed problem. Once the solution has been designed it is relatively simple to identify what needs to be measured to ensure that the solution is effectively and consistently delivered and implemented, and to test that it delivers exactly what it was designed to deliver.

## Levels of involvement

The three levels of involvement are from an individual, community or population perspective.

In this context, community means a group of people with one or more similar characteristics; for example they may live in the same geographical area, have the same clinical diagnosis or have other similar needs.

These considerations may be combined into a framework of involvement that enables the importance of sequence and asking the right questions to become more apparent (Table 1).

It is now clear that:

- different questions need to be asked in each clear and distinctly different situation for patients and the public to be able to make their lived experience contributions
- the process needs to be followed in sequence for it to make sense and enable the next stage to build on the agreed findings of the previous stage
- the process needs to be followed left to right and back to the start to deliver the purpose of involving people if services are to be continually improved
- if the right question is not properly crafted, the responses will be unhelpful to the purpose
- authentic involvement is fundamental to good quality care and its continual improvement.

### Individuals

Involvement of an individual in their care is very much about professional skills and competence and their genuine belief in the value that an individual brings to the outcome of the services provided for them. The diagnosis and initiation of treatment for a long term condition such as hypertension is an example of the importance of making sure that the individual is genuinely committed to lifelong daily treatment that may have a negative impact on their quality of life but may extent their life expectancy. As the interest in outcome measures of service provision grows, the effectiveness of individual involvement and supporting and enabling that individual to become a valued and valuable contributor to their own health and wellbeing will grow. Social prescribing and supporting individuals to address wider determinants of their own health and wellbeing is an example of how this individual involvement is being incorporated. This is arguably the greatest opportunity for primary care to have the most far reaching impact and benefit of patient and public involvement.

### Communities

The involvement of communities is heavily dependent on clinical and medical leadership in particular. It is about the willingness to seek to improve the quality of services i.e. the effectiveness of services, the safety of services and the experience of services by those for whom the service exists to help. This is often about secondary care services and the relationship between primary and secondary care and how that relationship is improved to enable more efficient delivery and fewer interface issues and problems e.g. patient flows and shared responsibility. For example, the gap between a hospital consultation and actually receiving the prescription for the treatment from primary care can take weeks to complete the process. During this time the diagnosis has been made, the clinical need agreed and yet the treatment has not been started, resulting in unnecessary suffering for those concerned. This is the area where the most rapid change is feasible and where the most radical differences can be achieved. It is highly dependent on meaningful and practical clinical leadership, enabling patients to bring their lived experience to bear on pathway redesign and coproduced improvement.

| | Understanding the Problem | Designing the solution | Judging the quality |
|---|---|---|---|
| **Individual** | e.g. telling their story and agreeing the diagnosis with a doctor | e.g. reaching an agreement on the choice and use of the treatment | e.g. reviewing the results of the tests together and agreeing next steps |
| **Community** | e.g. identification of access to services issues with users of crisis mental health services | e.g. coproduction of a solution that better meets user needs | e.g. evaluation of the degree to which access has improved and the anticipated benefits have been achieved |
| **Population** | e.g. gaining insights into the concerns of potential users of out-of-hours services | e.g. designing and prioritisation of options for service developments | e.g. reviewing the outcome of wide stakeholder involvement and conclusions |

**Table 1: Framework of involvement**

### Populations

The involvement of populations is all about the wider public health and service design strategies such as urgent care, making decisions about what should be created and what should be stopped, what should be developed and what should be phased out. It is about involving people in the strategic development of service provision across health, social care and third sector provision. It is more difficult, more time consuming, more costly and has more serious consequences. This is the biggest challenge as it requires coordination across many agencies and will involve primary care clinicians in the decisions. This requires to be led by people who are competent strategic thinkers.

## Key points

Primary care involvement will play a vital part but is by no means the whole story. How will any piece of community or population involvement be judged in terms of the validity of the conclusions drawn?

Whilst there will be case by case considerations there are a few key points to consider:

- Timeliness. The involvement work must be completed in time to be able to inform the decision making process and not used to validate the process or otherwise after the decision.
- Demonstrating and evidencing that the work has involved a group that is representative of those who are likely to be affected by the decision.
- Clearly reporting on the specific questions asked, avoiding any misrepresentation in the conclusions drawn and avoiding misleading the decision making.
- Demonstrating that a diversity of techniques has been used to reach people in the way that best suits the needs and requirements of the specified audience.
- Making available and actively sharing a summary of the findings that is easily and widely accessible, in particular to those who have contributed their views to the work.
- Providing feedback on the final decisions and action taken as a result of the involvement work so that there is clarity and transparency in decision making.

## Summary

In summary, this article describes the structured approach that would enable people to make a valued and valuable contribution to the continual improvement in the quality of the health and wellbeing of the local population.

It is about people; the value they have and the value they bring.

It is not about an involvement activity, it is all about enabling the lived experiences of people who use or may use local services to contribute their knowledge and experience to helping services become more effective, more efficient and better able to meet the needs of the people it is there to serve.

## Declaration of interests

Mr. Prestwich reports Action to Support Practices Implementing Research Evidence (ASPIRE), member of the Patient and Public Involvement Panel, Leeds Area Prescribing Committee, lay member.

# The impact of a pharmacist review of patients with enduring mental health needs – an evaluation of consultant psychiatrist opinions

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## Abstract

*Title*
The impact of a pharmacist review of patients with enduring mental health needs – an evaluation of consultant psychiatrist opinions.

*Author*
Walker A.

*Introduction*
A retrospective service evaluation of mental health pharmacy medication history reviews was undertaken. The characteristics from each review were analysed and consultant psychiatrist opinions of the value of these reviews were sought.

*Methods*
Data from 108 reviews was analysed and the opinions of 53 consultant psychiatrists were sought.

*Results*
The results demonstrated that reviews were undertaken primarily for people with complex needs who had been under the care of mental health services for an average of 22.3 years. Consultant psychiatrists overall found the reviews a valuable aid and contribution to care. The results of this evaluation will be used to develop standards and formal processes to better support future reviews.

*Conclusion*
The review has confirmed the value of the medication history review service to the consultant psychiatrists who requested the service and has identified how it can be further improved.

*Keywords:* psychiatrists, medication, review, opinion, mental health

## Introduction

Mental Health Clinical Pharmacy Services in NHS Greater Glasgow & Clyde (NHS GG&C) provide pharmaceutical care to complex patients within mental health and associated services across the health board. NHS GG&C is the largest health board in Scotland and serves a population of 1.2 million. There are 1,159 inpatient beds and a wide network of community mental health teams. The Mental Health Clinical Pharmacy service is based across multiple inpatient locations and has a team of 23 pharmacists. Primarily an inpatient service, care is provided to a variety of specialties including adult mental health, child and adolescent mental health, forensic mental health, learning disabilities and older adult mental health services.

One element of the pharmaceutical care delivered is the provision of detailed medication history reviews. These involve reviewing the entire mental health history of the patient, focussing on their drug treatment in terms of adherence, response and adverse effects. The main aim of these reviews is to recommend options for future treatment of the patient's mental illness. However, the reviews also consider any impact previous treatments have had on the patient's physical health and any impact their current physical health may have on potential future treatment options. A concise chronological summary is written outlining these elements and then recommendations are made for options for future treatment. Recommendations made are patient specific and reviews are frequently undertaken when evidence-based prescribing has failed. Undertaking this work is time-consuming and, within our service, had never been properly evaluated. This service is not provided to all patients but rather to those identified as a priority within the multidisciplinary team. Anecdotal feedback from multidisciplinary teams suggests these reviews are valued and contribute positively to patient care.

