The Regulation and Quality Improvement Authority

The Regulation and Quality Improvement Authority

Review of Medicines Optimisation in Primary Care

July 2015

Assurance, Challenge and Improvement in Health and Social Care

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The Review was undertaken by:

The Regulation and Quality Improvement Authority (RQIA), is a non-departmental public body responsible for monitoring and inspecting the quality, safety and availability of health and social care services across Northern Ireland. It also has responsibility for encouraging improvements in those services. The functions of RQIA are derived from The Health and Personal Social Services (Quality, Improvement and Regulation) (Northern Ireland) Order 2003 and the associated regulations. RQIA's inspections and reviews are published on RQIA website at www.rqia.org.uk.

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We would particularly like to thank the Health and Social Care Board (HSC Board), the 17 Integrated Care Partnerships (ICPs), and voluntary agencies for providing information to underpin the review process and engaging service users and carers.

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EXECUTIVE SUMMARY

The Department of Health Social Services and Public Safety (DHSSPS) is currently developing a Medicines Optimisation Quality Framework for Northern Ireland. To gain assurance as to present medicines optimisation processes, RQIA was commissioned, as part of its 2012-2015 review programme, to carry out a review of medicines optimisation in primary care.

A Spoonful of Sugar (2001)[1], a report produced by the Audit Commission, examining medicines management processes in hospitals, defined medicines management as "encompassing the entire way that medicines are selected, procured, delivered, prescribed, administered and reviewed, to optimise the contribution that medicines make to producing informed and desired outcomes of patient care". The concept of medicines optimisation then represents the purpose or outcome of good medicines management. It needs to be seen as a patient centred approach requiring more robust partnership working between clinical professionals and patients.

Although individual clinicians have responsibility for medicines optimisation, the Health and Social Care Board (HSC Board) has responsibility for including in its commissioning arrangements, processes to ensure the quality and safety of medicines optimisation in primary care. The review examined those processes. The review examined the links between secondary care and primary care (general practice and community pharmacy), and also assessed the service user and carer experience of managing their medication.

The review team acknowledged the enthusiasm and commitment of HSC Board medicines management teams, but identified a number of factors preventing achievement of optimal processes in primary care.

Negotiations regarding a new contract for community pharmacy have been proceeding at a slow pace and are still ongoing. The review team considers that the lack of a definitive contract is helping to prevent further development of an extended role for community pharmacy in medicines optimisation, and was potentially preventing better outcomes for patients.

The Quality and Outcomes Framework (QOF) accounts for approximately 18 per cent of GP income and up until 2014/15 contained a number of medicines management indicators, which included a requirement for each GP practice to accept an annual visit from a HSC Board medicines management advisor, to review and improve their prescribing practice. The review team considers that removal of medicines management indicators removed one of the major incentives leading to safe and effective prescribing in GP practices.

The development of a Northern Ireland formulary was seen by the review team as an extremely positive step; however, the formulary should be completed and made available in practices at the point of prescribing. The review team also considers that

[1] Audit Commission (2001) A Spoonful of Sugar – Medicines Management in NHS Hospitals

greater emphasis should be given to antimicrobial stewardship, with a definitive action plan taken forward for primary care.

The review team considers that medicines reviews in primary care should be better coordinated with defined roles for general practice and community pharmacy.

Currently a clinical medication review is conducted face-to-face with a patient, with full access to patient records, usually by a doctor or pharmacist in general practice. A medicines use review and a Manage Your Medicines service are provided by community pharmacists to help people adhere to their medication regime and provide an opportunity for pharmaceutical care and advice.

The principles of medicines optimisation include the need for patients to be involved in all decisions regarding their medicines use. The review team considers that further work is required in this area.

The review team makes 16 recommendations to improve medicines optimisation processes in primary care.

CHAPTER 1: INTRODUCTION

1.0 Introduction

Medicines play a crucial role in maintaining health, preventing illness, managing chronic conditions and curing disease. Economic, demographic and technological factors impact on the development of pharmaceutical practise and it is crucial that patients get the best quality outcomes from their medicines.

Medicines are the most common medical intervention within our society and at any one time 70 per cent of the population[2] is taking prescribed or over the counter medicines to treat or prevent ill-health.

People most often make contact with health services through their primary care general medical practitioner (GP). A consultation quite often leads to the provision of a prescription as a measure to treat an acute illness, or to manage a long-term condition.

The safety of medicines and the robustness of medicines management processes in primary care are vital, given the wide variety of drugs prescribed and the fact that primary care teams are taking on responsibility for increasingly complex medication regimens.

It is also important that robust medicines management procedures are in place for the patient, wherever they go, across all care interfaces. The most common interface is between primary and secondary care and it is at this interface where problems with medicines management may occur. From an organisational perspective, effective medicines management, around and following both admission to, and discharge from hospital, is likely to result in more rapid discharge with fewer unscheduled admissions.

A Spoonful of Sugar (2001)[3], a report produced by the Audit Commission, examining medicines management processes in hospitals, defined medicines management as; "encompassing the entire way that medicines are selected, procured, delivered, prescribed, administered and reviewed, to optimise the contribution that medicines make to producing informed and desired outcomes of patient care". The concept of medicines optimisation then represents the purpose or outcome of good medicines management. It sets out how patients need to be supported by healthcare professionals, to get the best possible outcomes from their medicines. It needs to be seen as a patient centred approach, to get the best outcomes from investment in and use of medicines and it requires a holistic approach with clinical professionals working in partnership with their patients.

Guidance produced by the Royal Pharmaceutical Society in 2013[4] sets out four principles of medicines optimisation:

[2] Office of National Statistics Health Statistics 1997
[3] Audit Commission (2001) A Spoonful of Sugar – Medicines Management in NHS Hospitals
[4] http://www.rpharms.com/promoting-pharmacy-pdfs/helping-patients-make-the-most-of-their-medicines.pdf

1. aim to understand the patient's experience
2. evidence based choice of medicines
3. ensure medicines use is as safe as possible
4. make medicines optimisation part of routine practice

Medicines optimisation requires a greater focus on a multidisciplinary approach and health professionals need to work together to individualise care, monitor outcomes, review medicines frequently and support patients when needed. The medicines optimisation process examines how patients use medication over time. It may involve stopping some medicines, as well as starting others, but also considers opportunities for lifestyle changes and non-medical therapies to reduce the need for medicines. It is designed to improve safety and also improve adherence to treatment regimens, thus increasing effectiveness and reducing waste. The term medicines optimisation will be used throughout this report.

1.1 Context of the Review

Medicines use increases with age, and 45 per cent of medicines prescribed in the United Kingdom are for people aged over 65 years. It is notable that 36 per cent of people aged 75 years and over take four or more prescribed medicines[5]. More than 50 per cent of patients in primary care have multiple chronic conditions, and evidence-based single disease models lead to polypharmacy (use of four or more medications by a patient, generally adults aged over 65 years), with adverse drug events causing 17 per cent of hospital admissions in the over 65s[6].

A cross-sectional study of 40 conditions in a data base of 1.75m patients in Scotland showed that multimorbidity is the norm for people with long-term conditions[7]:

- 23 per cent of all people have multimorbidity
- 65 per cent of over 65s have three or more chronic conditions
- there is a strong association with low social economic status

Northern Ireland has a population of approximately 1.8m people and has the fastest growing population in the United Kingdom. The number of people over 75 years is predicted to increase by 40 per cent by 2020. The population over 85 in Northern Ireland will increase by 58 per cent by 2020 over the 2009 figure[8].

The fact that Northern Ireland has the fastest growing population in the United Kingdom, with an increasing proportion of older people, means that the number of people with comorbidities, with an increasing need for more complicated medication regimes is also likely to increase. A report from Public Health Ireland predicts that between 2007 and 2020, the number of adults living with long-term health conditions (LTC) in Northern Ireland will rise by 30 per cent[9].

[5] Department of Health (2001) Medicines and Older People. Implementing medicine related aspects of the NSF For Older People.
[6] Beyond diagnosis: rising to the multimorbidity challenge BMJ2012;344:e3526 (June 2012)
[7] Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study (July 2012)
[8] http://www.dhsspsni.gov.United Kingdom/transforming-your-care-review-of-hsc-ni-final-report.pdf
[9] Institute of Public Health in Ireland, 2010 -"Making Chronic Conditions Count"

Transforming Your Care (TYC) sets the strategic direction for health and social care in Northern Ireland. The focus for healthcare should move from inpatient services to provision of care in the community and in people's own homes. TYC outlines that community pharmacists have a greater role to play in managing patients with long-term conditions, who are taking multiple medicines. The pharmacist should form part of a multi-disciplinary approach to managing long-term conditions, keeping the focus on the patient, providing alternative options to being admitted to hospital, and to prevent such occurrences whenever possible. This shift in emphasis to primary and community care strengthens the need for robust optimisation of medication in these areas.

