Review of Medicines Management within the General Medical Services Contract

Therapeutics Branch

October 2015

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This report is designed for management purpose only

1. Foreword

This review of the medicines management domain of the General Medical Services (GMS) contract was commissioned by the Therapeutics Branch, Pharmacy and Medicines Division, Scottish Government. It was undertaken in conjunction with the Scottish Prescribing Advisors Association (SPAA) Executive, the group whose members are the experts in the application of contractual levers to improve prescribing. Since 2014, Scotland has been the only country in the UK that has a medicines management contractual agreement with general practice within the Quality & Outcomes Framework (QOF).

The report provides evidence and reflection on the value of the medicines management domain to Boards, the quality and efficiency benefits derived from it, and the approach Boards take to this. The report supports the view that Boards have made extensive use of the domain, and that local and national priorities have been delivered through it.

I am most grateful to those colleagues within SPAA who took the time to respond to the survey, providing valuable feedback on their approach and successes. I would also like to thank the authors, Graeme Bryson and Jason Cormack, for their work and to thank Lesley Dyker for her contribution towards the development of the document.

I trust this report will be a welcome addition to the evidence base of prescribing practice in Scotland and will provide useful guidance as we move away from QOF and work together to continue to improve medicines management across the country.

Kind Regards

Dr Simon B Hurding
Clinical Lead, Therapeutics Branch, Scottish Government

2. Executive Summary

NHS Scotland spends almost £1.4 billion per year on medicines, of which £1 billion is spent in Primary Care. This constitutes 10% of NHS Board budgets and therefore represents a significant investment by NHS Scotland. In terms of volume, NHS Scotland prescribes over 100m items annually, which equates to 270,000 every day. High quality medicines management is essential to ensure the most effective treatment for patients as well as best value for NHS Scotland.

The purpose of this document is:

1. To review the GMS contract mechanisms used by Boards to improve quality and cost-efficiency of prescribing practice.

2. To assess the value of the contract mechanisms and understand the methodology with which Boards apply and support them.

3. To identify key successes and evaluate the mechanisms at both local and national level.

The key learning points from this review are:

1. The GMS medicines management domain has been an important tool for Boards and the use of contractual levers is strongly endorsed by the Scottish Prescribing Advisors Association (SPAA). All Boards use the medicines management domain to drive prescribing improvement, aiming at both quality and cost-efficiency. Significant benefits have been delivered in recent years and the evidence base for the value of this approach is substantial.

2. The majority of Boards prepared a bundle of core topics each year, which successfully drive improvement and are made up of local and national priorities.

3. Various approaches have been taken to agree the topics across Boards, including engagement with primary care groups, GP subcommittees, locality prescribing groups and individual practices. Medicines management teams work closely with stakeholders during this process.

4. Medicines Management Teams provided a variety of support mechanisms and materials to practices each year. This facilitates improvement and drives local attainment.

Recommendations:

1. NHS Scotland and Scottish Government should seek to further develop the established improvement in prescribing practice across the country through the use of contractual arrangements. The Therapeutics Branch, SPAA and Board medicines management teams should work together to ensure that NHS Scotland continues to improve in this area.

2. Board Prescribing teams should continue to develop and implement best practice in use of contractual levers through the SPAA. SPAA should consider formalising arrangements for the sharing of best practice and lessons learned on use of contractual levers.

3. The Therapeutics Branch, in conjunction with SPAA, should review and report on the success of contractual levers at regular intervals. .

In October 2015, the Cabinet Secretary for Health, Wellbeing and Sport announced that the QOF section of the GP contract will be dismantled over the course of 2015 and 2016.[1] This report provides the basis for understanding what is currently delivered through QOF and therefore represents a starting point for discussions on how to move forward.

[1] http://news.scotland.gov.uk/News/Major-change-to-bureaucratic-system-of-GP-payments-1dd2.aspx

3. Introduction and Background

This report reviews the medicines management domain of the NHS Scotland GMS contract which has been used by Boards over the last 12 years to secure improvements in the quality and efficiency of prescribing practice. By reviewing the experience of Boards, this has provided a starting point for work on future delivery following the removal of QOF. In addition, it highlights and shares best practice, emphasising the quality of work delivered by Board medicines management teams.

Expenditure on primary care prescribing accounts for £1bn of the overall NHSScotland budget. The significance of this investment was recognised in the establishment of a Prescribing Workstream within the national Efficiency and Productivity Portfolio in 2011 which transitioned into the Therapeutics Branch of Scottish Government in 2014. This review is set within the context of a number of strategic documents:

- *Prescription for Excellence: A Vision and Action Plan* (September 2013)[2], which aims for every patient to get the best outcomes from their medicines, avoiding waste and harm.
- *The NHS Scotland Quality Strategy* (May 2010)[3] and 20:20 Vision (August 2012)[4], which define the goals and aspirations for healthcare in Scotland.
- *Prescribing in General Practice in Scotland* (Audit Scotland, January 2013)[5], which describes the quality and opportunities for improvement within prescribing in NHS Scotland. The review noted the improvement delivered by Boards over the last decade.

It is important to recognise that approximately 70% of expenditure on prescribing is incurred within primary care. This was a key driver for the presence of the medicines management domain. This review seeks to understand the value of the medicines management domain and describe where key improvements have been made through it. It is clear that local culture inevitably exercises a significant influence on the approach taken by individual Boards towards improvement in medicines management [6]. Finally, it is of value to appreciate the level of investment that NHS Scotland puts into the GMS medicines management domain. Figures from financial year 2013/14 note that the total amount paid to practices for attainment of QoF points in medicines management amounted to approximately £3 million.[7]

[2] Prescription for Excellence: A Vision and Action Plan, The Scottish Government, September 2013
[3] The NHS Scotland Quality Strategy, The Scottish Government, May 2010
[4] A Route Map to the 2020 Vision for Health and Social Care, The Scottish Government, August 2012
[5] Prescribing in General Practice in Scotland, Audit Scotland, January 2013
[6] Review of Prescribing Improvement Schemes, Therapeutics Branch, 2014
[7] Quality and outcomes framework publication report. ISD. September 2014

4. History of the Medicines Management Domain

In 2003 the introduction of the Quality & Outcomes Framework established a payments by results element in the contractual arrangements for GPs in the UK. Within the QoF Organisation domain, there was a dedicated medicines management section. Points six and ten were used by Board Medicines Management Teams to influence prescribing by GPs. This is shown below.

Table 1 - Medicines Management indicators from QoF 2003[8]		
Title	**Points**	**Indicator**
Medicines 6	4	The practice meets the PCO prescribing adviser at least annually and agrees up to three actions related to prescribing
Medicines 10	4	The practice meets the PCO prescribing adviser at least annually, has agreed up to three actions related to prescribing and subsequently provided evidence of change

This system remained unchanged until QoF Quality and Productivity was introduced in 2011/12:

Table 2 – Summary of Quality and Productivity Prescribing Indicators[9]		
Title	**Points**	**Indicator**
QP1	6	The practice conducts an internal review of their prescribing to assess whether it is clinically appropriate and cost effective, agrees with the PCO 3 areas for improvement and produces a draft plan for each area no later than 30 June 2011.
QP2	7	The practice participates in an external peer review of prescribing with a group of practices and agrees plans for 3 prescribing areas for improvement firstly with the group and then with the PCO no later than 30 September 2011.
QP3	5	The percentage of prescriptions complying with the agreed plan for the first improvement area as a percentage of all prescriptions in that improvement area during the period 1 January 2012 to 31 March 2012.
QP4	5	The percentage of prescriptions complying with the agreed plan for the second improvement area as a percentage of all prescriptions in that improvement area during the period 1 January 2012 to 31 March 2012.
QP5	5	The percentage of prescriptions complying with the agreed plan for the third improvement area as a percentage of all prescriptions in that improvement area during the period 1 January 2012 to 31 March 2012. *NB: Payment stages for QP3 ,4 & 5 to be determined locally according to the method set out in the indicator guidance below with 20 percentage points between upper and lower thresholds.*

[8] http://www.gpcontract.info/quality/qualitymedicine3e.htm
[9] QOF Quality and Productivity (QP) Indicators, BMA and NHS Employers, May 2011

In 2012/13 NHS Scotland introduced the Scottish Quality Prescribing Initiative in response to the removal of QP prescribing section (above). This initiative's aim was to deliver a 20% improvement of the interquartile range in 1 or 2 areas selected from the National Therapeutic Indicators (NTIs)[10].

A significant diversion occurred in 2013/14 when Scotland established its own GMS contract. While the rest of the UK removed the 2003-2013 medicines management domain to core contract (broadly speaking, the expected duties of a doctor), Scotland retained it in its QoF. The format was similar to the 2003/2013 UK wide medicine management domain with the addition of a prescribing related audit. The table below is a reproduction from section 6 of the Scottish Quality and Outcomes Framework guidance for GMS contract 2014/15[11].