The National Scottish Government Mental Health Strategy[1] and Pharmaceutical Care Strategy,[2] which places a strong focus on patient-centred care and the management of long term conditions, consequently provide strong support for clinical interventions such as the medication history reviews that are undertaken.

Systematic searches of Ovid Medline and Embase using the search terms medication review, psychiatric, mental health, pharmacist and pharmacy failed to find any reported studies or literature on the value of medication history reviews.

In order to properly assess consultant psychiatrist opinion of the value of these reviews, a retrospective service evaluation was undertaken to determine the characteristics of the patients for whom reviews are provided and the opinions of the consultant psychiatrists who request them as to their value. It was hoped that this would demonstrate their positive impact on patient care and lead to improvements in the processes for requesting and undertaking reviews.

## Method

There were two elements to the service evaluation that were undertaken. Firstly, a retrospective data collection involving all pharmacists within the team (n=16) who had undertaken a medication history review during the period January 1st 2013 – May 31st 2014 was performed. The following data were collected: age, Common Health Index (CHI number - the unique 10 digit Scottish NHS patient identifier), consultant, pharmacist, date of review, sex, diagnosis, number of years in contact with mental health service and psychotropic medication at the time of the review.

These parameters were entered into a Microsoft Excel spreadsheet and analysed using standard Excel functionality.

Secondly, a survey questionnaire was developed and sent to the consultants (n = 53) who had requested the review. This asked the following questions:

1. What are the circumstances that would prompt you to request a review?
2. When you have asked for a review to be undertaken, has it been completed in the anticipated timescale?
3. Do you think that the format of the review is useful?
4. What did you like or dislike about the format of the review?
5. Do you think that the historic list of medicines is a helpful part of the review?
6. Why was the historic list of medicines helpful or unhelpful?
7. Were the recommendations within the review helpful?
8. Why were the recommendations helpful or unhelpful?
9. Did the review tell you anything new?
10. What new information did you get from the review?
11. Did you act on the recommendations in the review?
12. If you did not act on some or all of the recommendations, what influenced your decision?
13. In general terms, what are the main benefits of these reviews to patient care?
14. Do you file these reviews in the patient's case record?
15. Why do you not file these reviews in the patient's case record?
16. Based on previous experience, would you request another review?
17. What factors would influence your choice to request or not request further pharmacy medication history reviews in the future?
18. If you have any suggestions about how to improve the specialist pharmacy medication history reviews please tell us here.

Questions 1 and 13 offered options to select and free text. Questions 4, 6, 8, 10, 12, 15, 17 and 18 were free text.

The questionnaire was developed using SurveyMonkey and analysed using its standard tools and thematic review of the free text responses.

## Results

### 1. Patient Characteristics

Data was collected from 108 medication history reviews undertaken during the study period. These were performed by 16 specialist pharmacists at the request of 53 consultant psychiatrists. The patient characteristics are summarised in Table 1 (demographics), Table 2 (diagnosis) and Table 3 (psychotropic drugs prescribed at the time of the review).

A total of 95 (88%) of the 108 patients were prescribed an antipsychotic. Olanzapine was the most commonly prescribed (n=28) and 10 patients were receiving clozapine. 20 patients (21%) were prescribed two antipsychotics concurrently and one patient was prescribed three antipsychotics (clozapine,

| Characteristic | Male | Female | Overall |
|---|---|---|---|
| Sex | 55 | 53 | n/a |
| Age range (years) | 17 - 78 | 26 - 86 | 17 - 86 |
| Average age (years) | 47.5 | 53.4 | 50.4 |
| Number of years in contact with services range (years) | 2 - 56 | 2 -49 | 2 -56 |
| Average number of years in contact with services (years) | 21.1 | 24.0 | 22.3 |

**Table 1: Demographics**

| Diagnosis | Male | Female | Overall |
|---|---|---|---|
| Agitated Depression | 0 | 1 | 1 |
| Alzheimer's | 3 | 2 | 5 |
| Autistic Spectrum Disorder | 1 | 0 | 1 |
| Asperger's and Obsessive Compulsive Disorder | 1 | 0 | 1 |
| Atypical Depression/Bipolar | 0 | 1 | 1 |
| Bipolar Affective Disorder | 4 | 15 | 19 |
| Borderline Personality Disorder | 0 | 1 | 1 |
| Delusional disorder | 1 | 0 | 1 |
| Depression | 1 | 5 | 6 |
| Emotionally Unstable Personality Disorder (EUPD) | 0 | 1 | 1 |
| Mixed Affective Disorder | 1 | 0 | 1 |
| Multiple System Atrophy | 1 | 0 | 1 |
| Obsessive Compulsive Disorder | 0 | 1 | 1 |
| Paranoid Psychosis | 0 | 1 | 1 |
| Paranoid Schizophrenia | 6 | 4 | 10 |
| Psychosis and Depression | 0 | 1 | 1 |
| Psychosis with Hypomanic episodes | 1 | 0 | 1 |
| Recurrent Depression | 0 | 4 | 4 |
| Schizo-affective Disorder | 6 | 6 | 12 |
| Schizophrenia | 15 | 7 | 22 |
| Schizophrenia and Asperger's | 1 | 0 | 1 |
| Schizophrenia and EUPD | 1 | 0 | 1 |
| Schizophrenia, OCD and Tourettes | 1 | 0 | 1 |
| Schizophrenia, Alcohol Abuse and Cognitive Impairment | 1 | 0 | 1 |
| Treatment Resistant Schizophrenia | 6 | 2 | 8 |
| Unclear (challenging behaviour) | 3 | 1 | 4 |
| Vascular Dementia | 1 | 0 | 1 |
| **Total** | **55** | **53** | **108** |

**Table 2: Diagnosis**

| Drug Class | Number of patients | Percentage of patients |
|---|---|---|
| Antipsychotic | 95 | 88% |
| Antidepressant | 48 | 44% |
| Mood stabiliser/anticonvulsant | 45 | 42% |
| Anxiolytics and hypnotics | 44 | 41% |

**Table 3: Psychotropic drugs prescribed at the time of review**

amisulpride and haloperidol). As the data collection did not capture dose information it was impossible to identify any patients on high dose antipsychotic therapy.

11 patients were prescribed more than one mood stabiliser/ anticonvulsant and there were no noted diagnoses of epilepsy.

5 patients were prescribed more than one antidepressant.

## 2. Questionnaire results

The questionnaire was issued to the 53 consultant psychiatrists identified. 25 responded to the survey (47.2%). Of those who did not respond, 4 had left NHS GG&C and were not contacted for a response.

The circumstances that would prompt a request for a review are shown on Chart 1.