In Northern Ireland, in 2000, over 23 million items were prescribed by GPs at a cost of just over £245 million. By 2010, the number of items prescribed had risen to almost 36 million at a cost of £440 million.

From a financial aspect, HSC medicines expenditure equates to £550m per annum in Northern Ireland, representing 14% of the total HSC budget and is the second largest cost after salaries. Each year community pharmacies in Northern Ireland dispense in excess of 38 million prescription items, for medicines costing £375m. In addition, some £175m of medicines are dispensed in the hospital setting[10].

When the cost of medicines per head of population in Northern Ireland is compared with other regions of the United Kingdom, the cost is historically high.

Table 1 compares the cost of prescribing per head of population in England, Scotland, Wales and NI over a six year period to 2013. Overall, England has consistently had the lowest cost per head of population in each year since 2007. There are, of course, regional variations across England. For example, the number of items prescribed per head of population in the North East of England is 50 per cent greater than the number in the South of England. Costs in Scotland and Wales are broadly similar, higher than those in England but less than those in Northern Ireland. Northern Ireland has had the highest cost per head of population since 2007 and is the only region in which costs per head of population are higher in 2013 than they were in 2007[11].

However, these figures should be viewed in context as the analysis does not consider differences in data definitions and prescribing arrangements between the four countries.

Table 1: Prescribing cost per head of population

Year	2007	2010	2013
Northern Ireland	£221.09	£243.94	£223.54
England	£162.95	£167.82	£160.12
Scotland	£187.92	£192.25	£183.73
Wales	£196.37	£193.05	£182.96

[10] http://www.dhsspsni.gov.uk/medicines_optimisation_quality_framework.pdf
[11] Northern Ireland Audit Office, Primary Care Prescribing Report, November 2014

The volume and costs of prescribed medicines are increasing but there is evidence that between one half and one third of medicines prescribed for long-term conditions are not taken as recommended[12].

Wasted medicines are a significant issue in Northern Ireland, with large quantities of unused medicines regularly returned to community pharmacies for disposal. Returned medicines cannot be re-used and are destroyed because their safety and effectiveness cannot be guaranteed. Not all unused medicines are returned to pharmacies and many are kept in patients' homes, sometimes well past their expiry date, or are incorrectly added to household waste. It is therefore difficult to measure the exact value of medicines wasted. Based on research findings elsewhere in the United Kingdom, the value of medicines wasted in Northern Ireland is estimated to be around £18million per annum.[13]

All medicines have an associated level of risk and each year millions of people worldwide are hospitalised due to potentially avoidable, medicine-related factors. In the United Kingdom, on average, around 3-6 per cent of hospital admissions are due to the adverse effects of medicines[14] [15] [16]. This can increase up to almost 30 per cent in elderly people who are taking more medicines and are more susceptible to their adverse effects[17].

In 2012, a report for the General Medical Council, investigating the prevalence of prescribing errors in general practice, found that one in 20 prescriptions contained an error, with a higher prevalence associated with prescriptions for the elderly and those taking 10 or more medications[18]. It is important that robust medicines optimisation procedures are in place minimise medication errors.

When patients transfer between health and social care settings, there is a greater risk of medication error and evidence shows that 30 – 70 per cent of patients have an error, or unintentional change to their medicines, when their care is transferred[19].

When patients move between care settings, it is important that their medicines and information about their medicines are transferred safely and accurately with them, to avoid harm. Over half of all hospital medication errors occur at the interfaces of care, most commonly on admission to hospital[20]. The 2012 General Medical Council report highlighted risks at the primary/secondary care interface, with significant

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[12] Horne R, Weinman J, Barber N, Elliott R, Morgan M. Concordance, adherence and compliance in medicine-taking. Report for the National Co-ordinating Centre for NHS Service Delivery and Organisation R & D. 2005.
[13] Follow the advice use it right campaign. NI Executive, December 2011 News Release
[14] Lazarou J, Pomeranz BH, Corey PN. Incidence of adverse drug reactions in hospitalized patients: a meta-analysis of prospective studies. JAMA 1998; 279:1200-5.
[15] Pirmohamed et al. Adverse drug reactions as cause of admission to hospital: prospective analysis of 18 820 patients. BMJ 2004;329:15-9
[16] Roughead EE. The nature and extent of drug-related hospitalisations in Australia. J Qual Clin Pract 1999;19:19-22
[17] Chan M, Nicklason F, Vial JH. Adverse drug events as a cause of hospital admission in the elderly.Intern Med J 200; May-Jun;31(4):199-205
[18] Investigating the prevalence and cause of prescribing errors in general practice www.gmc-United Kingdom.org ___The_PRACtICe_study_Report_May_2012.
[19] Campbell et al. A systematic review of the effectiveness and cost-effectiveness of interventions aimed at preventing medication error (medicines reconciliation) at hospital admission. The University of Sheffield, School of Health and Related Research (ScHARR), Sep 2007
[20] Campbell et al. A systematic review of the effectiveness and cost-effectiveness of interventions aimed at preventing medication error (medicines reconciliation) at hospital admission. The University of Sheffield, School of Health and Related Research (ScHARR), Sep 2007

problems concerning correspondence about medications, particularly at the time of hospital discharge.

On 1 July 2010, responsibility for managing the General Pharmaceutical Services budget was devolved from DHSSPS, to the HSC Board, which already had responsibility for monitoring the General Medical Services (GMS) contract.

The HSC Board is legislatively required to make arrangements for the provision of community pharmaceutical services in Northern Ireland[21]. These services include dispensing drugs prescribed by GPs. In practice, community pharmacists are entered onto the pharmaceutical list for provision of pharmaceutical services under terms of service specified in Regulation. In 2014, community pharmaceutical services were being provided from 535 pharmacists in Northern Ireland.

In 2014, 51 per cent of Northern Ireland Pharmacies were small independent businesses, 30 per cent operated in local partnerships and the remainder, 19 per cent, formed part of United Kingdom or multi-national groups.

There are over 1,170 GPs working across 350 practices in Northern Ireland. The average number of GPs per practice is 3.3, with an average of 1,639 patients cared for by each GP. A Royal College of General Practitioners report[22] states that on average, each GP practice in Northern Ireland now provides care to 500 more people than ten years ago. The number of GP practices has fallen to 350 – down from 366 in 2005.

Prescribing in general practice has a direct impact on the quality of patient care. There have been a number of initiatives to support GPs to prescribe safely and effectively, leading to better outcomes for patients and cost. These include clinical guidelines to help GPs treat patients with particular conditions, in line with best practice.

In March 2014 the HSC Board launched the first medicines formulary website for Northern Ireland. The formulary is a list of medicines that have been shown to be both clinically effective and safe for patients, as well as providing value for money. This is linked to an overall programme known as The Pharmaceutical Clinical Effectiveness (PCE) Programme, which is an umbrella term for a suite of medicines management initiatives, established by DHSSPS and now implemented by the HSC Board. This includes:

- increasing the use of generic medicines
- reducing medicines wastage
- evidence-based regional prescribing guidelines developed by expert groups
- implementing a Northern Ireland Wound Care Formulary
- implementing a Northern Ireland Formulary

The Quality and Outcomes Framework (QOF) has also influenced GP prescribing. This was introduced in 2004 as part of the General Medical Services (GMS) contract for GPs. The QOF includes groups of indicators, with general practices receiving

[21] Under Article 63 of the Health and Social Services (NI) Order 1972
[22] http://www.rcgp.org.United Kingdom/news/2015/january/number-of-gp-practices-reaches-24-year-low-as-leading-doctors-warn-services-are-struggling-to-cope.aspx

points according to their level of achievement, leading to payments. It accounts for approximately 18 per cent of GP income and is an important factor when considering funding of GP practices. The QOF originally contained a number of medicines management indicators which aimed to improve prescribing, therefore leading to better disease management. The indicators included a requirement to accept an annual visit from a prescribing adviser and the agreement to review up to three areas of prescribing. These indicators have been removed from the 2014-15 QOF indicators within Northern Ireland. The England and Wales GMS contract removed these indicators in 2013/14; however, Scotland has retained and strengthened the medicines management indicators, at least until 2017.