Table 3 – Medicines Management Domain (Scotland) 2014/15

Title	Points	Indicator
MM001	4	The practice meets with the NHS Board prescribing adviser at least annually and agrees 3 actions related to prescribing.
MM002	9	The practices meets with the NHS Board prescribing adviser, has agreed 3 actions related to prescribing and subsequently provided evidence of change. The practice should also undertake an audit of an area of prescribing that is a clinical issue that has been agreed with the NHS Board prescribing adviser.
MM003	10	A medication review is recorded in the notes in the preceding 15 months for all patients being prescribed 4 or more repeat medicines. Standard 80 per cent.

The value of a QoF point has moved upwards, from an average of £124.64 in 2005/6 to an average of £133.47 in 2011/12[12]. This should be seen in the context of a net spend on QoF across NHS Scotland of £134 million in 2011/12.

In October 2015, it was announced that QoF will be dismantled and replaced over the course of 2015 and 2016.

[10] http://www.sehd.scot.nhs.uk/pca/PCA2012(M)08.pdf
[11] Quality and Outcomes Framework (QOF) Guidance for NHS Boards and GP Practices 2014/15
[12] http://www.isdscotland.org/Health-Topics/General-Practice/Quality-And-Outcomes-Framework/QOF-Points-Pounds-Available-Summary.asp

5. Methodology of Review

A survey of all NHS Scotland Board medicines management teams was undertaken during January 2015, through the Scottish Prescribing Advisors Association (SPAA). SPAA exists to *maximise patient care through improving quality, safety and cost effective prescribing practice across Health Boards in Scotland*. Each Board is represented on the SPAA Executive Group by senior members of Board medicines management teams – the organisation is therefore ideally placed to provide the views of experts across the country.

The survey was commissioned and led by the Scottish Government's Therapeutics Branch, within Pharmacy and Medicines Division. The table below provides detail of the themes and specific questions asked during this survey:

Table 4 – Outline of survey

Section	Theme	Questions
1	Engagement with GP practices	What topics were offered to GP practices?
		What was the team's approach to the negotiation?
		What level of agreement is generally received from practices?
2	Ongoing support	What support is given to GP practices throughout the year?
		What support is given to Primary Care Directorates throughout the year?
3	Evidence of change in prescribing	What qualitative evidence do you have of prescribing improvement as result of your use of the GMS contract?
		What quantitative evidence do you have of prescribing improvement as result of your use of the GMS contract?

Following initial analysis of the survey, follow up engagement was conducted with all responding Boards to gain further insight into key areas of improvement. In addition to the survey, the SPAA Executive Group was approached for a consensus view which is detailed in section 7.

Please note that the survey and analysis focusses predominantly on MM001 and MM002..

6. Summary of Results

Throughout this review it has been clear that patient safety and prescribing quality are at the forefront of all prescribing improvement, including contractual levers. This links the work closely to the aims of the *Scottish Government Quality Strategy* (2010). It was equally clear that the use of the contract reflected both local and national priorities, in particular priorities laid down in Board Prescribing Action Plans, Scottish Government Prescribing Strategies (notably antibiotics, polypharmacy, respiratory and diabetes), as well as areas identified within the annually published NTIs .

A summary of key results is provided below:

1. A full and comprehensive set of responses were provided by Boards incorporating significant and valuable detail. Responses were received from the following Boards:

    - NHS Ayrshire and Arran
    - NHS Dumfries and Galloway
    - NHS Fife
    - NHS Forth Valley
    - NHS Greater Glasgow and Clyde
    - NHS Highland
    - NHS Lanarkshire
    - NHS Lothian
    - NHS Shetland
    - NHS Tayside

2. GMS prescribing actions were fully utilised across responding Boards. Each was able to provide substantial evidence of successful improvement delivered through the contract. The range of successful work reflects the range of key areas across the Boards – *one size does not fit all.*[13]

3. The Scottish Prescribing Advisors Association is clear on the level of value which has been delivered from the medicines management domain.

4. Boards make use of the GMS contract to deliver both local and national priorities. There is a clear link between GMS prescribing actions available to practices and areas of prescribing highlighted in local prescribing improvement plans and national strategies.

5. GP Practices are well supported throughout the process, from agreement to delivery, through ongoing engagement with Board medicines management teams. The format of

[13] Review of Prescribing Improvement Schemes, Therapeutics Branch, Scottish Government, 2014

this support varies between Boards, as would be expected given the differences in shape of prescribing support across NHS Scotland. Boards generally reported that escalation routes were available in instances where practices and medicines management teams cannot agree on prescribing actions, however these are rarely required.

6. Board primary care teams are supported as required within local systems, with the validity and verification process. This ensures that the payment process for general practice is based on a robust assessment of qualitative and quantitative data, confirming that payment is only made where obligations are delivered.

7. Attainment was around 99% in 2014[14] in the contractual measures within the Medicines Management domain by practices across NHS Scotland.

8. Boards demonstrate a successful and pragmatic approach to use of the medicines management domain, delivering improvements in quality, safety and cost. When asked to note prescribing actions which had been particularly successful, there was a clear spread of responses indicating significant gains across a variety of clinical areas.

Further detail on the responses can be requested through the Therapeutics Branch.

[14] www.GPcontract.co.uk

7. Evidence of improvement

This report makes use of a number of high quality examples submitted by a range of Boards. These serve as illustrations only, and it should be noted that there are a wide range of examples across NHS Scotland.

There is consensus amongst NHS Scotland medicines management teams that the medicines management domain provides a key tool to drive improvement. SPAA retains members from each Board and represents the experts in medicines management within NHS Scotland. In May 2015, SPAA issued the following statement, demonstrating the value of this tool to Boards:

"It is the opinion of the Scottish Prescribing Advisors Association (SPAA) that the Medicines Management Section of the GMS contract has been a successful tool to positively influence quality of prescribing across Scotland.

SPAA would endorse the view that maintaining contractual options to improve medicines use in primary care using this safe, efficient and patient centred approach, would continue to deliver value for NHS Scotland for the foreseeable future."

Respondents demonstrated a clear rationale for how areas of prescribing were selected before being offered to practices. This includes the National Therapeutic Indicators (NTIs), National Prescribing Strategies (Diabetes and Respiratory), Polypharmacy Guidance and Audit Scotland Review (2013), with a clear link between the application of national strategy and local delivery priorities. The table below details the responding Boards and which areas of national focus they addressed through the GMS contract during financial year 2014/15. It should be noted of course that Boards may have used other mechanisms in conjunction with the contract or as a substitute. Additionally, Boards may have addressed these areas in previous years.

Table 5 - GMS Contract Topics Financial Year 2014/15

Board	Antibiotic Theme(s)	Diabetes Theme(s)	Respiratory Theme(s)	Other NTI Theme(s)	Polypharmacy Theme(s)
A&A	✓			✓	✓
D&G	✓	✓	✓	✓	
Fife		✓		✓	✓
Forth Valley	✓			✓	
GGC	✓	✓	✓	✓	
Highland	✓	✓	✓	✓	
Lanarkshire	✓			✓	
Lothian	✓		✓	✓	
Shetland				✓	✓
Tayside	✓	✓	✓	✓	

The themes focus on improving the clinical effectiveness and cost-efficiency of medicines, as well as the robustness of the prescribing process, while reducing waste and addressing patient safety. It should be noted that this is in line with the aspirations of the NHS Scotland Quality Strategy.

The box below details an example of this from **NHS Forth Valley** in 2014/15. In this Board, a broad offering is made to GP practices that is negotiated at a local level with GP prescribing forums and the local GP subcommittee for information and endorsement. The topics clearly link to the NTIs (all three topics are current NTI areas) as well as to national guidance on antibiotic prescribing.

Practices chose ONE of the following two topic areas

Topic 1: Proton Pump Inhibitor (PPI) Prescribing

Action 1: The practice will adopt the local Forth Valley Treatment of Dyspepsia Guidance
Action 2: The practice will search for all patients on Proton Pump Inhibitors and lists of patients for review will be produced
Action 3: The practice will make a 5% reduction in DDDs/1000 patients during the agreed monitoring period. This will be monitored by the Prescribing Support Team using PRISMS data.

Topic 2: Anxiolytic and Hypnotic Prescribing

Action 1: The practice will draw up a practice policy on the prescribing of Anxiolytics and Hypnotics. The practice will be expected to provide a copy of their adopted practice policy
Action 2: The practice will then ensure that patients know about the new practice policy for prescribing of anxiolytics and hypnotic.
Action 3: The practice will make a 20% reduction in DDDs/1000 patients during the agreed monitoring period. This will be monitored by the Prescribing Support Team using PRISMS data.