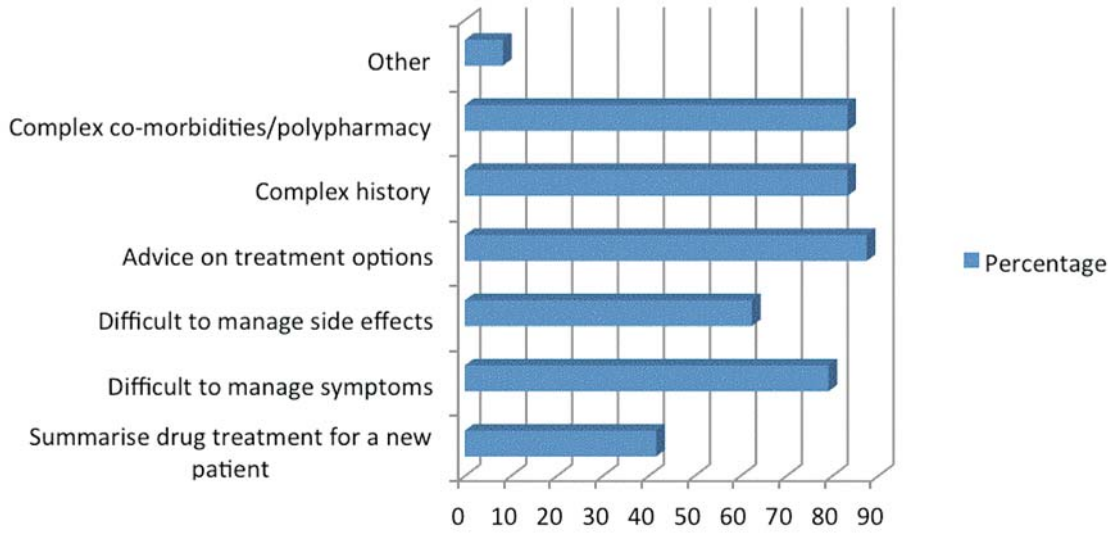
The free text responses to this question indicated that reviews were requested for patients with 'complicated' or 'complex' case histories or to identify alternative 'treatment options'.

A summary of answers to specific questions (i.e. 2, 3, 5, 7, 9, 11, 14, 16) is shown in Table 4.

The themes that emerged from the free text questions (4, 6, 8, 10, 12, 15, 17) are shown in Table 5.

The main benefits to patient care that were perceived for the reviews are summarised in Chart 2.

The free text themes from the responses to 'Other' were 'reflecting on care', 'making future recommendations', 'objective assessment of treatment plan', 'detailed overview of patient history and factors'.




Note: respondents could choose multiple options, n = 24

**Chart 1: Circumstances that would prompt a request for a review?**

| Question | Yes | Yes, sometimes | No | Can't remember |
|---|---|---|---|---|
| When you asked for review to be undertaken, has it been completed in the anticipated timescale? | 95.8% | n/a | 0 | 4.2% |
| Do you think that the format of the review is useful? | 100% | n/a | 0 | 0 |
| Do you think that the historic list of medicines is a helpful part of the review? | 100% | n/a | 0 | 0 |
| Were the recommendations within the review helpful? | 100% | n/a | 0 | 0 |
| Did the review tell you anything new? | 79.2% | n/a | 8.3% | 12.5% |
| Did you act on the recommendations in the review? | 12.5% | 87.5% | 0 | 0 |
| Do you file these reviews in the patient's case record? | 91.3% | n/a | 8.7% | 0 |
| Based on previous experience, would you request another review? | 100% | n/a | 0 | 0 |

**Table 4: Summary of answers to specific questions**

The suggestions made to the question about how to improve the specialist pharmacy medication history reviews were: 'timeframe', 'speeded up', 'quicker', 'standard format', 'evidence base'.

There were a number of specific quotes that emerged throughout the responses that illustrate the overall value of these reviews to clinicians and patients:

- 'useful to show relatives'
- 'useful to forward to Designated Medical Practitioners for assessment for T3 certificates'
- 'helpful document to refer back to when required'
- 'another professional's opinion'
- 'useful for explaining to the patient the rationale behind medication changes'
- 'sometimes you assume a certain treatment was used at some point but this is not always the case'
- 'usually you know the patient well enough to foresee that a certain recommendation probably won't work- applying clinical judgement versus formulaic approaches'
- 'named pharmacist with knowledge of patients'
- 'pharmacy input invaluable'
- 'medication reviews are an important information resource when dealing with complex cases'
- 'good to discuss with pharmacist'
- 'co-morbidities'.

| | |
|---|---|
| What did you like or dislike about the format of the review? | 'Information', 'informing', informative', 'summary', 'summarise', 'comprehensive', 'chronological', 'logical', 'inclusive', 'thorough', 'helpful', 'concise' |
| Why was the historic list of medicines helpful or unhelpful? | 'helpful', 'useful', 'inform', 'previous', 'previously used treatments', 'summary' |
| Why were the recommendations helpful or unhelpful? | 'informed', 'inform', 'evidence', 'evidence base', 'future treatment options', 'robust', 'reasoning', 'thoughtful' |
| What new information did you get from review? | 'options', 'recommendations', 'suggestions', 'summary of all the treatment', 'detailed list', 'past treatments', 'overview of treatments', 'interactions', 'side effects', 'detailed' |
| If you did not act on some or all of the recommendations, what influenced your decision? | 'patient preference', factors, choice, issues, presentation |
| Why do you not file these reviews in the patient's case record? | 'read them off ward did not think to file them', 'kept with pharmacist' |
| What factors would influence your choice to request or not request further pharmacy medication history reviews in the future? | 'complex', 'complicated' cases, history, 'complexity', 'pharmacist shortages', 'pharmacy input', 'time', 'useful' |

**Table 5: Themes from free text questions**

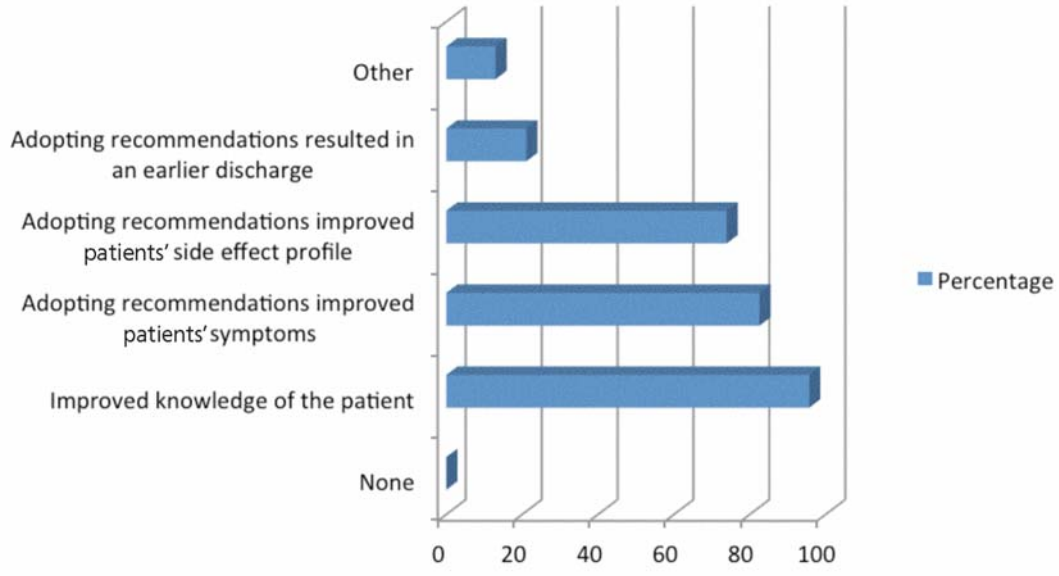



**Chart 2: Main benefits of reviews to patient care (n=23)**

## Discussion

The purpose of this evaluation was to assess consultant psychiatrists' opinions of the value of mental health pharmacy medication history reviews and to identify areas of improvement for the current process in NHS GG&C. This was achieved by characterising the patients for whom reviews are undertaken and, secondly, by seeking the views of consultant psychiatrists as to their value. The 17 month study period was chosen to give a reasonable number of reviews to allow meaningful conclusions to be drawn. The dataset collected is reasonably comprehensive but does have some limitations. The parameters chosen were those that could be easily extracted from the records held by the clinical pharmacists. With hindsight, four additional parameters could also have been requested:

- Time taken to complete the review. However, this is not currently recorded for all reviews.
- The number of sets of case notes for each patient. Again, not currently recorded. The length of time in contact with services is a proxy for this measure as it is reasonable to assume the longer the contact the greater the number of sets of case notes.
- Recommendations made in each review.
- Medication doses.

The data collected suggests an even split in terms of sex with regards to the reviews requested. The wide range of diagnoses reported reflects the range of mental health sub-specialties that receive input from our specialist mental health pharmacy service. The minimum time in contact with services of two years suggests the multidisciplinary teams reserve requesting these reviews for patients who are well-established within services. Indeed, the average number of years in contact being 22.3 years suggests these reviews are reserved for patients with a long and potentially complex history.

The range of diagnoses reported illustrates the severe and enduring nature of the mental health conditions experienced by the patients receiving reviews. Failure to request ICD10 diagnosis may have contributed to the variety of diagnoses recorded. The fact that the majority have a diagnosis with a psychotic component is unsurprising.

Likewise, the range of psychotropic drugs prescribed at the time of the review reflects the treatment options used in patients with a severe and enduring mental illness. More than 20% of patients were prescribed antipsychotic polypharmacy and this may be worthy of further investigation. It would be interesting to know if the review recommendations resulted in rationalisation to treatment with a single antipsychotic.

Overall, the responses to the questionnaire indicate that the consultant psychiatrists consider that these reviews have value and are a useful aid to patient care. There are clear limitations to the use of retrospective surveys. The responses in part rely on the participant's memory of historic reviews. This is a weakness and leads to generalisation. The responses to the question about the circumstances that would prompt a request for a review confirm that, on most occasions, reviews are undertaken for complex difficult to treat patients where the consultant is looking for treatment options that either have not been tried or perhaps were not maximised previously. The majority of responders indicate that reviews were received within the anticipated timescale. It should be noted that, as a service, we do not specify a timescale for completing a review mainly because that is unpredictable and will vary depending on the complexity of the case and the time available to undertake the review.

The finding that 100% of responders found the review format, historic list of questions and the recommendations helpful suggests these elements of the current process are working well (Table 4). The free text responses to the associated qualifying questions illustrate this further (Table 5). The emphasis given to words like 'informative', 'comprehensive', 'logical', 'concise', 'helpful', 'robust', 'evidence base' and 'treatment' suggest the format and content of these reviews meets the consultant psychiatrists' expectations.

The finding that 79.2% of responders felt the reviews provided them with new information about their patients is a very strong endorsement of their value. The free text comments given in answer to the associated question (Table 5), show that consultants gain access to otherwise hidden or unknown information. This information may be used to support future treatment.

Questions 11 and 12 asked consultant psychiatrists to indicate how often they act on the recommendations made in reviews. The finding that recommendations are acted on only some of the time was unsurprising. The patients are usually already receiving treatment and some respond to that, meaning the recommendations given do not need to be implemented at that time but may support future care. Sometimes the reviews are undertaken to provide a 'Plan B' should current treatment fail. This complete quote best summarises why these recommendations are not always implemented: *"Usually you know the patient well enough to foresee that a certain recommendation probably won't work - applying clinical judgement versus formulaic approaches."*

The value in providing options comes in aiding consultant psychiatrists, multidisciplinary teams and patients reach a consensus on the most appropriate approach to future care. Indeed, the comment highlighting the value of 'another professional's opinion' is evidence of the benefit consultants attach to clinical pharmacy support. The acknowledgement of the value working with consistent pharmacy input ('named pharmacist with knowledge of the patient') demonstrates the position of clinical pharmacists as essential members of the mental health multidisciplinary team.

The challenge from this evaluation is to take the findings and use them to improve this aspect of the clinical pharmacy service. Potential areas for improvement may include the following.

- Using the answers to question 1 and the patient characteristic data to develop formal referral criteria. These will aid the service to manage workload but also support multi-disciplinary teams identify patients who may benefit from a review.

- Using the comments provided to develop a service standard that will support a common format for these reviews across the service.
- Although not directly commented on, there is a need to consider how best to involve patients in the process. This may help exclude treatment recommendations that may be unacceptable to the patient.
- Introducing a feedback/evaluation form with each review to allow immediate feedback from the multidisciplinary team and improved monitoring.
- Introducing a peer review process to monitor the quality of the reviews.
- Developing mechanisms to capture the outcomes e.g. have recommendations been implemented and what was the patient outcome?

The results of this review will be used to develop service standards, a formal referral process and a patient outcome tool for medication history reviews.

## Conclusion

The review has confirmed the value of the medication history review service to the consultant psychiatrists who requested the service and has identified how it can be further improved.


## Acknowledgements

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### Declaration of interests

Andrew Walker has nothing to disclose.

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# A Pilot to Review Patients with Long Term Conditions in the Community Pharmacy Setting via Remote Access to GP Patient Records

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## Abstract

*Title*
A Pilot to Review Patients with Long Term Conditions in the Community Pharmacy Setting via Remote Access to GP Patient Records.

*Author*
Anderson R.

*Introduction*
In December 2011, the then Chief Executive of the Health and Social Care Board (HSCB) published 'Transforming Your Care; A Review of Health and Social Care in Northern Ireland'. This set out the challenges and rationale for the need to restructure healthcare delivery in Northern Ireland. The review pointed the way to a more integrated future model of care.

In line with the ethos of 'Transforming Your Care', a pilot of community pharmacy based review clinics of patients with specific long-term conditions (LTCs) was established.

*Methods*
A number of community pharmacy based LTC (asthma, hypertension, at risk of developing cardiovascular disease) review clinics were organised in collaboration with three GP practices. The clinics were facilitated by remotely accessing the GP server, thereby providing the pharmacist with the ability to perform a full clinical review with the patient. This included recording relevant diagnostic results, conducting a medication review, noting advice given to patients and recording outcomes.

*Results*
Eleven clinics were held from January to March 2015. Eight were for hypertension patients or those at risk of developing CVD and three were for asthmatic patients. In total, 74 consultations were completed and 70 patients reviewed. Thirty-two medicine interventions were made, fifty-five patients received lifestyle advice and two patients presented with undiagnosed elevated blood pressure.

A confidential patient survey at the end of each consultation highlighted the patients' satisfaction with this service, with 97% indicating they were very satisfied with the care they received and 99% of patients stating they had received the same level of care as expected from a consultation within the GP practice.