The quality, safety and cost of prescribing in primary care medical practices have been managed primarily by the HSC Board team of medicines management advisors. COMPASS is a prescribing information system designed to provide GPs with data relating to their prescribing patterns. This data, along with other data such as adherence to the Northern Ireland Formulary are used by medicines management advisors to influence both the effectiveness and cost effectiveness of primary care prescribing, during a rolling programme of visits to GP practices.

An effective medicines optimisation process in primary care requires a multidisciplinary approach, involving both medical practitioners and community pharmacists. A robust system of oversight of prescribing practice is also important, to ensure that it is in line with medicines optimisation principles, in terms of safety, quality and effectiveness of prescribing, to deliver better outcomes for patients. DHSSPS is developing a Medicines Optimisation Quality Framework, due for publication in 2015. To gain assurance as to present medicines optimisation processes in primary care, DHSSPS has commissioned RQIA to conduct this review.

1.2 Terms of Reference

The Terms of Reference of the Review:

1. To assess the processes that the HSC Board has in place, to gain assurance of the safety and quality of medicines optimisation in secondary care and primary care (general practice and community pharmacy). .
2. To assess the quality of the processes and relationships between secondary care and primary care (general practice and community pharmacy), that support improved medicines optimisation.
3. To assess compliance with recommended policy and guidelines for prescribing practice.
4. To assess the effectiveness of medicines optimisation partnership schemes, in terms of improved practice leading to better patient outcomes.
5. To assess service user & carer experience of management of their medicines.
6. To report on the findings, identify areas of good practice and, where appropriate, make recommendations for improvements in medicines optimisation in secondary care and primary care (general practice and community pharmacy).

1.3 Methodology

The review methodology was designed to gather information about the current systems and processes in place to assure the safety and quality of medicines optimisation in primary care services in Northern Ireland. The review did not examine prescribing in secondary care, except where it impacts on primary care prescribing.

The methodology was as follows:

1. A review of relevant literature to set out the context for the review and identify appropriate lines of enquiry.
2. A questionnaire was forwarded to the HSC Board to identify the current processes and governance arrangements in place, to assure the quality and safety of medicines optimisation in primary care services within Northern Ireland.
3. Focus groups were arranged with the Northern Ireland Long-Term Conditions Alliance, Northern Ireland Chest Heart and Stroke, Diabetes United Kingdom, and Arthritis Care Northern Ireland to obtain the views of service users and carers.
4. Through integrated care partnerships (ICPs) and local commissioning groups (LCGs), focus groups were arranged to obtain the views of GPs and community pharmacists.
5. The review team met with members of the HSC Board team responsible for medicines optimisation in primary care.

CHAPTER 2: FINDINGS

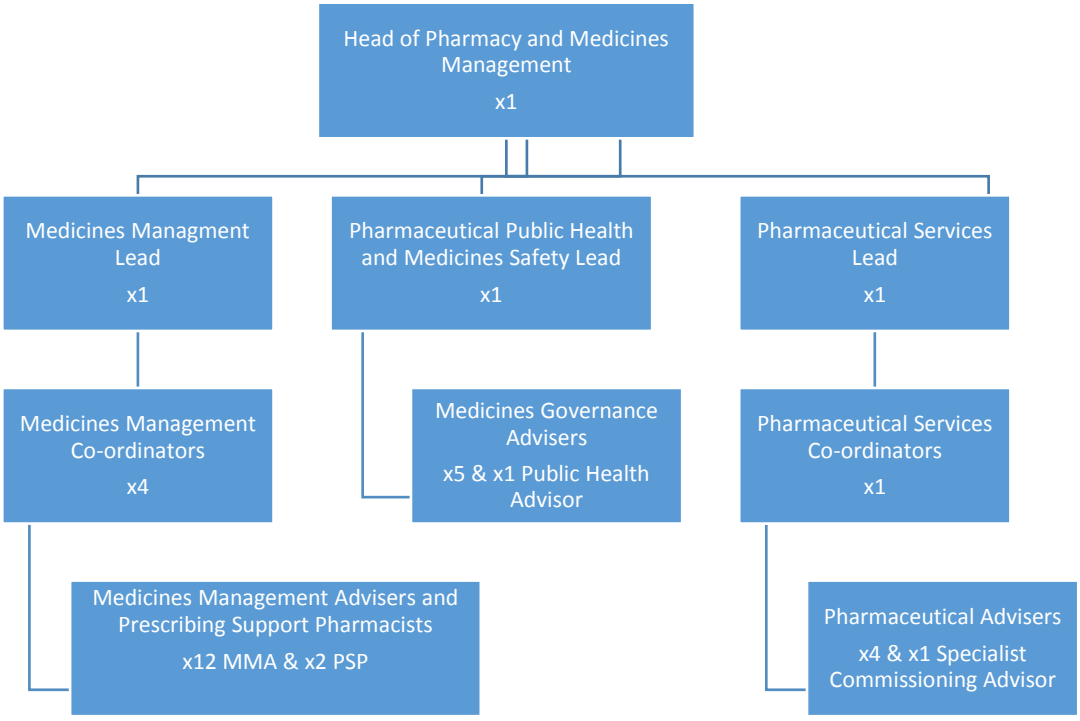
2.0 Findings

Findings from the review are presented in four sections:

1. Medicines Management Structures
2. Safety
3. Effectiveness
4. Service User Experience

2.1 HSC Board Medicines Management Structure

Figure 1: The current HSC Board Pharmacy and Medicines Management Structure



The Head of Pharmacy and Medicines Management has overall responsibility for medicines optimisation in primary care, reporting to the Director of Integrated Care. There are three pharmacy leads, each with specific responsibilities within the management framework.

The medicines management lead is supported by four medicines management coordinators, two of which are then responsible for 12 medicines management advisors and a number of prescribing support pharmacists. Medicines management advisors are pharmacists who work in specific localities, engaging with GPs and their staff, community pharmacists and other relevant healthcare staff. Practice support pharmacists complement the work of medicines management advisors, by providing hands on input to practices.

The role of medicines management advisors (MMAs) is key to assuring the safety and efficiency of prescribing in GP practices. Each GP practice in Northern Ireland is allocated a named MMA and each MMA has an allocation of 25 GP practices. Each MMA is also responsible for 35 community pharmacies per locality.

MMAs analyse practice specific prescribing data, and undertake at least one annual structured prescribing review visit to each GP practice. During the visit prescribing data are reviewed and changes to improve the quality, safety and efficiency of prescribing are agreed with the practice. Throughout the year MMAs continue to provide feedback, advice and support as required.

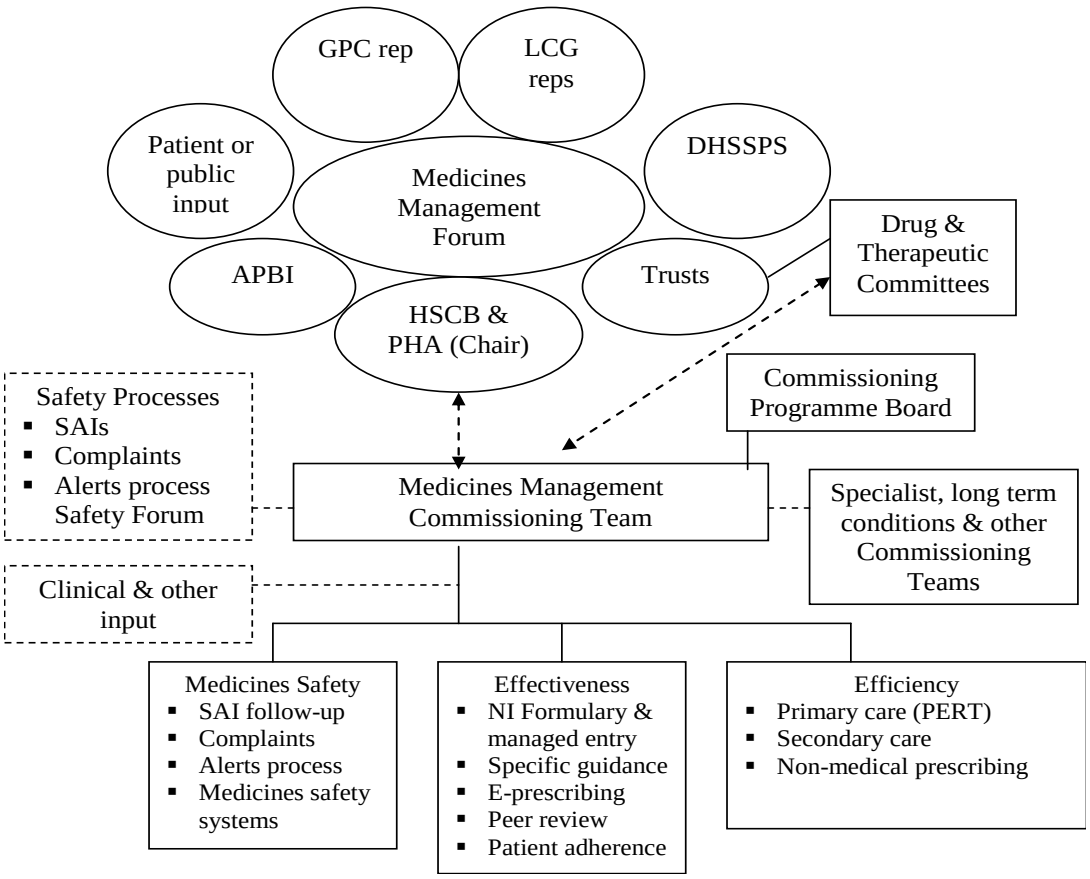
Practice support pharmacists (PSPs) complement the work of MMAs by providing hands on support to practices, to facilitate prescribing actions and changes agreed by the MMA and the practice. Each PSP works to a specific action plan which should clearly identify:

- targets and outcomes
- monitoring
- timescale
- resources
- review and feedback process

The HSC Board also has a prescribing efficiency review team (PERT) which is responsible for oversight of the pharmaceutical clinical effectiveness (PCE) programme, which has an annual efficiency target to be attained. In the four year period from 2010-11 to 2013-14 the programme has delivered a total of £132.2 million savings against a target of £122 million. The target for this year is £22 million, which is approximately 4-5 per cent of the total prescribing budget.

Apart from the PCE programme, which has to deliver against a savings target each year, there was no overall HSC Board strategy for medicines optimisation. The review team considered that the absence of an overall strategy, with associated service user outcomes and methods of assessing against these outcomes, was hindering the further development of robust medicines optimisation processes.

Figure 2: The overall medicines governance structure within the HSC Board



HSC Board staff informed the review team that the present medicines management structure is going to be reviewed which would lead to a possible restructuring. The review team welcomed this review as it considered that the present structures, developed in 2009, following the review of public administration were fit for purpose then, but may not deliver the service envisaged within the proposed medicines optimisation quality framework. The three work strands were appropriate, however, the review team considered that medicines management advisors should work across the three work strands rather than remain for the majority of the time in their own strand. The structural review should take into consideration the effects of the changes to the Quality and Outcomes Framework and also any changes that may arise if a new pharmacy contract is agreed.

The review team considered that the number of groups/forums/teams that had been established had become excessive resulting in a lack of focus on delivery of outcomes. The structural review will promote an opportunity to rationalise the existing structure.

RECOMMENDATION 1

In its review of medicines management structures, the HSC Board must take account of the medicines optimisation quality framework and other relevant system changes. The review must also rationalise supporting structures where possible.

2.2 SAFETY

2.2.1 Quality and Outcomes Framework (QOF)

Introduced in 2004, as part of the general medical services contract for GPs, the QOF includes groups of evidence based indicators, with practices being awarded points according to their level of achievement, leading to payments.

Since its inception, the organisational domain of QOF contained a number of medicines management indicators, including MED001NI, MED002NI and MED003NI. These indicators were designed to improve prescribing practice and required a practice to meet with an HSC Board medicines management advisor, at least annually. During the visit up to three actions to improve prescribing were agreed, and subsequently evidence of change had to be provided.

The HSC Board produces quarterly COMPASS reports, which, for each GP practice, provide an overview of prescribing, identify high cost areas, encourage generic prescribing and identify possible over prescribing of specific medications such as benzodiazepines. They also contain a section relating to high risk medications such as warfarin, methotrexate and red list drugs. A number of audit tools have been developed to help practices identify patients taking high risk medicines and ensure they are managed appropriately. Examples are audit tools for patients taking methotrexate or warfarin. The HSC Board also uses a range of safety indicators developed by the King's Fund[23], which are also designed to assure the safety of prescribing.

HSC Board medicines management advisors analyse all available prescribing data and, using previous QOF indicators, would visit all GP practices on an annual basis. Throughout the year advisors also provide feedback, advice and support to practices, as required. Practice support pharmacists complement the work of medicines management advisors by providing hands on support within practices, working to a plan of action agreed by the medicines advisor and the practice.

The review team considers that the HSC Board, through prescribing data at a practice level, in combination with practice visits, has a robust system in place to assure the safety of prescribing in general practice. The QOF medicines management indicators were removed in 2014-15, as it was considered that medicines management processes were now well established in GP practices and that these activities would continue to be undertaken as part of core clinical practice. This was not supported by either the HSC Board or the review team. These indicators were considered to be important in contributing to improved prescribing practice and without them the HSC Board's leverage with practices is reduced. It was considered that if not specifically mentioned in the GMS contract and with no specific investment in terms of payment to undertake prescribing, practices, due to

[23] The quality of GP prescribing, The Kings Fund, 2011 http://www.kingsfund.org.uk/sites/files/kf/field/field_document/quality-gp-prescribing-gp-inquiry-research-paper-mar11.pdf

increasing work pressures, would not dedicate time to undertake medicines management tasks.
In Scotland the medicines management indicators have been retained as they were considered to be an important prescribing management tool, to improve quality and cost effectiveness of prescribing. The retention of the indicators provides a necessary focus for practices to ensure prescribing improvements are both agreed and achieved.

Northern Ireland has the lowest number of GPs per 1000 head of population in the United Kingdom. There are multiple pressures on a GP's time and the review team considers, that in the absence of the requirement to facilitate visits by HSC Board advisors, a number of practices may not fully engage with medicines optimisation processes. It is also considered likely that even if all practices engage with advisors, the follow up of action plans may not be taken forward in all cases. The review team considers that with the removal of medicines management indicators, one of the key processes assuring the safety of prescribing in GP practices has been removed.

RECOMMENDATION 2
The HSC Board should consider how, in the absence of QOF medicines management indicators, meaningful assurance regarding the safety of prescribing/medicines optimisation in GP practices can continue to be achieved.

RECOMMENDATION 3
The HSC Board should review the impact of removal of the QOF medicines management indicators, to determine whether they were a positive driver for prescribing safety and quality.

2.2.2 Patient Interface Issues

One of the potential areas of risk for patients in relation to medication is when they move from one area of health and social care to another, for example, where patients are discharged from hospital and return home, or to another setting such as a nursing home. This is particularly the case for patients with long-term conditions, who require a number of different medicines.

An integrated medicines management service was introduced into HSC Trusts in 2005. This model involves a team of accredited pharmacy technicians undertaking medicines reconciliation on admission to hospital, during the patient stay and at discharge. It is the first step in helping to assure the safety, through assessing accuracy of medication of patients being discharged into the care of their GP. However, a review carried out in 2012 by DHSSPS, showed that there was considerable variation in the rate of implementation of the integrated medicines management model across hospitals and wards/specialities. Not all Wards had an appropriate service model in place, and staffing levels were not always sufficient to deal with the workload. The review team considered that failure to progress an integrated medicines management model will lead to further inefficiencies, higher costs and poorer patient outcomes.

On leaving hospital, it is important that patients, particularly those with a number of comorbid conditions who require what may be a large number of medicines, are

given adequate support in managing their medication. It is also important that accurate and timely information is transferred from secondary to primary care. A significant amount of work has been carried out in relation to providing a timely and accurate discharge summary, to be forwarded to GPs and in some trusts to community pharmacies on discharge, and this should remain a focus for trusts.

The Northern Ireland Electronic Care Record (ECR) is an HSC record system which contains key details about a patient's care and makes them available in authorised HSC settings which include GP practices. A number of trusts are now making the immediate discharge summary available on the ECR. During focus groups, GPs highlighted that post discharge, information coming from secondary care was still variable as regards knowing which medicines have been changed or stopped completely. All parties acknowledged that communication between secondary care and primary care could be improved.

As an integrated medicines management model had proved to be successful in hospitals, the review team believes that consideration should be given to the establishment of a similar model for primary care. Complex patients would continue to receive appropriate support and there would be better continuity of care, establishing regimes that they can more easily manage. To achieve this, there is a requirement for improved communication between primary and secondary care, and also between GPs and community pharmacies within primary care. The review team also considered that there was the potential for a greater role for pharmacists in medicines reconciliation and adherence, following a patient's discharge from hospital.