Audit Topic:

Scottish Reduction in Antibiotic Prescribing (ScRAP) Programme. *PCPs (Primary Care Pharmacists) will deliver the educational programme to the practice with attendance from all GP partners. As part of the session the practice will identify an area of antibiotic prescribing which requires review and an audit will be undertaken.*
Where practices can evidence that their antibiotic prescribing practice would not benefit from undertaking the ScRAP resource, an alternative clinical issue which they would prefer to audit can be undertaken. This will need to be negotiated and agreed with their PCP.

Another example of the breadth of activities offered comes from **NHS Lothian**. This Board provided a range of prescribing actions from which practices could agree in line with their two year prescribing action plan. This aids planning and longer term goals. The emphasis on adherence to the Lothian Joint Formulary should also be noted. The variance in approach between NHS Lothian and NHS Forth Valley provides an insight into the variety of successful approaches across NHS Scotland.

Approved Protocols 2014/16
(Practices can agree other actions with their prescribing advisor)

BNF Chapter 3 – Respiratory System
Adrenaline Auto Injector Review
Utilisation of Bluebay Asthma Review
Promotion of LJF choice of inhalers – Easihaler

BNF Chapter 4 – Central Nervous System
Review of Buprenorphine Patch Prescribing
Review of Fentanyl Patch Prescribing
Review of Lidocaine Patch Prescribing

BNF Chapter 5 – Infections
Review of Antibiotic Prescribing (Audits)

BNF Chapter 9 – Nutrition and Blood
Review of Calcium and Vitamin D supplementation prescribing
Review of prescribed Oral Nutritional Supplements

BNF Chapter 10 – Musculoskeletal & Joint Disease
DMARD SPSP Care Bundle
Review of Allopurinol Prescribing in Gout

BNF Chapter 13 – Skin
Review of Dovobet Prescribing
Lothian Joint Formulary Emollient Prescribing Review

Others
Repeat Prescribing Process Review
Install and utilisation of the Scottish Therapeutic Utility (STU)
Review of "specials" unlicensed medicines prescribing

8. Examples of success

GMS prescribing actions are frequently linked to a specific therapeutic area with demonstrable improvement that can be associated with a cash releasing efficiency saving (while improving or maintaining quality of care). It should be noted that, on some occasions, savings are in the form of prevention of investment, which are as valuable as disinvestment savings. The table below demonstrates a range of successful improvements in prescribing through GMS actions that have delivered a significant financial saving in the last 24 months. The charts in appendix two provide further detail on these examples.

Table 6 – Examples of success

Board	Prescribing Action	Activity	Outcome
Ayrshire and Arran	Decrease cost/item of opioid analgesics (BNF 4.7.2)	Review use of oxycodone in light of local guidance and encourage formulary compliance	Decrease in cost/item of opioid analgesics at time when Scotland has remained constant. NHS Ayrshire and Arran had a cost per item 10% less expensive than NHS Scotland at Q4 2014/15
Dumfries and Galloway	Inhaled Corticosteroids (ICS) (BNF 3.2 Spend)	Reviewing choice of combination ICS/ long acting muscarinic antagonist (LAMA) inhaler in line with formulary choices	Greater decrease in cost/item of ICS/LAMA combination than Scotland
NHS Fife	Oral contraceptives	Review current choices in light of formulary recommendations	Decrease in cost/patient at greater rate than NHS Scotland
Forth Valley	Antibiotic volume	Undertake a review of antibiotic prescribing for URTI using ScRAP resource	Decrease in antibiotic prescription volume per 1000 patients from 0.78 in 2012/13 to 0.69 in 2014/15. The Board was previously above the national average and is now below
GGC	National Therapeutic Indicators	Prioritisation of NTI actions on a practice by practice basis	Contributes to Board position as lowest cost of prescribing per weighted patient across NHS Scotland
Highland	Proton Pump Inhibitors (PPIs)	Reduce PPI prescribing	Greater rate of decrease in cost/item than NHS Scotland. NHS Highland cost/patient now 8% below national average.

Lanarkshire	Ezetimibe	Review place in therapy of ezetimibe in light of emerging evidence limiting place in therapy	85% reduction in use locally compared with a 75% reduction nationally. NHS Lanarkshire now below NHS Scotland level
Lothian	Scottish Therapeutics Utility	GP tutorial with bespoke prescribing actions, eg review of compliance aids	Rationalisation of prescribing interval to 28 days for priority patient groups with average saving per patient of £70 per annum (based on West Lothian pilot)
Tayside	Seretide Accuhalers®	Review to select most cost-efficient formulation and choice	Decrease in cost/patient of Seretide inhaler costs to 7% below the Scottish average
Shetland	Non-formulary dihydropryidene calcium channel blockers	Review non-formulary dihydropryidene calcium channel blockers	28% increase in use of more cost-effective choice of dihydropryidene calcium channel blockers

Boards also make use of contractual levers to deliver improvements on national priorities. In 2012, following the loss of the Medicines Management Domain in the UK GMS contract, the Scottish Quality Prescribing Initiative (SQPI) was launched [15]. Although not formally a part of QoF, it provided the equivalent of six QoF points to practices to improve the areas of prescribing highlighted and informed by the NTIs[16]. Analysis suggests that when a financially resourced contractual agreement is made with practices then the shift in prescribing behaviour is greater. The table below and charts in appendix 2 [17] demonstrates this.

Table 7 – SQPI Achievement				
	SQPI practices	**SQPI target achievement**	**Non-SQPI practices**	**Non-SQPI achievement**
Total Antibiotics	54	**42.6%**	673	32.8%
4C Antibiotics	74	**72.5%**	620	50.5%
Quinine	168	**88.9%**	534	54.7%
Inhaled corticosteroid	119	**36.1%**	606	24.1%

[15] http://www.sehd.scot.nhs.uk/pca/PCA2012(M)08.pdf
[16] Hurding et al, Therapeutics Branch, 2014
[17] Chart and graphs courtesy Therapeutics Branch, Hurding et al 2014

9. Local and National Support

To facilitate focus on priority areas, medicines management teams provide supporting resources. There are two broad types of support provided, the first of which is clinical based materials aimed at educating prescribers on the rationale of change in practice.

NHS Dumfries and Galloway offered practices the opportunity to review patients prescribed medicine for chronic obstructive pulmonary disease. A guidance document was produced locally and circulated to practices[18]. NHS Lanarkshire's prescribing bulletin resource supports prescribers and can be used by both the local medicines management team and by GPs.

NHS Highland have championed appropriate proton pump inhibitor prescribing (an existing NTI) and have developed resources for prescribers to support improvement. This can be found in Appendix 4 and serves to demonstrate the scale and quality of support provided.

At a national level, NHS Education for Scotland and Scottish Antimicrobial Prescribing Group developed a resource to support antibiotic prescribing in respiratory tract infections within primary care patients[19]. The programme is presented as an educational toolkit to help prescribers reduce unnecessary prescribing of antibiotics, and also to support Boards in delivering the level 3 HEAT target on antibiotic volume. This provides an example of national level support and it is noteworthy that 80% of the responding Boards addressed antibiotic prescribing in 2014 through the GMS contract.

Secondly, Boards provide ongoing support and monitoring: they engage with GPs on their agreed prescribing actions throughout the year. This demonstrates clear goal alignment in delivering improvement in prescribing at a GP practice level and the broader goals of their Board. Medicines management teams play a vital role as conduits between a Board's corporate aims and supporting the delivery of care. This may be done through discussion and encouragement or on a more formal basis, linking prescribing actions to key performance indicators and prescribing action plans.

To give an example, NHS Ayrshire and Arran provides practices with a quarterly prescribing performance matrix including data on agreed GMS prescribing actions. This high level summary resource provides a steer to practices. An example can be found in appendix 3. NHS Greater Glasgow and Clyde also provides progress updates, in a significant level of detail. This amounts to a robust analysis of practice and focusses on targeted areas for delivery.

In addition to supporting practices, Board medicines management teams engage with local primary care management teams, to ensure a robust process for QoF payments. While this process varies from between Boards, all respondents noted some form of support.

[18] NHS Dumfries and Galloway COPD: Combination inhaler review
[19] NHS Education for Scotland "Scottish Reduction in Antibiotic Prescribing (ScRAP) Programme"

10. Future contractual engagement with prescribers

With the forthcoming changes to the GMS contract, there is clear benefit to ensuring that NHS Scotland continues to develop the established improvement in prescribing practice across the country. Contractual levers have historically formed a cornerstone of Boards' approach to this and the Therapeutics Branch and SPAA should work with any change to the contract to maintain this momentum.

In the rest of the UK, local incentivised improvement schemes on patient safety and spend to save initiatives have become the norm. While such schemes can be successful there is significant value, as demonstrated above, in having consistent contractual tools available to Boards and the ability to focus on key national priorities. While medicines optimisation remains high on the agenda, NHS Scotland should consider the value in ensuring the availability of suitable contractual levers for change, given their proven ability to improve prescribing.