*Conclusion*
The results demonstrated that remote access community pharmacy clinics improved patient access to LTC review clinics. Pharmacist independent prescribers can safely manage these patients and meet their expectations within this setting.

***Keywords:*** community pharmacist, prescriber, long term conditions, remote access

## Background

In the western world there are a growing number of people living longer with multiple long-term conditions (LTCs) who are receiving multiple medications; this is placing an increasing burden on the primary care networks with all the risks that this entails. Many reports have been written highlighting the problem at a strategic level.

The WHO Global Action Plan 2013-2020 for the Prevention and Control of Non-Communicable Diseases (NCDs) emphasises the need to strengthen and orient health systems to address the prevention and control of non-communicable diseases through a people-centred primary care approach and to incorporate strategies to prevent and manage non-communicable diseases into primary health care policies.[1] This was also the message from the 2008 World Health Report titled: Primary Health Care – now more than ever.[2]

The issue of the increasing burden of premature death due to NCDs was also raised at a high level meeting of the United Nations General Assembly in September 2011.[3] This was primarily a political declaration; however, it did state that there was a need

to 'Recognise the primary role and responsibility of Governments in responding to the challenge of non-communicable diseases and the essential need for the efforts and engagement of all sectors of society to generate effective responses for the prevention and control of non-communicable diseases'. In this UN resolution adopted by the General Assembly it also:

- acknowledged that the global burden and threat of NCDs constitutes one of the major challenges for development in the 21st century
- recognised that NCDs are a threat to the economies of many member states
- required engagement with all sectors of society to generate effective responses for prevention and control
- recognised the urgent need for greater measures at global, regional and national level to prevent and control NCDs
- noted with concern that, in 2008, 36 out of 57 million deaths were due to NCDs
- noted with profound concern that NCDs are among the leading causes of preventable morbidity and related disability
- recognised that most prominent NCDs are linked to common risk factors.

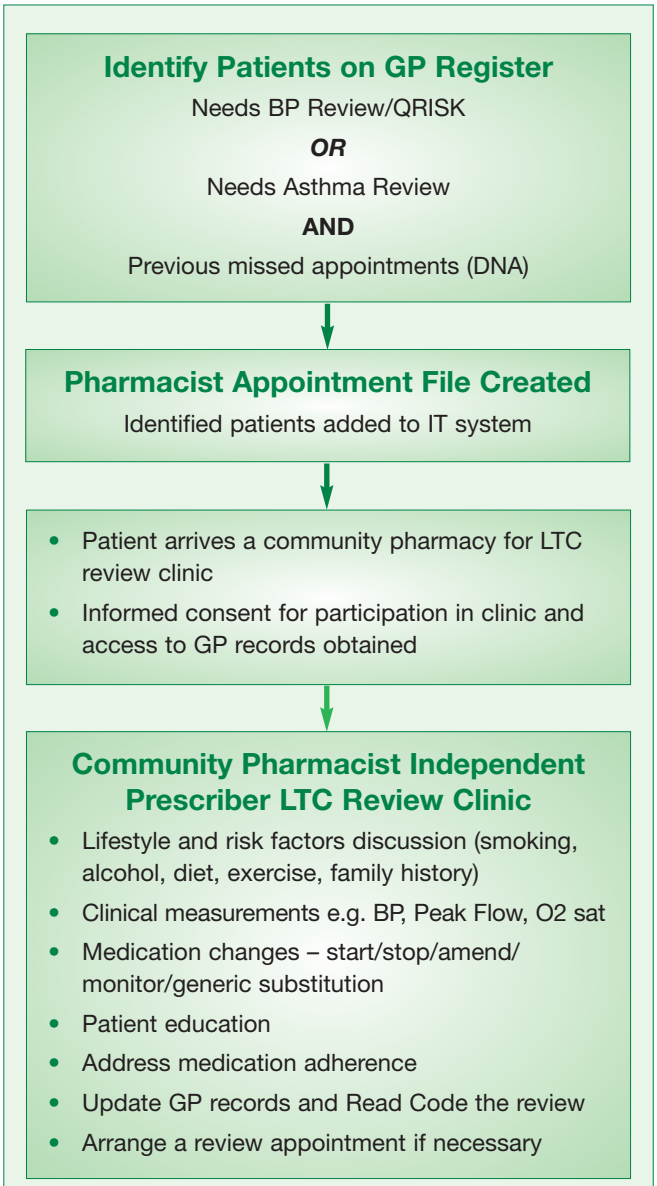


**Figure 1: Format of the Community Pharmacist Long Term Condition (LTC) Review Clinic**

Both the UN and WHO reports are reflected in our own Northern Ireland strategy for the restructuring of health and social care, known as 'Transforming Your Care' (TYC),[4] and in the need to manage a growing elderly population with multiple LTCs.

The review of patients with LTCs is a prerequisite for obtaining the outcomes desired in TYC; that is better management, a reduction in hospital admissions, best use of clinical skills and better use of medicines. It is also a prerequisite in reducing the number of preventable deaths from common risk factors such as smoking, poor diet, lack of exercise and excess alcohol consumption. In addition, by making access to a review closer to a person's home and/or at a time more convenient to them, patients are more likely to engage in adherence and self-management of their own condition.

Two further recent reports; the Department of Health Social Services and Public Safety Northern Ireland (DHSSPSNI) 'Living with Long Term Conditions policy framework, April 2012'[5] and Sir Liam Donaldson's report 'The Right Time, The Right Place December 2014',[6] both highlighted the need for individuals and professionals to work differently and use their skills to support the changes required in our health service.

The DHSSPSNI policy framework on LTCs states that 'pharmacists are an integral part of the primary and community care family of services. They work in partnership with GPs and other professionals in the primary and community care team to play an important role in helping people manage their condition and medicines effectively.' It goes on to say, 'In this way community pharmacists can help minimise adverse drug reaction; address and prevent potential exacerbations; maximise patient safety; provide structured follow-up intervention; reduce wastage and improve patient outcomes. Medicines management services involving community pharmacies should be reviewed to ensure that they successfully meet the needs of people with long-term conditions.'

Sir Liam Donaldson's report, focusing on the need to ensure quality of care in our health service, states that we 'need to create a greatly expanded role for pharmacists.' He also went on to say 'there was substantial untapped potential' in the service.

It is clear therefore, not only from the international perspective but from a local perspective, that community pharmacists need to change the way they work and utilise their clinical skills to manage patients with LTCs effectively. How this is to be achieved is something for the profession to decide. This project aimed to demonstrate one way for pharmacists to provide a more integrated, collaborative and clinical approach to the care of patients.

## Method

A proposal was put to the Craigavon & Banbridge (C&B) Integrated Care Partnership (ICP) to extend the independent pharmacist prescriber led remote access prescribing clinics to

include two further practices and two other pharmacists. Originally, these were held once a month from April 2013 in partnership with the Orchard Family Practice. Remote access from the pharmacy into the GP patient medical records was established at this time. A laptop from the GP practice was linked from the community pharmacy via the HSC net into the GP practice server; this enabled the pharmacist to have full remote access to patient clinical records, read patient notes and annotate decisions/outcomes, thereby enabling a comprehensive medication review. Pilot clinics were held on Saturday mornings from January to March 2015. The format of these review clinics is illustrated in Figure 1.

Patients were told at the start of each clinic that, should a prescription be issued at the clinic, they were under no obligation to have that pharmacy dispense the script; they were free to take it to another community pharmacy.