Community pharmacists do not have access to the ECR and in order to have a more meaningful role in managing a patient's medicines post discharge, consideration should be given to providing access to the ECR for community pharmacists.

Consideration could also be given to a limited registration with community pharmacies, for those patients who require multiple medicines. These steps may improve future medicines adherence post discharge. All focus groups agreed with use of the ECR being extended to community pharmacies, and pharmacists supported limited registration for patients with long-term conditions.

A local enhanced service (LES) has introduced practice based pharmacists into GP practices and consideration is being given to increasing the numbers of these staff. Another option for improved pharmacy input into a more robust medicines reconciliation process post-discharge, is for that process to become part of the remit of practice based pharmacists. The HSC Board must determine if pharmacists have a greater role to play in this area and where this role may be best carried out.

RECOMMEDATION 4
The Integrated Medicines Management Service should be available to a consistent level in all trusts and include a standard process for communication with General Practice and Community Pharmacy.

RECOMMENDATION 5
Community pharmacy should be provided with access to the electronic care record.

RECOMMENDATION 6

A more robust integrated medicines management model should be established for complex patients post discharge, which would include a defined role for community pharmacy.

2.2.3 Effects of Secondary Care Prescribing

Secondary care prescribing, for example, in outpatient clinics, has a major influence on primary care prescribing. It is estimated by the HSC Board that 60 per cent of prescribing in primary care is influenced by prescribing in secondary care. Prescribing in wards is assured by hospital pharmacists; however, the same control does not exist in outpatient clinics. There is no electronic prescribing system in secondary care and as a result there is a lack of reliable and demonstrable data. With limited or no medicines management in outpatients, there is the increased potential for consultants to prescribe medicines not included in the Northern Ireland formulary, and also unlicensed and high-risk medicines.

GPs may not be familiar with medicines prescribed in the outpatient clinic and may not readily have the competencies to continue the prescription. The situation is potentially compounded by a reluctance to alter medicines recommended by secondary care. This may result in prescribing that is not in line with guidance. During focus groups, service users with long-term conditions reported that they felt GPs were reluctant to change medications that had been prescribed by a secondary care consultant.

It is, however, acknowledged that prescribing outside the Northern Ireland Formulary is appropriate for some patients. In outpatients the prescribing of unlicensed and high risk medicines should be highlighted on the Electronic Care Record and communicated to General Practice and Community Pharmacy.

Where there is a lack of communication with either GP practices or community pharmacies, there is a risk to patient safety in terms of drug interactions. Focus groups also identified concerns about some aspects of secondary care prescribing. GPs raised questions about who had ultimate responsibility for patients who had been prescribed high risk medicines by secondary care clinicians. COMPASS reports have been forwarded to secondary care clinicians to demonstrate examples of non- generic or high risk prescribing, and work has also been carried out through secondary care liaison groups. There are further plans for HSC Board staff to directly engage with secondary care clinicians, in order to positively influence prescribing practices.

The review team was very supportive of the work already carried out by HSC Board staff in this area, as well as future plans. It was considered to be an important area that required further focus, in terms of gaining greater influence over secondary prescribing, especially in outpatient clinics.

RECOMMENDATION 7

The HSC Board should establish consistency of prescribing practice where appropriate and with consistent data analysis across both secondary and primary care. This should be set out in commissioning requirements.

2.2.4 Adverse Incidents

Medicines optimisation supports improved quality and more cost-effective prescribing in primary care, as well as supporting patients to manage their medications better. Good medicines optimisation can help to reduce the likelihood of medication errors and hence patient harm.

The HSC Board in its questionnaire return indicated that incident reporting is an important part of a health and social care learning culture, sharing good practice in order to try to prevent recurrence.

The HSC Board reported that during the period 1 April 2013 to 31 March 2014 there were 77 medication incidents reported from GP practices and 555 from community pharmacy (365 of which were anonymous).

For GP practices and community pharmacists, an adverse incident reporting form has been specifically developed for use in the case of medication errors. Both named and anonymous versions of this form are available. Incidents may be reported by telephone, post or by e-mail and a dedicated e-mail address has been set up in each local office to receive adverse incident reports.

The HSC Board reported that incidents originating in community pharmacy are reported via a variety of mechanisms:

- from RQIA - during nursing or residential home inspection
- from trusts - during medicines reconciliation on admission
- GPs
- community pharmacists
- patients

Dispensing errors in community pharmacy are dealt with via a specific HSC Board process.

The Medicines and Healthcare Products Regulatory Agency (MHRA) yellow card scheme helps the MHRA monitor the safety of all healthcare products, to ensure they are safe for who use them.

Table 2: Breakdown of the number of Yellow Card reports received per year since 2012 for the United Kingdom (UK) as a whole and for Northern Ireland (NI).

Year	Number of cases United Kingdom (UK)	Number of cases Northern Ireland (NI)	Northern Ireland (NI) cases as a percentage of United Kingdom (UK) cases
2012	13933	338	2.4%
2013	16977	377	2.2%
2014	18384	352	1.9%

The number of Northern Ireland submissions is low. Northern Ireland makes up approximately 2.9 per cent of the United Kingdom population, so the figures recorded are slightly lower than 2.9 per cent of the total United Kingdom reports[24].

The scheme collects information on suspected problems or incidents involving:

1. side effects (also known as adverse drug reactions)
2. medical device adverse incidents
3. defective medicines (those that are not of an acceptable quality)
4. counterfeit or fake medicines or medical devices

As part of its incident reporting mechanisms, the HSC Board promotes the use of the yellow card scheme, by including information regarding the scheme in its Medicines Matters newsletter, and in its regional training.

The Primary Care Medicines Governance Team includes representatives from primary care and oversees the adverse incident arrangements in primary care. Medicines governance pharmacists are responsible for promoting and encouraging the reporting of adverse incidents in their area.

Learning from incidents is disseminated to GP practices in a number of ways, such as newsletters, e-mail alerts, learning letters and as part of training. Learning is communicated to community pharmacies via learning letters or again as part of training. There is, as yet, no electronic method of communication with community pharmacies.

Bulletins/alerts involving medicines from organisations such as MHRA and the National Patient Safety Agency (NPSA) are e-mailed to GP practices, which have an HSC Board e-mail address. There is a requirement for practices to regularly check their inbox for any communications that require action. As indicated above, there is no method of electronic communication with community pharmacies.

The HSC Board has a voluntary incident reporting process in place; it indicated that incidents are under-reported in both GP practices and community pharmacy. Despite promotion of the yellow card scheme, it also is under used.

An added complication involving incident reporting in community pharmacy is that all dispensing errors are potentially a breach of medicines legislation and could result in a criminal conviction for the pharmacist concerned. Therefore, pharmacists are reluctant to report incidents in a way that might identify them. The review team considers that further work is required regarding incident reporting in GP practices and community pharmacy. The HSC Board has a part to play nationally in trying to develop a no blame incident reporting mechanism for community pharmacy. HSC Board staff reported that they were contributing to the DHSSPS consultation on legislation on dispensing errors[25]. The further development of any adverse incident system should be taken forward in conjunction with work being carried out by DHSSPS, in developing a Regional Adverse Incident and Learning System (RAIL).

[24] Regulating Medicines and Medical Devices, MHRA, March 2015.
[25] http://consultations.dh.gov.uk/medicines-pharmacy-and-industry/rebalancing-medicineslegislation-and-pharmacy-reg/consult_view

The HSC Board should also progress development of the facility for electronic communication of alert letters and learning from incidents in community pharmacy.

RECOMMENDATION 8

The HSC Board should develop a robust and effective system of incident reporting and dissemination of learning from incidents in primary care, taking account of regional developments in this area.

RECOMMENDATION 9

The HSC Board should develop a robust system for dissemination of alert letters to community pharmacies.

2.2.5 Antimicrobial Stewardship

Antimicrobial stewardship is concerned with optimising the use of this limited healthcare resource. Lack of the development of new antibiotics has meant that there is increased pressure on existing antibiotics, which has resulted in an increase in antimicrobial resistance, and an increase in health-care associated infections.

Infections due to resistant organisms and healthcare associated infections (HCAI), such as *Clostridium difficile*, considerably increase the risk of harm to patients, and, the costs associated with healthcare provision.