There are a number of additional approaches to improving prescribing in primary care, all of which are currently used to good effect. These include:

- Prescribing support pharmacists and pharmacy technicians
- Clinical support tools
- Local prescribing improvement schemes

The Therapeutics Branch, SPAA and Board medicines management teams will work together in the development of proposals for future contractual engagement. This work will be required to take place alongside the development of the GP contract by colleagues in Scottish Government.

11. Conclusions

This review highlights the achievements delivered through the medicines management domain in the GMS contract. It highlights the significance of contractual levers for improvement and demonstrates a number of key outcomes, related to both quality and efficiency which have been delivered. In addition, it should be noted that these outcomes are consistent with top level NHS strategies, including the *Quality Strategy* and *Prescription for Excellence*. Finally, it is crucial that Boards review this document in conjunction with SPAA and continue to implement the best practice described.

The following are the key learning points:

1. The GMS medicines management domain has been an important tool for Boards and the use of contractual levers is strongly endorsed by the Scottish Prescribing Advisors Association (SPAA). All Boards use the medicines management domain to drive prescribing improvement, aiming at both quality and cost-efficiency. Significant benefits have been delivered in recent years and the evidence base for the value of this approach is substantial.

2. The majority of Boards prepared a bundle of core topics each year, which successfully drive improvement and are made up of local and national priorities.

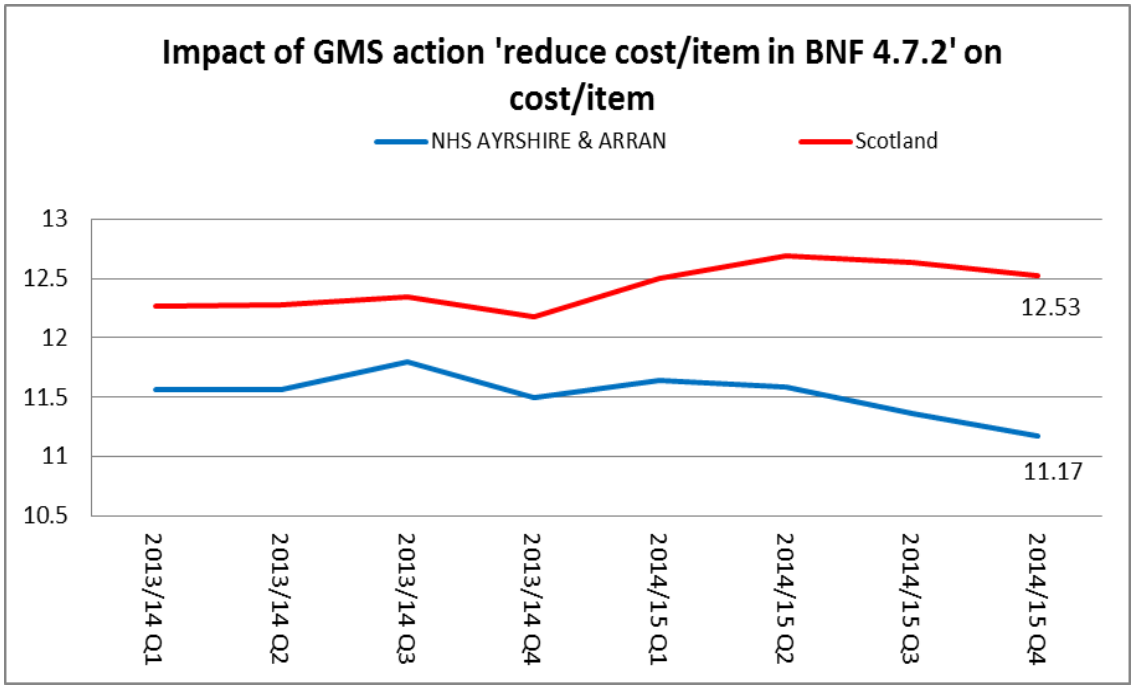
3. Various approaches have been taken to agree the topics across Boards, including engagement with primary care groups, GP subcommittees, locality prescribing groups and individual practices. Medicines management teams work closely with stakeholders during this process.

4. Medicines Management Teams provided a variety of support mechanisms and materials to practices each year. This facilitates improvement and drives local attainment.

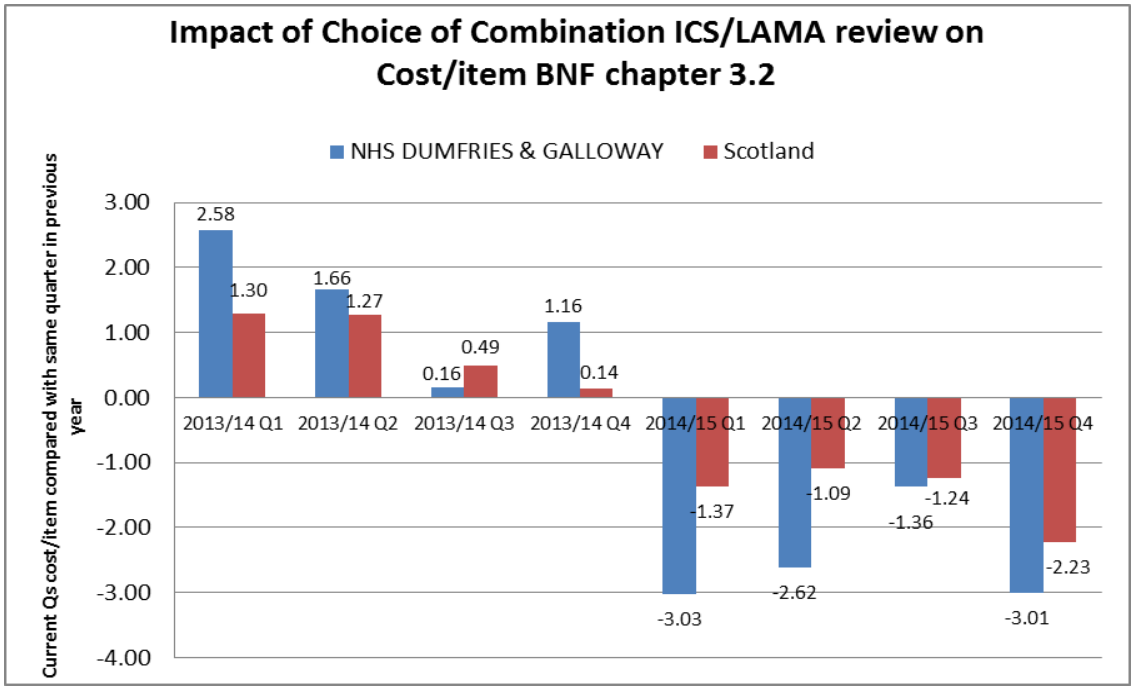
This report represents a starting point for delivery of the next stage of contractual levers in medicines management.