NICE guidelines (Hypertension QS28[7]; Cardiovascular Risk Assessment and Lipid Modification QS100[8]; Chronic Obstructive Pulmonary Disease QS10[9]; and Asthma QS25[10]) were followed during the LTC review clinics held to establish the need for medication and for on-going management.

In accordance with the Clinical and Social Care Governance Agenda, the assurance of standards, quality and efficacy, was met by implementing agreed SOPs, which could be replicated for future work. These included:

- agreeing, with the GP practice, the process for contacting those patients who would attend the clinic. This ensured patients had the choice as to whether they would attend the clinic held in the GP Practice or the clinic in the pharmacy, thereby avoiding any conflict of interest which may have been perceived
- agreeing laptop, prescription pad and IT security
- discussing patient inclusion criteria with the senior GP and Practice Manager
- ensuring ownership for carrying out the searches of the hypertension/cholesterol and asthma/COPD practice registers was established
- implementing guidelines for a BP check, cholesterol, asthma check or medication review
- engaging with the HSCB IT department to ensure the IT system worked efficiently
- ensuring contracts were drawn up on the use of the laptop and appropriate access to patient information.

| Medicines Optimisation Interventions | |
|---|---|
| **Intervention** | **Number of Interventions** |
| Medicines initiated | 5 (+2 restarted) |
| Dose increased | 7 |
| Dose decreased | 0 |
| Medicines discontinued | 5 |
| Adherence issues addressed | 13 |
| Patients offered lifestyle advice | 55 |
| QRISK assessment | 5 |
| No of pts with potential new dx hypertension (BP>140/80) | 2 |
| **Near Patient Testing (Asthma)** | |
| **Intervention** | **Number of Interventions** |
| Peak flow checked | 16 |
| Inhaler technique checked | 7 |
| O2 sat checked | 12 |
| **Patient Outcomes** | |
| **BP:** No of patients to QOF BP target (150/90) at first appointment | 33 |
| **BP:** Of those patients not to target, how many reached target? | 7/17 |
| **BP:** Average drop in pressure for those initiated new medicine or dose adjusted | 14/8mmHg |
| **Asthma:** Patient education | 16 |

**Table 1: Medicines optimisation interventions and patient outcomes**

## Results

Eleven clinics were held in the community pharmacy setting from January to March 2015. Eight were for the review of hypertension patients or those patients who were at risk of developing cardiovascular disease (CVD) and three were for patients with asthma.

In total, 74 consultations were completed and 70 patients reviewed (average age = 45 years). Four patients were recalled back to the pharmacy for follow-up during the three-month project time period. Any patients requiring follow-up and unable to attend a review clinic in the pharmacy were referred back to their GP practice where the normal review process was followed.

The medicines optimisation interventions made and patient outcomes are shown in Table 1. This includes two patients presenting with undiagnosed elevated BP; they were referred to their GP for further investigation. This was recorded on the clinical system during the review and the patient asked to make an appointment with the GP/Pharmacist or practice nurse for follow-up.

For patients with hypertension, 18 were found to be out of the target range, one of whom had a raised BP and was Read Coded as having high blood pressure; however, their pressure was not at a level requiring treatment.

The clinics were designed primarily to facilitate those who may have difficulty accessing services during normal GP opening hours; it was found that 32 (46%) had not been seen for a review in the previous nine months.

Another outcome of the clinics was the professional enablement of an independent prescriber pharmacist to:

- conduct regular medication reviews
- optimise medicines leading to improved health outcomes
- improve patient adherence
- highlight potential adverse drug reactions
- reduce adverse prescribing incidents
- prescribe cost-effectively and appropriately
- offer lifestyle advice and encourage behavioural change
- manage necessary annual clinical tests.

*"Very helpful and friendly staff."*

*"It would be great to have this continued, as it is a more relaxed atmosphere."*

*"The consultations are very personalised, which is nice."*

*"The appointment went very well – quick and convenient."*

*"Better, was listened to with concerns. Excellent."*

*"Very good and convenient."*

*"Perhaps conduct the review in a room away/off shop floor, otherwise excellent service."*

*"Very helpful and pleasant."*

*"Very pleased, test was done in a very professional manner."*

*"I find this service invaluable and very helpful – it suits me well."*

*"Great service."*

**Figure 2: Comments made by patients using a confidential survey**

## Patient satisfaction

A confidential survey seeking patient views and their level of satisfaction regarding the service was given to the patient at the end of each consultation. Further comments were invited at the end of the questionnaire. Sixty-six surveys were completed. The results were as follows:

- 97% of patients were very satisfied with the care they received at the review clinic and 3% satisfied. No-one was dissatisfied.
- 100% of patients stated they had confidence in the clinician they saw.
- 99% of patients felt the consultation was conducted with an acceptable amount of confidentiality. No-one said it was unacceptable but 1% reported being unsure.
- 99% of patients stated they had received the same level of care as they would have expected from a consultation within the GP practice.
- 94% of patients indicated that the appointment outside normal GP practice opening times suited them better, due to the difficulty of attending the practice during their normal opening hours.
- 97% of patients said they would be happy to continue to attend the community pharmacy for future appointments whilst only 1% said they would not, due to being away at week-ends.
- On a scale of 1-10, patients were asked to rate their overall experience of attending the clinic in the community pharmacy. 91% rated the service 10/10, 6% rated it 9/10 and 3% rated it 8/10.

Some of the individual comments made by patients are shown in Figure 2.

## Stakeholder satisfaction

Two of the three GP practices responded to requests for comments on the pharmacy service.

### Orchard Family Practice:

'The Orchard Family Practice and Andersons Pharmacy have a close working relationship developed over many years, and this continues to develop, which shows considerable benefits to our patients. It is our desire to continue this link and seek new ways of managing our patients' medication; reducing risk, improving adherence, optimising medicines use and ensuring cost effective prescribing.

The development of the remote access clinics has made a huge difference to our patients, as this offered another more assessable option for them to attend for their review appointment. (We organised our remote access clinics for a

Saturday morning). This is especially helpful to those patients who work during the week and are unable to attend the surgery during normal opening hours.'

**Meadows Family Practice:**

'As the hypertension patients usually see the Advanced Nurse Practitioner it was more difficult to identify those who would come to the pharmacy clinic instead. It was felt that most patients prefer to attend the person they have built up a relationship with. In addition, the PIP (Pharmacist Independent Prescriber) was not able to take bloods at the Saturday clinics.

Despite these difficulties, the positive feedback from patients indicates that there is a role for clinics on a Saturday morning. Eight out of fourteen patients had not been in the practice for more than nine months and some had not had been in the surgery for a number of years. Two of these patients had raised blood pressure and were given appointments for further assessment.'

## Discussion

The project highlighted the potential value there is when GPs and community pharmacists work together for the benefit of patients. This is in line with the principles of TYC and something highlighted in the GMC PRACTtICE study.[11] The remote access clinics more specifically contribute to the following TYC recommendations:

- Renewed focus on health promotion and prevention to materially reduce demand for acute health services.
- Home as a hub of care for older people, with more services provided at home and in the community.
- A focus on promoting healthy ageing, individual resilience and independence.
- Partnership working with patients to enable greater self-care and prevention.
- A stronger role for community pharmacy in medicines management for LTCs.