In 2012, DHSSPS published the Antimicrobial Resistance Action Plan (AMRAP). Changing the Culture was published in 2010 and subsequent to that the 2012-2017 Strategy for Tackling Antimicrobial Resistance (STAR) was developed. Following this, in HSS (MD) 27/2012, the Chief Medical Officer (CMO) set out the actions required following production of the strategy. The HSC Board and PHA, in partnership with other HSC bodies, were required to develop an action plan to deliver the outputs and outcomes relevant to the five key areas set out in the strategy:

- antimicrobial stewardship
- monitoring and surveillance
- professional education and practice; knowledge base
- research and development
- patient and public engagement and information

Regional primary care prescribing guidelines, launched in 2008, and updated in 2010 and 2012, cover the main infections and provide information about the most appropriate antimicrobial agent, dose and length of course to use.

HSC Board medicines management advisors monitor antimicrobial use through COMPASS reports, which highlight prescribing trends and trends outside normal guidelines. Outlying practices are also identified through the use of control charts. Medicines management advisors identify actions to encourage compliance.

The Northern Ireland Prevalence Survey of Healthcare Associated Infections and Antimicrobial Use in Long-Term Care Facilities, 2013, included 31 privately owned nursing homes and 11 trust controlled residential homes. The report highlighted

priority areas for future interventions and was disseminated to all GPs and the care facilities that participated.

Practice based learning days have been used to provide GPs with training on antibiotic stewardship and training materials have been made available on the primary care intranet. Patient information resources have been produced in conjunction with the PHA, including "Do I need an antibiotic" leaflets and posters.

The cost of antibiotics per head of population in Northern Ireland is higher when compared with other regions of the United Kingdom.

Table 3 compares the data invested in antibiotics used in primary care across each United Kingdom country[26].

Table 3: Comparative data invested in antibiotics used in primary care across each United Kingdom (UK) country

Region	Spend per Head 2011-12 (£)	Spend per Head 2012-13 (£)	Spend per Head 2013-14 (£)	Growth (%)
Northern Ireland	4.39	4.96	4.91	12
England	3.21	3.65	3.56	11
Scotland	3.85	4.20	4.00	4
Wales	3.49	3.97	3.82	9

In Scotland, since 2008, the Scottish Antimicrobial Prescribing Group has led the promotion of improving antimicrobial stewardship. The group develops guidance and policy for antimicrobial use in secondary and primary care, and monitors subsequent antibiotic use and resulting change in the incidence of healthcare associated infection and antimicrobial resistance. Recommendations and monitoring is implemented by the antimicrobial management teams in each of the NHS boards in Scotland.

The review team acknowledges the work that has been carried out by the HSC Board in monitoring the use of antimicrobials by medicines management advisors. However, there was some concern that this process might be weakened by the loss of the medicine management indicators from QOF, with the loss of the requirement for medicines management visits.

The HSC Board team reported that an overall Health Care Acquired Infections action plan and a joint HSC Board/PHA implementation plan in response to STAR have also been developed. The HSC Board advised that the STAR strategy action plan, with associated costings, had been forwarded to the DHSSPS by the PHA, for consideration. A new Strategic Antimicrobial Resistance and Healthcare Associated Infection Group (SAMRHAI) chaired by CMO was established in March 2015.

However, the review team was concerned that tackling antimicrobial resistance had not been given the priority that it has elsewhere in the United Kingdom.

[26] Health and Social Care Board, Medicines Management Information Team

RECOMMENDATION 10
Greater priority should be given to dealing with antimicrobial stewardship. The action plan and outcomes already developed for primary care should be progressed as soon as possible.

2.3 EFFECTIVENESS

2.3.1 Formulary Development

DHSSPS Priorities for Action (2010-11) included a target to ensure consistency of prescribing across primary care and to provide prescribers with guidance on first and second choices of medication to prescribe. As a result, work was begun to develop a specific Northern Ireland Formulary which would help to promote safe, clinically effective and cost effective prescribing of medicines in Northern Ireland.

The formulary is designed to provide guidance on first and second line drug choices and covers the majority of prescribing choices in Northern Ireland. It is also designed to standardise practice and ensure a level of consistency in prescribing practices across both acute and primary care, while recognising that individual patients may still require medicines which sit outside the guidance. To ensure that it covers the majority of prescribing decisions that occur in normal practice, the formulary is focused on non-specialist prescribing choices. It is intended to be used across both primary and secondary care and the overall aim is to benefit all patients who require medicines.

The Northern Ireland formulary includes the following chapters:

- wound care dveeloped in 2011
- gastrointestinal, cardiovascular and central nervous system in 2012
- respiratory, endocrine, musculoskeletal and an antibiotic update in 2013
- skin in 2014

A dedicated Northern Ireland Formulary website has also been developed.

The HSC Board has also launched a Choice and Medication website to help patients with mental health conditions, which provides information on mental health conditions and the medications commonly used to treat them. It also includes a section on frequently asked questions, together with information leaflets.

The HSC Board produces a formulary monitoring report for each GP practice, to identify compliance with the Northern Ireland Formulary. Current HSC Board data show that all practices have greater than 73 per cent compliance. The HSC Board also reports that generic prescribing rates are approximately 80 per cent.

The review team considers that the development of the Northern Ireland Formulary is a positive step, particularly suitable for a region of Northern Ireland's size, and that monitoring processes appear to be robust. Compliance rates are high and generic prescribing rates are improving. However, the loss of QOF medicines management indicators is concerning, as compliance rates may fall if monitoring becomes less robust.

The prescribing formulary needs to be completed and consideration needs to be given to making it available electronically in GP practices, at the point of prescribing. There is an option to add an electronic formulary to the main clinical systems in use in GP practices. Prescribing outside of the formulary then requires additional steps, which helps to limit this practice. The electronic formulary lists can be developed and maintained centrally and the files installed in each practice. Both clinical systems also provide the option of a clinical diagnosis driven electronic formulary to further refine the clinical decision process. Software is also available that would flag up when a medicine under consideration is not included in the formulary. Consideration should also be given to making the formulary available in different formats such as an App which would make it much more accessible, for example, for junior doctors, which should improve compliance.

RECOMMENDATION 11
The HSC Board should ensure that the Northern Ireland Formulary is completed with appropriate processes in place for regular updating.

RECOMMENDATION 12
The HSC Board should make the Northern Ireland Formulary available electronically in GP practices and in community pharmacies and also in different formats such as an App.

2.3.2 Medication Use Reviews

As the percentage of elderly people in the population increases, bringing with it a concomitant increase in the prevalence of comorbid conditions and an increase in the number of patients requiring a large number of medicines, the necessity for robust medication use reviews increases. In this context, medication reviews are clinical reviews conducted face to face with the patient, with full access to patient medication records.

Non adherence with medication is also a known problem, with evidence that between one half and one third of medicines prescribed for long-term conditions are not taken as recommended[27]. This will also contribute to medicines wastage. Around 11 per cent of United Kingdom households have one or more medicines that are no longer being used[28]. Estimates, based on a study conducted in Northern Ireland by the University of York, calculate the cost of wasted medicines at £18 million per year[29]. However, a key point arising from the report is that it estimated that less than 50 per cent of medicines waste is likely to be cost effectively preventable. Overall the York report recommends that the way to tackle medicines waste is to focus on improving medicines use to improve outcomes.

A number of Northern Ireland service frameworks require that medication reviews are carried out. The Service Framework for Older People recommends that all patients taking four or more medicines receive regular reviews. The Service Framework for Respiratory and Diabetes also has recommendations regarding medication review.

[27] Horne R et al. Concordance, adherence and compliance in medicine taking. Report for the National Coordinating Centre for NHS Service Delivery and Organisation R&D. 2005
[28] Woolf M. Residual medicines; a report on OPCS Omnibus Survey Data.
[29] Evaluation of the scale, causes and costs of waste medicines. University of London and York 2010.

The HSC Board reports that QOF medicines management indicator MED003NI required a medication review to be carried out in the preceding 15 months for all patients being prescribed four or more repeat medicines. This indicator has now been withdrawn but the expectation is that the activities covered by the indicator have now been embedded into good clinical practice.

A number of other medicines review initiatives were described by the HSC Board.

- As part of a medicines management visit to a GP practice, repeat prescribing protocols are reviewed and records of repeat prescribing audits are examined.
- Managing your medicines, carried out by community pharmacies
- Medication reviews, carried out in community pharmacies
- A locally enhanced service allows participating GP practices to support medication reviews in nursing homes
- A pilot project has been carried out by pharmacists in nursing homes, whereby residents have a three monthly review of their medication use.
- Medication reviews are now carried out in line with the draft respiratory framework, however, since the removal of QOF there is no means to measure or monitor if this is being adequately delivered in primary care.