12. Appendix 1 – Examples of success

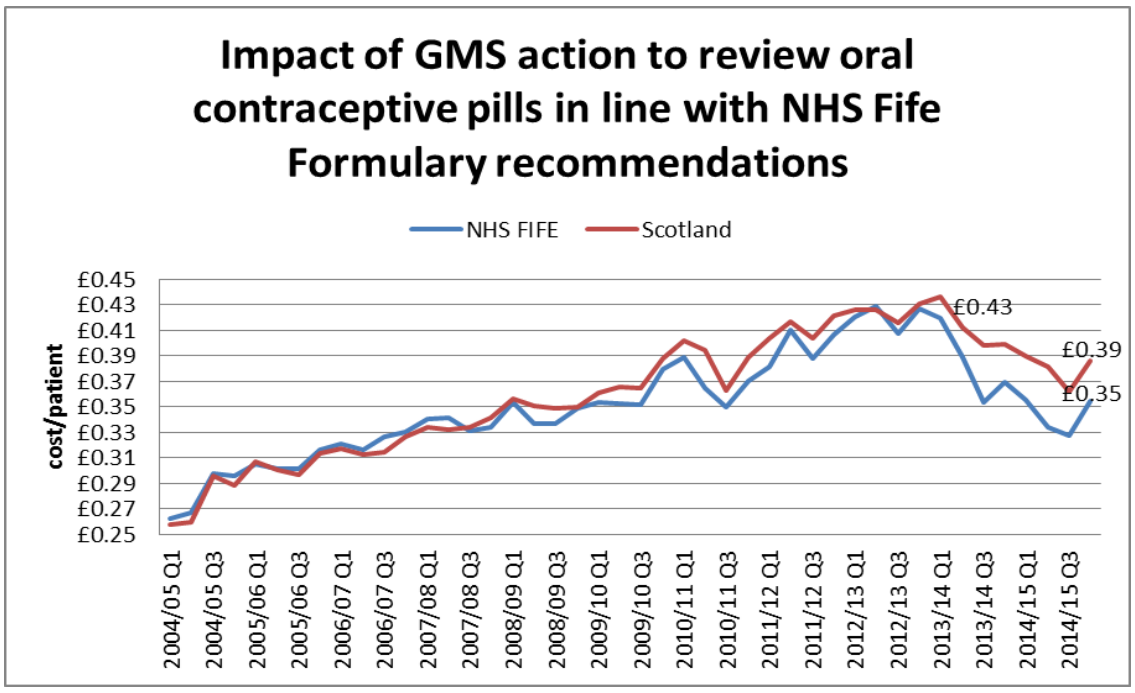
12.1 NHS Ayrshire & Arran



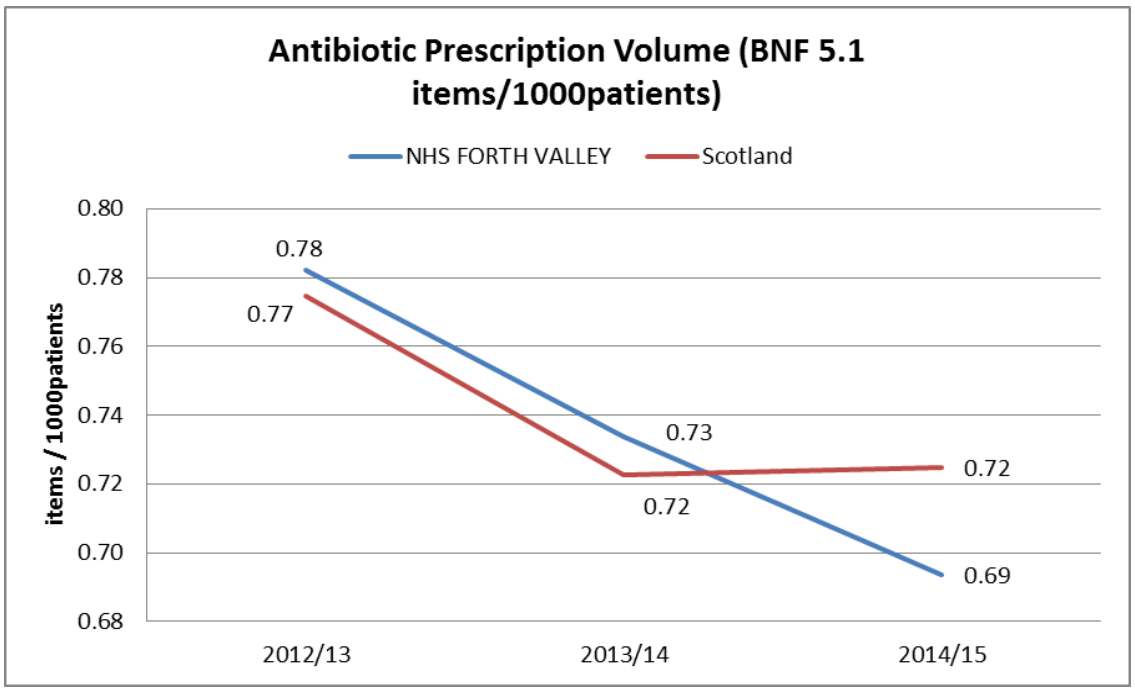
12.2 NHS Dumfries & Galloway



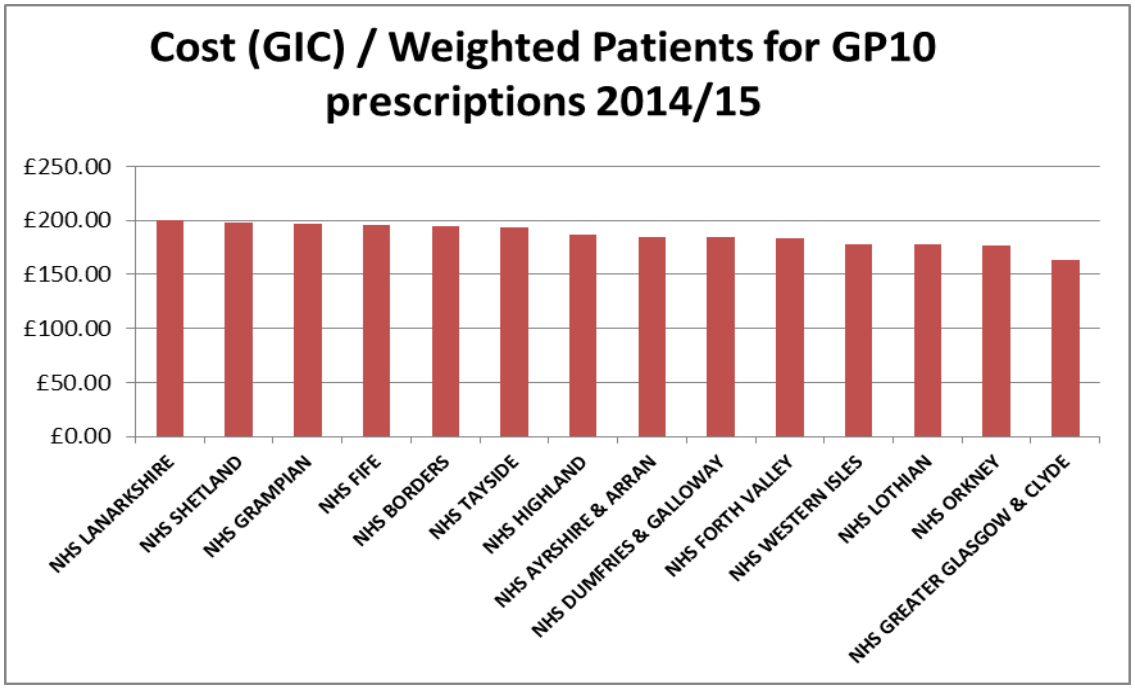
12.3 NHS Fife



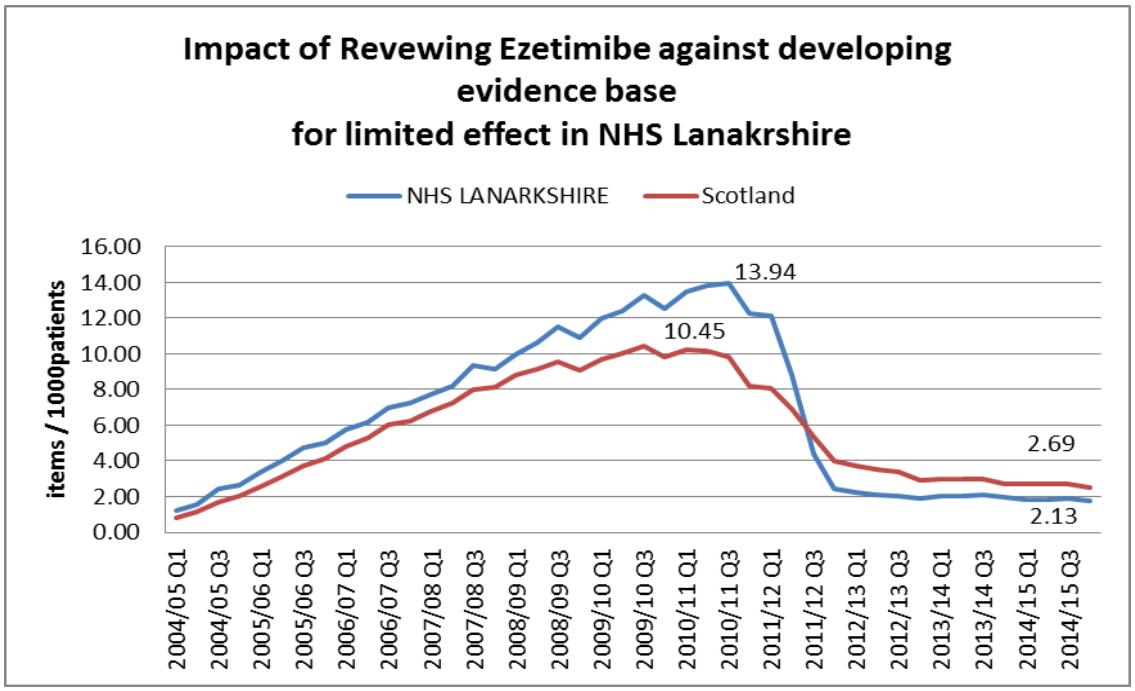
12.4 NHS Forth Valley