One of the key outcomes from the project was to establish whether the public would accept pharmacists carrying out clinical reviews in the pharmacy with access to their personal medical records. From the surveys conducted with the patients, 97% of patients were very satisfied with the care they received and 97% rated the service either 9/10 or 10/10. Even though the numbers are relatively small this should give the profession confidence that the public recognise and accept the role pharmacists have in their clinical care.

Another key outcome related to the relationship of community pharmacists with their GP colleagues. This project would never have happened without the support of the participating practices and demonstrates how a more integrated approach to service development can facilitate the management of LTCs. Practices were able to keep control of the process as they were fully engaged in the management of the clinics.

The initial project was initially designed to last for six months but time taken to get approval delayed the pilot by three months. There was also a need to use the limited support available before the end of the financial year. This meant that the time frame was shortened and, hence, the number of clinics held was a limiting factor.

There was no control group within the pilot and therefore it was not possible to compare the expectations of those attending the clinic in the pharmacy with those who normally attended the GP practice for review. This may be something to consider in any follow-up study, which could take the format of a retrospective patient review or randomised controlled trial.

One other limitation with the service was the inability to take bloods or carry out blood testing in the pharmacy. A previous project (January 2013 to December 2014) had shown that the near patient tests, such as full lipid profiles and creatinine clearance tests were very expensive relative to the costs the practises paid. It may be worth considering whether pharmacists carrying out such clinics should be trained in phlebotomy. This may further help facilitate the integrated and collaborative approach to such a service.

In relation to next steps, there is a need to increase the number of practices and prescribing pharmacists to a level of five to ten people, potentially covering other disease areas and in different Integrated Care Partnership (ICP) regions. This would help gain an understanding of how the service could potentially be scaled up and replicated. A limiting factor in this, however, could be the small number of prescribing pharmacists working in the community pharmacy sector. Scotland is seeking to address this in their 'Prescription for Excellence' strategy.[12] Ultimately, community pharmacists will need to establish if this is the direction of travel and the type of service they wish to provide.

## Non-medical outcomes

The funding provided by C&B ICP for the remote access clinics has ended at this time; however, it should be noted that interest has been shown from further afield. Pharmacists from Europe have visited Northern Ireland to see how the clinics operated, with individuals from Brussels and Denmark attending. There have also been visits from two pharmacists from Nigeria.

The project was nominated and won the Chemist & Druggist (C&D) 'GP Partnership of the Year' award 2015. It also won the NI Healthcare award 'Working in Partnership, GP Surgery and Pharmacy Practice of the Year 2014'.

Interest has also been shown by the University of Limerick, who are researching electronic access to patient information by pharmacists and how this can impact on patient health outcomes.

## Conclusion

The results of this pilot service evaluation indicate that the public value the opportunity to have their clinical reviews performed in a community pharmacy by a pharmacist independent prescriber. It has also helped raise the issue of community pharmacists managing stable LTCs, potentially easing the pressure on GPs, particularly at a time when more clinical care is being transferred from secondary care to primary care. More work needs to be done however to increase the numbers and scale up to a deliverable service model.

### Declaration of interests

Raymond Anderson has nothing to disclose.

## Acknowledgments

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# A benefits study of Summary Care Records use in hospital medicines reconciliation and their impact

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## Abstract

*Title*

A benefits study of Summary Care Records use in hospital medicines reconciliation and their impact.

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*Introduction*

The Summary Care Record (SCR) is an electronic record developed and delivered by the Health & Social Care Information Centre (HSCIC), the national provider of information, data and IT systems for health and social care. The SCR contains key clinical information from a patient's GP record. SCRs are available to be viewed by healthcare professionals with appropriate secure access in support of unscheduled care. The SCR is being used by pharmacy teams as a source of information to help establish the patient's drug history as part of the medicines reconciliation process. HSCIC has coordinated a benefits study designed to understand the impact of SCR use on the medicines reconciliation process. This was not intended to be a formal evaluation, but rather to gather feedback from pharmacy teams who were using SCRs within their working practices to provide real-world data on the potential benefits.

*Methods*

A quality improvement measurement tool was developed with users to capture real-world data from hospitals. Participants were requested to collect anonymised data relating to the medicines reconciliation process for a selection of patients through non-statistical sampling.

*Results*

An overall sample size of 1,432 demonstrated that an average of 29 minutes was saved per patient when establishing a drugs history for medicines reconciliation. There was also a reduction in faxes and phone calls to GP practices. In addition, SCRs helped to identify more discrepancies compared to other sources of information.

*Conclusion*

Sharing key clinical information electronically in a timely manner and making the information more accessible through the use of SCR can help improve the efficiency of the medicines reconciliation process. There are indications that the accuracy of the process can also be improved through an increase in the identification of discrepancies.

***Keywords:*** Information sharing, medicines reconciliation, benefits, EPR, SCR

## Introduction

SCRs have been created for more than 55 million people in England i.e. over 96% of the population who are registered with a GP. Core clinical information from a patient's GP electronic record is uploaded to the SCR with the patient's implied consent. This information includes details of prescribed medication, any known allergies and any known adverse reactions to medication. Other information such as significant medical history, care plans, patient wishes or preferences can be added with the explicit consent of the patient. SCRs are available for viewing at any time, anywhere in England by authorised healthcare professionals, where viewing capability is enabled.[1]

The information can only be accessed through a secure, encrypted private network by authorised, regulated professionals who have been granted an NHS smartcard (a PIN-protected access card) with appropriate permissions. There are specific processes in place to monitor accesses to SCR to ensure they are appropriate and are only made for patients where there is a clinical need. There are now over 883 healthcare locations in England with the ability to view SCRs, with weekly usage levels exceeding 58,000 views by a range of healthcare professionals, including nurses, doctors and pharmacy professionals. The Care Quality Commission (CQC) now sees evidence of use of SCRs as an indicator of an organisation's efforts to improve patient safety and quality of care[2] and use of SCR is referenced in NHS England's Medicines Optimisation dashboard.[3]

Feedback from clinical users of SCR indicates a number of benefits relating to efficiency, effectiveness, safety and patient experience. However, there is limited research on the impact of shared records within healthcare[4] and particularly the quantification of potential benefits.[5] A previous evaluation of SCR focussing on the social and technical barriers to the widespread adoption and use of such records indicated some early but limited benefits.[6] Now that the programme is further on in terms of availability of records and the solution is more widely used, it presents an ideal opportunity to revisit the anticipated benefits.

## SCR supporting medicines reconciliation

The SCR has been found to be useful in hospital admissions to help establish the patient's drug history as part of the medicines reconciliation process. In line with guidance from the National Institute for Health and Care Excellence (NICE)[7] the aim is to undertake medicines reconciliation within 24 hours from admission.

The aim of medicines reconciliation on hospital admission is to ensure that medicines prescribed on admission correspond to those that the patient was taking before admission. Details to be recorded include the name of the medicine(s), dosage, frequency, and route of administration. Pharmacy teams use a range of sources to obtain accurate histories including primary sources such as the patient, their families or carers, repeat prescriptions and the patient's own drugs as well as secondary sources, commonly from the primary care record.