During focus group discussions, the majority of service users and carers described having a good relationship with their local GP and community pharmacist. However, a lack of medication reviews was highlighted, with several service users stating that they had not had a medication review for over 10 years. A common theme was that service users and carers did not realise that they should have regular medication reviews.

The review team is aware of the amount of work that has been carried out in this area, but considers that medication review is inconsistent and this view is supported by service users with long-term conditions. There appears to be some inconsistency in what a medication review actually entails and who is best placed to carry it out. With the loss of the QOF medicines management indicators, there may be less assurance in the future of appropriate reviews being carried out in GP practices and GPs may not have the time to carry out a review in the necessary detail.

The review team considers that there is the opportunity for increased involvement of pharmacists in medication use review. This may be carried out by clinical pharmacists based in GP practices or by community pharmacists who are an immediate, readily available resource. Increased use of pharmacy staff will support medicines adherence, improve outcomes for patients and decrease wastage of medicines[30].

A challenge to extending the use of community pharmacists in medicines optimisation is the lack of a pharmacy contract. Responsibility for development of a pharmacy contract passed to the HSC Board in 2010 and due to a number of issues, the contract has consistently been delayed. The review team considers that in the absence of a definitive contract it is extremely difficult for the HSC Board to gain assurance regarding services being provided by community pharmacies. It is also difficult to progress any meaningful service delivery in areas such as medicines review without the framework of a contract.

[30] NHS Scotland, The Scottish Government Polypharmacy Guidance October 2012

RECOMMENDATION 13
All parties involved should continue as a matter of urgency to progress the development of a new pharmacy contract.

RECOMMENDATION 14
The HSC Board should standardise medication review and the role of pharmacists in the review process. The HSC Board should also explore alternative methods of pharmacist involvement in medication review, without contractual arrangements, if necessary.

2.4 SERVICE USER EXPERIENCE

It is estimated that between one third and one half of all medicines prescribed for patients with long-term conditions are not taken as recommended. Non-adherence limits the benefits of the medication, resulting in lack of improvement, or even deterioration in health. The economic costs of non-adherence include the cost of wasted medicines, but also the costs arising from increased demands for healthcare, if health deteriorates.

To address this, the principles of medicines optimisation would recommend that:

- patients are involved in all decisions about their medication use
- prescribing of medicines is accompanied by appropriate advice, information and support

Adherence may be improved by involving patients in decisions regarding their medication, and by giving them appropriate information about their condition and possible treatments.

NICE Guideline 76 – Involving Patients in Decisions about Prescribed Medicines and Supporting Adherence makes recommendations as to how healthcare professionals can help patients to make informed decisions, by facilitating their involvement in the decision to prescribe. It also sets out how healthcare professionals can support patients to adhere to the prescribed medicine. The guideline also sets out how by engaging with service users appropriately and by providing them with the information that they need, adherence to medication would improve.

The HSC Board reported that it had no formalised processes in place to ensure that these issues were being taken forward. HSC Board staff considered that professional guidance is available for both doctors and pharmacists to highlight the importance of consent and shared decision making in both settings. They also highlighted a number of areas where engagement with service users has taken place, and of information that has been provided specifically for service users.

- Through the Patient and Client Council there is service user input into the Medicines Management Forum, the overall strategic committee in the HSC Board medicines management structure.
- The prescribing guidance editorial group has an appointed lay member; there are two service user representatives on the regional substitute prescribing

steering group and service user representation on the naloxone steering group.
- In 2013, the HSC Board delivered a series of five Northern Ireland public engagement workshops in conjunction with the Community Development and Health Network. These workshops were designed to develop a greater understanding of the need for a Northern Ireland Formulary and explore the challenges facing service users regarding their use of medicines.
- The Northern Ireland Formulary website contains a patient zone, which contains patient leaflets such as leaflets regarding antibiotic use and links to other useful websites.
- Information for doctors and patients to support shared decision making in respect of mental health medicines is available from the Choice and Medication website, launched in 2014.
- Promotion of NICE patient decision aids
- Managing your medicines service, commissioned from a number of community pharmacies
- Targeted medicines use reviews provided by community pharmacies for patients who are taking multiple medications and who are receiving respiratory or diabetes medication

The review team supports the steps already taken in terms of patient involvement and notes service user involvement in the medicines management forum and other groups, and in the development of the Northern Ireland Formulary. The development of a patient section of the formulary website and development of the Choice and Medication websites are also positive developments. However, there is much more that could be done to assist with patients' adherence to their medication, and the review team also considered that enhanced engagement of service users at a strategic level should be part of the restructuring process.

During focus group discussions, several service users and carers advised that they had been given information regarding their medication at different stages of their journey. However, the information varied in content and amount. Service users emphasised that information and support around harm, side effects and frequency of taking medication were extremely important, particularly for those taking a number of medicines. Some gave examples of being unsure when their multiple medicines should be taken, and others of having severe nausea and headaches following medication.

Service users also commented that GPs and community pharmacists only communicate effectively when a patient actually speaks up and asks about their medication. Many individuals do not feel they have the knowledge or confidence to ask questions and so it is important that those with responsibility for prescribing and dispensing medicines ensure that patients understand correctly how to get the best outcomes from their medication.

The consequences of non- adherence are costly, to the patient in terms of outcomes and to the healthcare system in terms of further treatment, which may include an unplanned hospital admission. The review team considers that more could be done at a practice level to ensure compliance with the principles set out in NICE Guideline 76. At present, time pressures for prescribers make meaningful involvement of service users in decision making difficult to accomplish. Information provided is inconsistent and the level of review which will aid compliance is also inconsistent.

The review team considers that the HSC Board should work with prescribers to comply with the principles contained in NICE Guideline 76. There is the opportunity for an increased role for community pharmacy, as all patients taking a number of medicines will at some time visit their pharmacist, who is ideally placed to explore the patient's understanding of their condition and the medication necessary for successful treatment. As with other areas of service development in community pharmacy, this will be difficult to achieve without a definitive pharmacy contract.

RECOMMENDATION 15
The HSC Board should work with prescribers to ensure that the principles contained in NICE Guideline 76 are being implemented, to ensure appropriate engagement with service users when prescribing medication.

RECOMMENDATION 16
As part of its restructuring, HSC Board should consider enhanced service user involvement at a strategic level of its medicines optimisation structures.

CHAPTER 3: CONCLUSIONS

Medicines management is a process focused structure, aiming to ensure that a patient received the right medication leading to improved patient outcomes. Medicines optimisation takes that extra step of ensuring that health professionals support patients in getting the best outcomes from their medicines. It is a much more patient centred approach and requires robust partnership working between patients and health professionals, and also between different professional groups. Any assessment of a service has to focus on the patient centred approach, and how it may be achieved.

Medicines optimisation in Northern Ireland must be considered in the context of the changing population, with the number of people aged 65 and over estimated to increase by 40 per cent over the next 15 years. This increase is likely to lead to a greater number of people with multiple medical conditions, leading to greater use of complicated medicines regimens.

The HSC Board has responsibility for medicines management/optimisation in primary care in Northern Ireland, with a dedicated pharmacy and medicines management section, situated within the HSC Board Integrated Care Department.

Working in partnership with primary care medical colleagues, medicines management pharmacists are responsible for the safety and effectiveness of prescribing throughout all areas of primary care in Northern Ireland. The review team was impressed by the dedication and enthusiasm of the medicines management team, who carry out good work, but are working within a number of constraints.

The cost of medicines per head of population in Northern Ireland has been consistently high, compared with other regions in the United Kingdom. This leads to the need for efficiency savings in the prescribing budget. The Pharmaceutical Clinical Effectiveness programme has been successful in consistently achieving savings and has exceeded its target in the four year period 2011-12 to 2013-14. However, challenging targets continue to be set and the target for this year is £22 million. While the HSC Board is to be commended for achieving efficiency savings, this focus makes it more difficult to achieve lasting service development and to deliver the medicines optimisation quality framework.