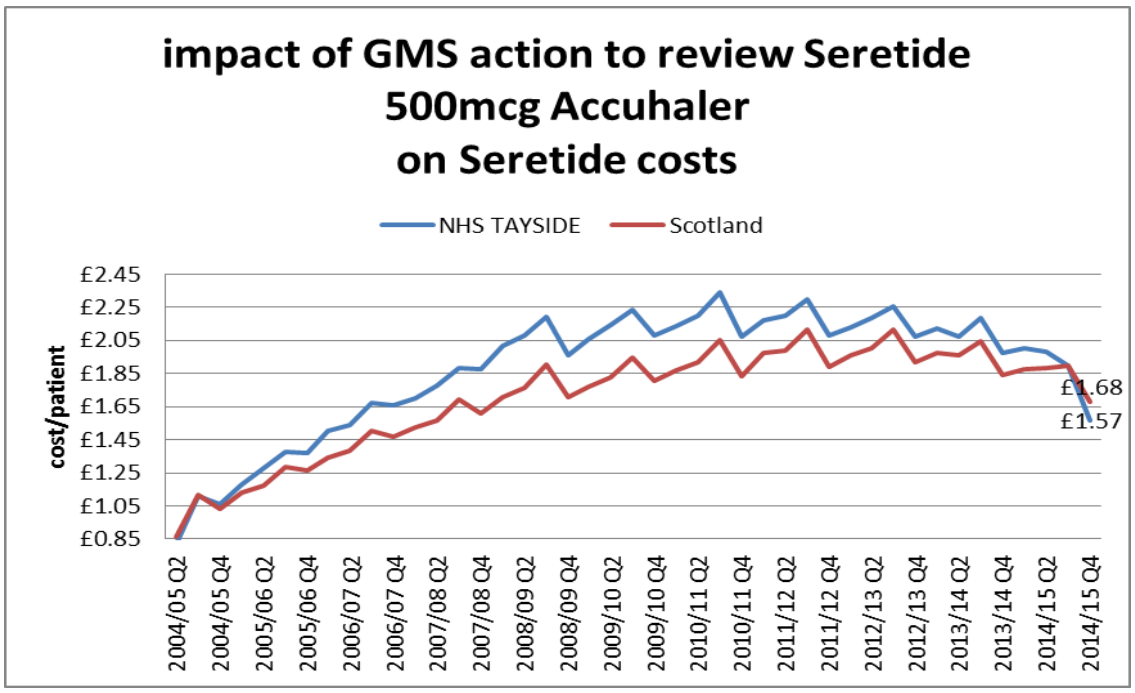
12.5 NHS Greater Glasgow and Clyde



12.6 NHS Lanarkshire



12.7 NHS Tayside



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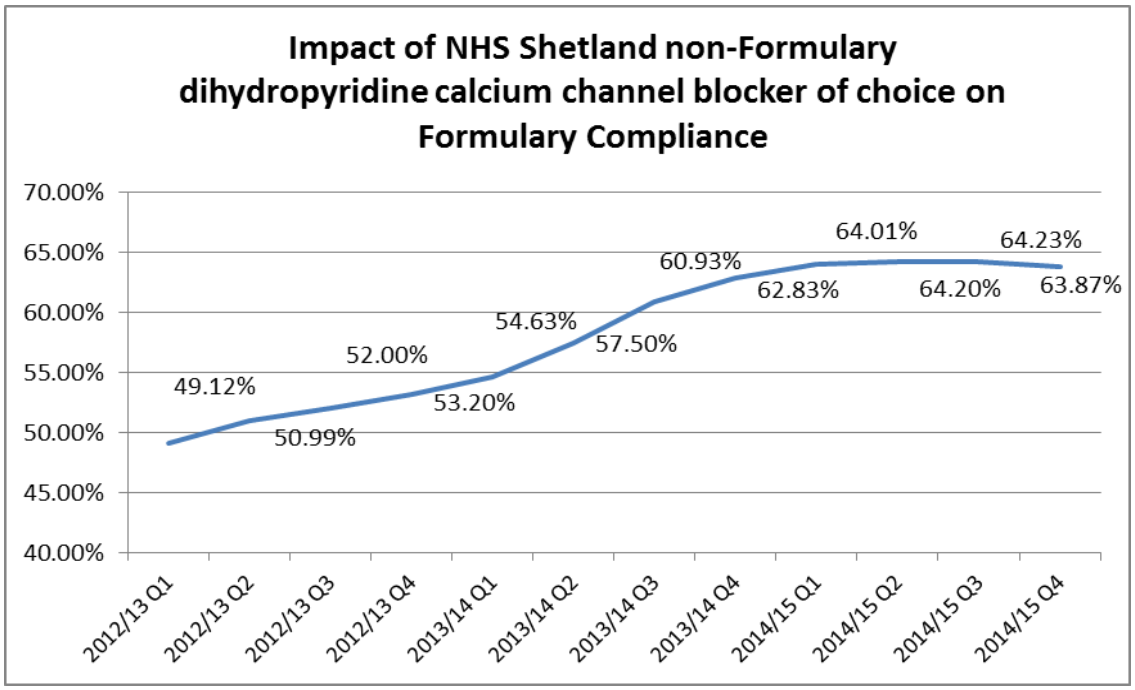
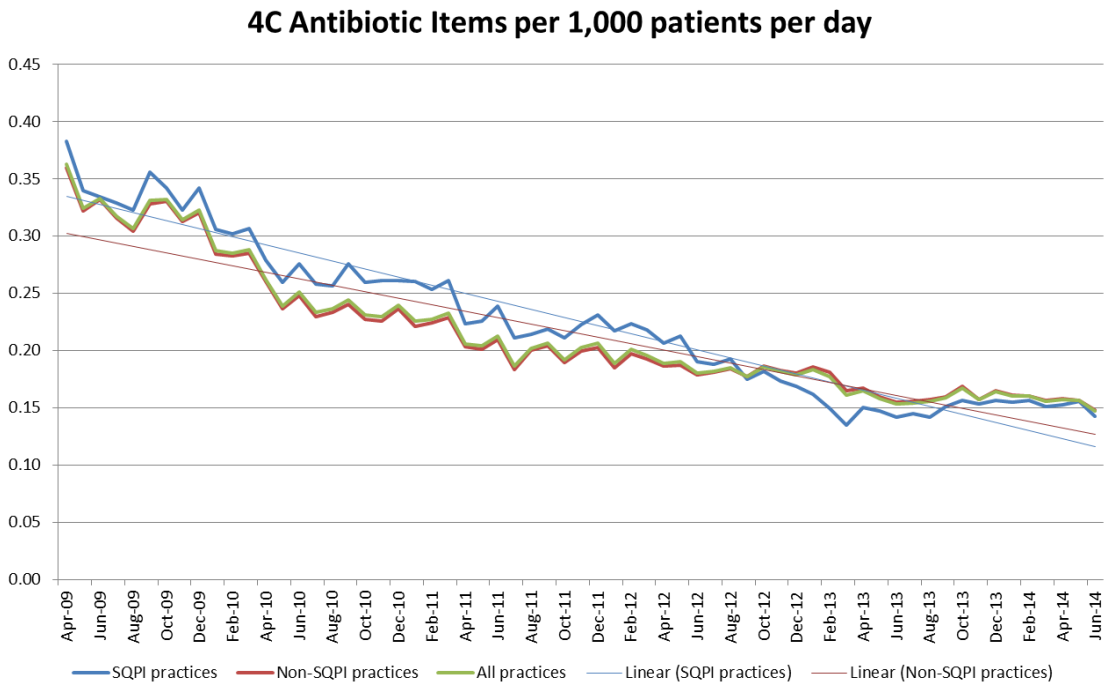
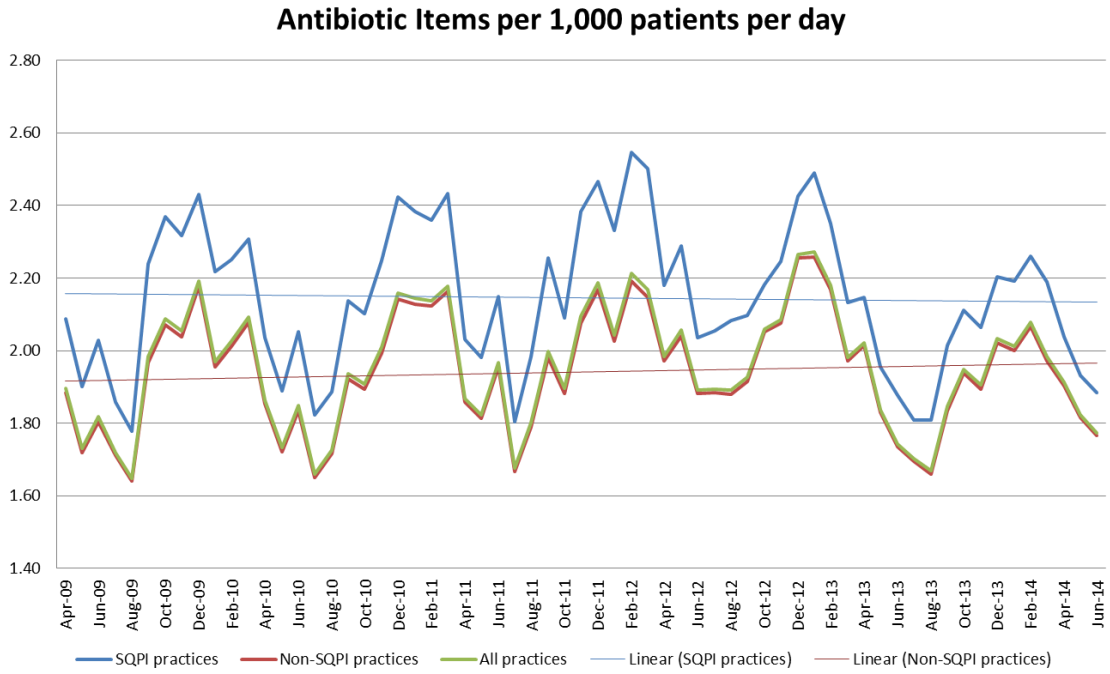
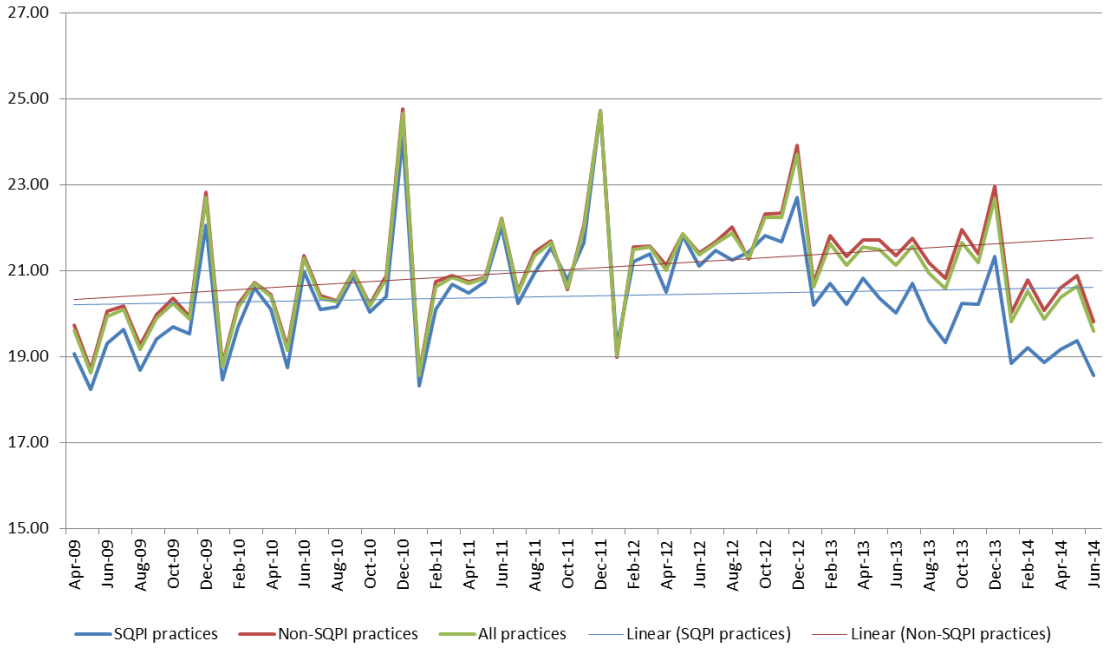