Traditionally, there has been a reliance on contacting the patient's GP practice to establish details of current medications and known allergies. This often involves telephoning and faxing the practice, which inevitably adds time to the process and negatively impacts on the ability to complete the reconciliation within the target timeframe. There are also clear challenges with obtaining information outside the opening hours of GP practices. By using the SCR as a source of information it is anticipated that the process of obtaining a patient's drug history will be quicker, thereby reducing the risk of incorrect medicines administration or omitted medicines.

To measure these benefits HSCIC developed and coordinated a benefits study designed to demonstrate and quantify the impact of SCR use on the process of medicines reconciliation. This study was not intended to be a formal evaluation, but rather to gather feedback from pharmacy teams who were using SCR within their working practices in order to provide real-world data on the potential benefits.

## Method

A quality improvement measurement tool was developed to support this initiative. The tool was based on a data-capture form created by the pharmacy team at Leeds Teaching Hospitals NHS Trust and developed with input from pharmacy professionals from two other hospital trusts to make it more generic. The tool was designed to capture real-world data from hospital's medicines reconciliation processes. The tool was piloted by one trust and refinements made before being rolled out more widely.

13 hospital teams provided information to support the study.

Participants (including pharmacists and pharmacy technicians) were requested to collect anonymised data for a sample of patients. The approach adopted was non-statistical sampling at the discretion of the trust.

Data collected related to the following areas:

- time taken to complete drug history
- sources used to acquire drug history
- number of times GP practice contacted by telephone
- call length
- number of times GP practice contacted by fax
- number and type of discrepancies identified.

In the context of the initiative, a discrepancy was defined as an intentional or unintentional difference between the original medication information obtained (usually on a drug chart/care notes or similar) and the more detailed reconciliation.

To provide a baseline for comparison, information was captured during the medicines reconciliation process before access to the SCR was provided and then again following implementation of SCR viewing. Where pre-SCR data capture was not possible, baseline data was gathered for those patients who did not have an SCR available to view.

The data was analysed and then validated with the participating trusts.

## Strengths and limitations

The study was designed to validate and measure the perceived benefits of SCR use within hospital pharmacy using real-world data from trusts who had implemented the solution. Therefore it only addresses the benefits and no other variables. The study was not intended to be a robust formal evaluation and needs to be understood within this context. It was coordinated centrally and guidance was provided, but trusts were able to interpret the guidance locally. Trusts were self-selected based on the timings of implementation activities and included trusts of various sizes from a spread of geographical locations across the country.

## Results

The overall sample size of the study was 1,432. Four hospital pharmacy teams provided local data on the length of time taken to complete a drug history (n = 573) and seven hospital pharmacy teams completed the benefits study using the quality improvement measurement tool (n = 859). The benefits identified are shown in Table 1.

### Efficiency

There was a clear reduction in the time taken to complete the drug history for medicines reconciliation, with an average reduction of 29 minutes per patient. The associated reduction in phone calls (31%) and faxes (19%) is likely to have contributed to the reduction in time taken. During the confirmation of the findings with individual trusts, participants described how often they are required to supplement a request

to a GP practice for a patient's medication information with a fax. This inevitably adds time to the overall process.

### Accuracy

An indicator of the accuracy of medicines reconciliation is the number of discrepancies that are picked up. When sources other than SCR were used (such as the patient, their families or carers, repeat prescriptions, the patient's own drugs or contacting the GP practice) an average of 1.7 discrepancies were identified per patient. With SCR, the average was 2.2; on average 0.5 more discrepancies per patient. Whilst there are other variables to consider these initial results indicate that more medication discrepancies are identified during the reconciliation process when SCRs are used.

## Discussion

The strengths and limitations of the study have been stated and the findings should be understood within this context. This study addresses only the benefits of SCR use and no other variables are considered. The initial results signpost additional themes to explore and possible subjects for further studies in this area. Of particular interest is whether use of SCR can contribute to improvements in the quality and, therefore, safety of the medicines reconciliation process. Other quality indicators could include the number of unknown allergies identified, interventions made, medication errors avoided and of, particular current relevance, whether use out-of-hours and at weekends (when GP practices are traditionally closed) could have a positive impact on the safety of prescribing.

The outputs of the initiative do indicate, however, that there are real and quantifiable benefits to be realised through use of SCR as an information sharing solution within pharmacy teams.

The results demonstrate a reduction in the time, effort and resources required to communicate key information across healthcare settings as well as potential improvements in accuracy. Reducing the time in which drug histories are established has clear benefits in reducing the likelihood of a patient receiving incorrect medication or not receiving the medicine they should receive. Time savings also enable pharmacy professionals to spend less time on administrative activities, freeing up capacity to devote to direct patient care and improving productivity, thereby supporting initiatives designed to improve operational productivity.[8] Some hospitals have reported that, through use of SCR, they have been able to redesign their processes so that pharmacists play a more prominent role in case management (see the case study on elderly care at http://systems.hscic.gov.uk/scr/library/elderleycare.pdf ). Furthermore, some pharmacy teams are experiencing an increase in the number of patients for which they are able to undertake medicines reconciliation (see the hospital pharmacy case study at http://systems.hscic.gov.uk/scr/library/hosppharmacy.pdf ).

There are also wider benefits to the multi-disciplinary teams involved in caring for the patient. Being able to reduce the amount of time spent undertaking a drugs history means the clinicians accessing patient's records are more able to decide or intervene in a timely manner, be more informed of which drugs to prescribe and avoid due to potential interactions or allergic reactions; this may also allow not just pharmacy professionals but other clinicians to improve productivity by seeing more patients.

## Conclusion

Information sharing to support more integrated care continues to be a challenge for the NHS and a number of IT solutions have been developed to address this. SCR is one such solution which enables the secure sharing of key clinical information from a GP practice.

This is one of the first studies to attempt to assess and quantify the impact of sharing primary care records within secondary care. The results demonstrate that sharing records electronically in a timely manner, and improving the accessibility of the information, can help realise improvements in the efficiency and productivity of medicines reconciliations processes for hospital pharmacy teams. There is also the

| Area of measurement | Without SCR (i.e. using other sources of information) | With SCR |
|---|---|---|
| Average (mean) time taken to complete drug history | 48 minutes *(range 10 -70)* | 19 minutes *(range 7 – 33)* |
| Average (mean) number of times GP practice contacted by phone (per 100 patients) | 52 *(range* 3 – 138)* | 21 *(range* 0 – 83)* |
| Average (mean) number of times GP practice contacted by fax (per 100 patients) | 26 *(range* 1 – 47)* | 7 *(range* 0 – 19)* |
| Average (mean) number of discrepancies identified per patient | 1.7 *(range 0.9 - 2.2)* | 2.2 *(range 1.6 - 2.4)* |

**Table 1: Benefits*** *The variation in ranges is indicative of different business processes in place at different trusts e.g. some pharmacy teams do not routinely contact the GP by fax/phone.*

potential to improve the accuracy, and therefore quality, of the process but further research is required in this area.

As the NHS tries to tackle the challenges of modern healthcare delivery and the emerging health and wellbeing gap; the care and quality gap; and the funding and efficiency gap as described in the NHS Five Year Forward View,[9] further research should be undertaken to understand how information sharing solutions such as SCR can be utilised to meet these challenges – not only within pharmacy teams but across a number of care settings and a range of care professionals.

## Declaration of interests

Louise Cotton has nothing to disclose.
Anna Lay has nothing to disclose.

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