The bulk of prescribing occurs in GP practices and the HSC Board has a robust process to assure the quality and effectiveness of prescribing. This includes a process to respond to persistent underperformance arising from prescribing issues. Detailed data in the form of COMPASS reports are produced and used by medicines management advisors and practice support pharmacists, to encourage practices to prescribe more efficiently, safely and effectively. In the past, the organisational domain of QOF contained a number of medicines management indicators, which outlined a requirement for GP practices to, at least once a year, meet with an HSC Board medicines management advisor, to agree up to three actions to improve prescribing and subsequently provide evidence of change. These medicines management indicators have now been removed from QOF. The review team considers that in the short term, GPs will continue to work with medicines

management advisors; however in the longer term, with increased pressure on a GP's time, the review team is concerned that, without the requirement to work with HSC Board staff, the system of assurance will become less robust.

One of the greatest areas of risk involving a patient's medication is when they move from one area of health and social care to another, particularly on discharge from hospital. It is vitally important that accurate and timely information regarding a patient's medication, including changes to medication, are transmitted to primary care. Much work has already been carried out in relation to use of a standardised immediate discharge summary. However, the review team considers that further work is necessary, with, where possible, extension of the integrated medicines management model, and greater use of community pharmacy, in assuring that patients get the correct medication and adhere to their regimen. Secondary care prescribing also influences primary care prescribing. The review team acknowledges the work that has been carried out by the HSC Board team in this area, and supports its further plans.

A positive step has been the development of a Northern Ireland Formulary, with all GP practices now demonstrating greater than 70 per cent compliance. The development of a formulary website with a patient zone and the development of a Choice and Medication website, providing information regarding mental health conditions and medications, have also been positive developments. Work must continue to complete the formulary and make it available in primary care, and in different formats such as an App.

The STAR was published in 2012 and an action plan was developed jointly by the HSC Board and PHA, working with other stakeholders. The implementation plan identified significant resource implications and although financial pressures impeded delivery, the new Strategic Antimicrobial Resistance and Healthcare Associated Infection Group (SAMRHAI) is now considering how to take this forward.

In 2010, responsibility for negotiation of a new pharmacy contract transferred from DHSSPS to the HSC Board and it is now one of the tasks for the pharmacy and medicines management team. Contract negotiations are ongoing, and it appears that it may be some time before final agreement is reached. While it is beyond the scope of this review to comment on negotiation of contracts, the review team considers that the absent of a definitive contract is preventing the development of meaningful medicines optimisation in a number of areas, and outcomes for patients cannot be completely assured.

Greater involvement of community pharmacy in the discharge process, and follow up medicines adherence may lead to better outcomes for patients. Pharmacists should also be given access to the ECR as part of an electronic communications system that would facilitate communication of alert letters and learning from adverse incidents.

Medication review is an important process for people with medical conditions who take a number of medicines. The HSC Board has a range of schemes in place; however, the review team considers this is an area that would be helped by increased input from community pharmacy. A properly developed, assured system, with robust governance and outcome measures, is difficult to achieve in the absence of a definitive pharmacy contract.

A LES has been commissioned to employ a pharmacist for one to two days a week (depending on practice size) to work directly with GPs and other practice staff to improve the quality and effectiveness of prescribing. During focus groups, GPs who were in receipt of this service were appreciative of its effect. The HSC Board would like to further roll out this service and in the future must balance the role of practice based pharmacists with an extended role for community pharmacy.

The principles of service user involvement are set out in NICE guideline 76 and form a strand of a medicines optimisation process. The review team considers that the areas of patient involvement, patient adherence and medication use review are all intertwined, leading to better patient outcomes. These areas could be improved by greater involvement of community pharmacy; however, without a contract in place to set out how these processes would be monitored and assured, it is very difficult to see how progress can be made in the short term. Along with the development of the community pharmacy role, the review team also considers that these areas could be improved by greater communication between GP practices and community pharmacy. The need for better communication and a defined role for community pharmacy were supported during focus group discussions with GPs and community pharmacists.

In conclusion, the review team acknowledges the enthusiasm and commitment of the HSC Board primary care teams involved in assuring the safety and quality of prescribing in primary care in Northern Ireland. However, due to a number of factors, some of which are outside their direct control, more work needs to be done to achieve optimal medicines optimisation processes, leading to better, measurable outcomes for patients.

CHAPTER 4: SUMMARY OF RECOMMENDATIONS

RECOMMENDATION 1
In its review of medicines management structures, the HSC Board must take account of the medicines optimisation quality framework and other relevant system changes. The review must also rationalise supporting structures where possible.

RECOMMENDATION 2
The HSC Board should consider how, in the absence of QOF medicines management indicators, meaningful assurance regarding the safety of prescribing/medicines optimisation in GP practices can continue to be achieved.

RECOMMENDATION 3
The HSC Board should review the impact of removal of the QOF medicines management indicators, to determine whether they were a positive driver for prescribing safety and quality.

RECOMMEDATION 4
The Integrated Medicines Management Service should be available to a consistent level in all trusts and include a standard process for communication with General Practice and Community Pharmacy.

RECOMMENDATION 5
Community pharmacy should be provided with access to the electronic care record.

RECOMMENDATION 6
A more robust integrated medicines management model should be established for complex patients post discharge, which would include a defined role for community pharmacy.

RECOMMENDATION 7
The HSC Board should establish consistency of prescribing practice where appropriate and with consistent data analysis across both secondary and primary care. This should be set out in commissioning requirements.

RECOMMENDATION 8
The HSC Board should develop a robust and effective system of incident reporting and dissemination of learning from incidents in primary care, taking account of regional developments in this area.

RECOMMENDATION 9
The HSC Board should develop a robust system for dissemination of alert letters to community pharmacies.

RECOMMENDATION 10
Greater priority should be given to dealing with antimicrobial stewardship. The action plan and outcomes already developed for primary care should be progressed as soon as possible.

RECOMMENDATION 11
The HSC Board should ensure that the Northern Ireland Formulary is completed with appropriate processes in place for regular updating.

RECOMMENDATION 12
The HSC Board should make the Northern Ireland Formulary available electronically in GP practices and in community pharmacies and also in different formats such as an App.

RECOMMENDATION 13
All parties involved should continue as a matter of urgency to progress the development of a new pharmacy contract.

RECOMMENDATION 14
The HSC Board should standardise medication review and the role of pharmacists in the review process. The HSC Board should also explore alternative methods of pharmacist involvement in medication review, without contractual arrangements, if necessary.

RECOMMENDATION 15
The HSC Board should work with prescribers to ensure that the principles contained in NICE Guideline 76 are being implemented, to ensure appropriate engagement with service users when prescribing medication.

RECOMMENDATION 16
As part of its restructuring, HSC Board should consider enhanced service user involvement at a strategic level of its medicines optimisation structures.

APPENDIX 1: ABBREVIATIONS

AIs	Adverse Incidents
Belfast Trust	Belfast Health and Social Care Trust
CDHN	Community Development and Health Network
CMO	Chief Medical Officer
DDD	Defined Daily Dose
DHSSPS	Department of Health, Social Services and Public Safety
D&T	Drugs and Therapeutic Committee
EMIS	Egton Medical Information Systems
ECR	Electronic Care Record
GMC	General Medical Council
GMS	General Medical Services Contract
GP	General Practitioners
HSC Board	Health and Social Care Board
HSC	Health and Social Care
IDS	Immediate Discharge Summary
ICPs	Integrated Care Partnerships
IMM	Integrated Medicines Management
LCGs	Local Commissioning Groups
LES	Local Enhanced Service
LTCs	Long-Term Conditions
MMA	Medicines Management Adviser
MMC	Medicines Management Co-ordinator
MMCT	Medicines Management Commissioning Team
MMPI	Medicines Management Partnership Initiative
MRG	Medicines Regulatory Group
MUR	Medicine Use Reviews
NHS	National Health Service
NI PU	Northern Ireland Prescribing Units
Northern Trust	Northern Health and Social Care Trust
OSD	One-Stop Dispensing
PMR	Patient Medication Record
PCE	Pharmaceutical Clinical Effectiveness
PMMT	Pharmacy and Medicines Management Team
PNG	Pharmacy Networking Group
PSNI	Pharmaceutical Society of Northern Ireland's
PBP	Practice Based Pharmacist
PERT	Prescribing Efficiency Review Team
PSA	Prescribing Support Assistant
PSP	Prescribing Support Pharmacist
PDAs	Promoting use of Patient Decision Aids
QOF	Quality and Outcomes Framework
RPP	Regional Professional Panel
RQIA	Regulation and Quality Improvement Authority
SAIs	Serious Adverse Incidents
South Eastern Trust	South Eastern Health and Social Care Trust
Southern Trust	Southern Health and Social Care Trust
TYC	Transforming Your Care
Western Trust	Western Health and Social Care Trust

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