13. Appendix 2 – SQPI Achievement

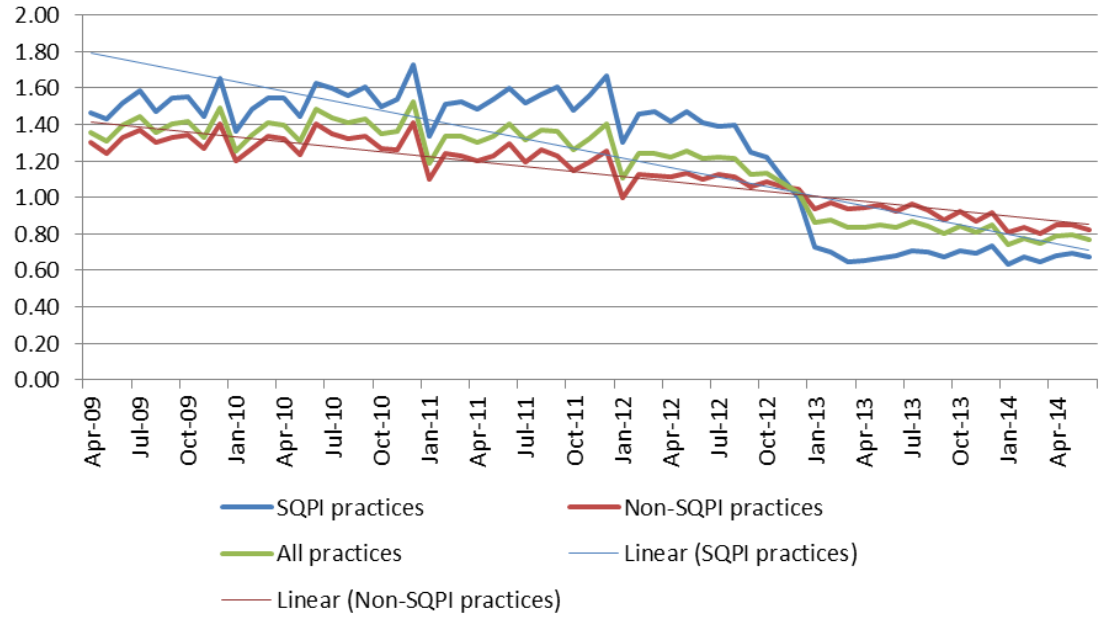




High Strength Steroid Inhalers GIC per 1,000 patients per day

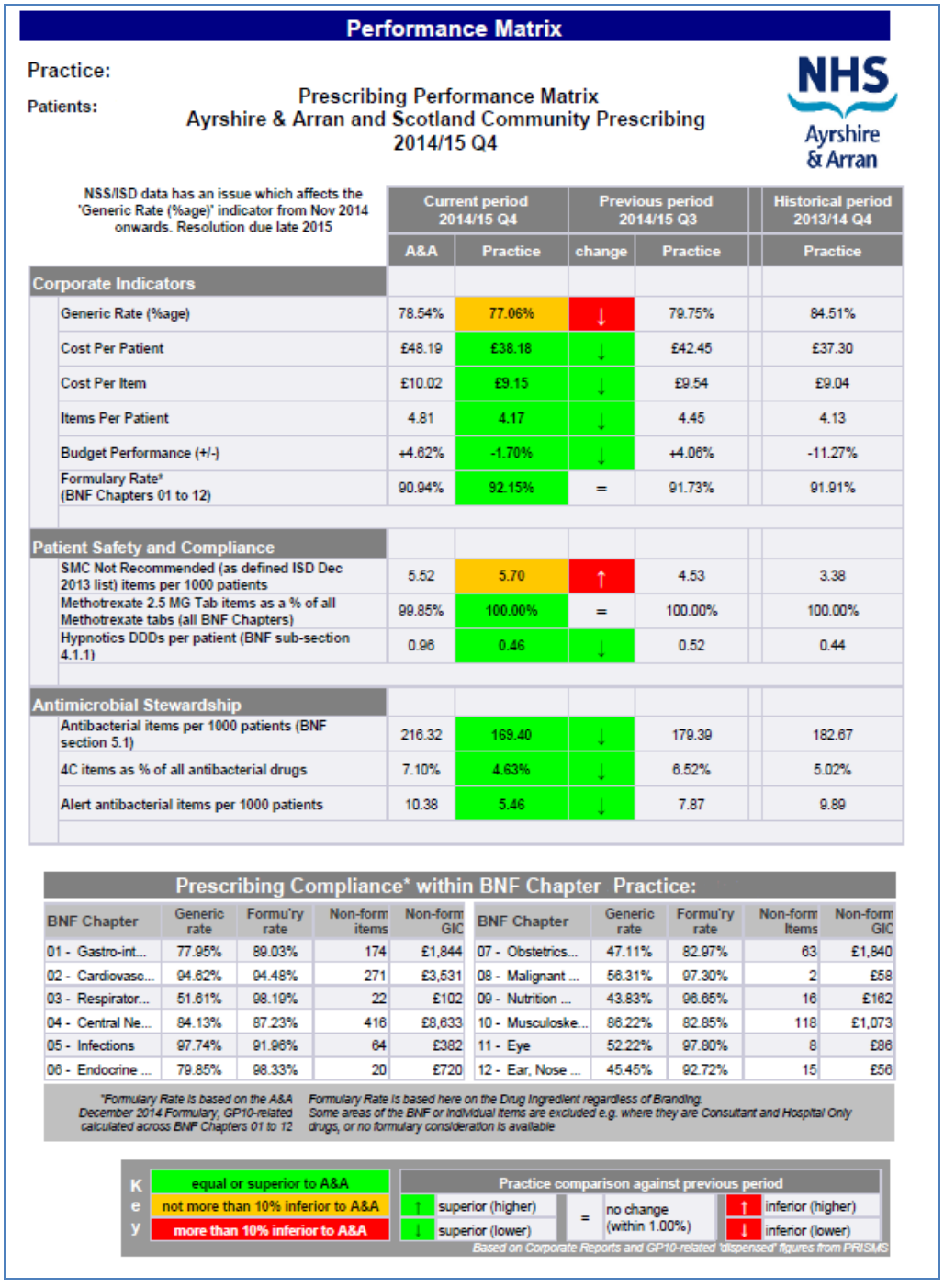


Quinine DDDs per 1,000 patients per day



14. Appendix 3 – NHS Ayrshire and Arran Prescribing Performance Matrix

The screenshots below comes from NHS Ayrshire and Arran's Prescribing Performance Matrix. This matrix covers a Board level picture, while equivalent matrices are available on a bespoke basis to each practice, covering their performance.



Performance Matrix

Practice:

Patients:

Prescribing Performance Matrix
Ayrshire & Arran and Scotland Community Prescribing
2014/15 Q4

NHS Ayrshire & Arran

NSS/ISD data has an issue which affects the 'Generic Rate (%age)' indicator from Nov 2014 onwards. Resolution due late 2015

	Current period 2014/15 Q4		Previous period 2014/15 Q3		Historical period 2013/14 Q4
	A&A	Practice	change	Practice	Practice
Corporate Indicators					
Generic Rate (%age)	78.54%	77.06%	↓	79.75%	84.51%
Cost Per Patient	£48.19	£38.18	↓	£42.45	£37.30
Cost Per Item	£10.02	£9.15	↓	£9.54	£9.04
Items Per Patient	4.81	4.17	↓	4.45	4.13
Budget Performance (+/-)	+4.62%	-1.70%	↓	+4.06%	-11.27%
Formulary Rate* (BNF Chapters 01 to 12)	90.94%	92.15%	=	91.73%	91.91%
Patient Safety and Compliance					
SMC Not Recommended (as defined ISD Dec 2013 list) items per 1000 patients	5.52	5.70	↑	4.53	3.38
Methotrexate 2.5 MG Tab items as a % of all Methotrexate tabs (all BNF Chapters)	99.85%	100.00%	=	100.00%	100.00%
Hypnotics DDDs per patient (BNF sub-section 4.1.1)	0.96	0.46	↓	0.52	0.44
Antimicrobial Stewardship					
Antibacterial items per 1000 patients (BNF section 5.1)	216.32	169.40	↓	179.39	182.67
4C items as % of all antibacterial drugs	7.10%	4.63%	↓	6.52%	5.02%
Alert antibacterial items per 1000 patients	10.38	5.46	↓	7.87	9.89

Prescribing Compliance* within BNF Chapter Practice:

BNF Chapter	Generic rate	Formu'ry rate	Non-form items	Non-form GIC	BNF Chapter	Generic rate	Formu'ry rate	Non-form Items	Non-form GIC
01 - Gastro-int...	77.95%	89.03%	174	£1,844	07 - Obstetrics...	47.11%	82.97%	63	£1,840
02 - Cardiovasc...	94.62%	94.48%	271	£3,531	08 - Malignant ...	56.31%	97.30%	2	£58
03 - Respirator...	51.61%	98.19%	22	£102	09 - Nutrition ...	43.83%	96.65%	16	£162
04 - Central Ne...	84.13%	87.23%	416	£8,633	10 - Musculoske...	86.22%	82.85%	118	£1,073
05 - Infections	97.74%	91.96%	64	£382	11 - Eye	52.22%	97.80%	8	£86
06 - Endocrine ...	79.85%	98.33%	20	£720	12 - Ear, Nose ...	45.45%	92.72%	15	£56

*Formulary Rate is based on the A&A December 2014 Formulary, GP10-related calculated across BNF Chapters 01 to 12

Formulary Rate is based here on the Drug Ingredient regardless of Branding. Some areas of the BNF or individual items are excluded e.g. where they are Consultant and Hospital Only drugs, or no formulary consideration is available

Key: equal or superior to A&A; not more than 10% inferior to A&A; more than 10% inferior to A&A

Practice comparison against previous period: ↑ superior (higher); ↓ superior (lower); = no change (within 1.00%); ↑ inferior (higher); ↓ inferior (lower)

Based on Corporate Reports and GP10-related 'dispensed' figures from PRISMS

The Scottish Government

Performance Matrix (continued)

Practice: 2014/15 Q4

NHS Ayrshire & Arran

	Current period 2014/15 Q4		Previous period 2014/15 Q3		Historical period 2013/14 Q4
	A&A	Practice	change	Practice	Practice
Prescribing Cost Efficiency					
Opioid analgaesics (non-combination) cost per item (BNF sub-section 4.7.2)	£11.17	£15.53	↑	£13.53	£12.91
Antipsychotic drugs cost per patient (BNF sub-section 4.2.1)	£0.65	£0.25	↓	£0.29	£0.42
Other antidepressant drugs cost per patient (BNF sub-section 4.3.4)	£0.70	£0.55	↓	£0.58	£0.42
Oral ED cost per patient (BNF sub-section 7.4.5 excluding non-oral)	£0.31	£0.29	↓	£0.32	£0.35
Calcipotriol cost per item	£42.56	£48.16	↑	£31.70	£34.90
Respiratory cost per item (BNF chapter 3)	£18.66	£14.86	=	£14.95	£15.06
Hypnotics cost per item (BNF sub-section 4.1.1)	£6.86	£4.14	↓	£4.75	£5.51
Non-opioid analgaesics and compound preps cost per item (BNF sub-section 4.7.1)	£5.62	£5.26	↑	£5.17	£4.88
Blood Glucose Testing Strips cost per patient	£0.74	£0.50	↓	£0.51	£0.57
Drugs for urinary incontinence cost per patient (BNF sub-section 7.4.2)	£0.97	£0.72	↓	£0.86	£0.92
Non-steroidal anti-inflammatory drugs cost per patient (BNF sub-section 10.1.1)	£0.71	£0.41	↑	£0.40	£0.38
Specials and 'dummy' (excluding Flu) cost per patient	£0.36	£0.19	↑	£0.15	£0.18
Ulcer healing drugs cost per patient (BNF section 1.3)	£1.01	£0.78	↓	£0.84	£0.87
Drugs affecting the renin-angiotensin system cost per item (BNF sub-section 2.5.5)	£3.01	£2.88	↓	£3.00	£2.80
Lipid-regulating drugs cost per item (BNF section 2.12)	£4.00	£4.15	↑	£4.08	£4.08
Selective serotonin re-uptake inhibitors cost per patient (BNF sub-section 4.3.3)	£0.55	£0.43	↓	£0.46	£0.51
Pregabalin cost per patient	£1.29	£0.86	↓	£0.88	£0.72
Antidiabetic drugs (excluding insulin) cost per item (BNF 6.1.2)	£12.05	£16.08	↑	£14.49	£11.51

Key		Practice comparison against previous period					
	equal or superior to A&A	↑	superior (higher)	=	no change (within 1.00%)	↑	inferior (higher)
	not more than 10% inferior to A&A	↓	superior (lower)			↓	inferior (lower)
	more than 10% inferior to A&A						

Based on Corporate Reports and GP10-related 'dispensed' figures from PRISMS

15. Appendix 4 – NHS Highland Proton Pump Inhibitors resource

NHS HIGHLAND GMS 2014-15 PROJECT: PROTON PUMP INHIBITORS

Project Aim

The aim of this project is to reduce the risk of *Clostridium difficile* infection (CDI) associated with the use of proton pump inhibitors (PPIs). The project involves reviewing the prescribing of PPIs in patients with simple reflux and/or indigestion with the aim of switching to ranitidine where appropriate.

This project is adapted from one which was available in 2012/13 and the protocol has been updated from the one available in 2013/14. This update includes a new section on advice to support manageable and effective implementation of this project; all other parts of the protocol remain the same.

Project Rationale

PPIs are among the most commonly prescribed medicines in primary care. There is marked variation in prescribing between individual GP practices.

A Pink One article from 2010, reported that PPIs increase the risk of CDI by an estimated 74% with daily use, and that PPI use is associated with a 42% increased risk of CDI recurrence. Within NHS Highland, 54% of patients diagnosed with CDI from April 2009 onwards were found to be taking a PPI at diagnosis. A feature of an increase in cases of CDI in Raigmore Hospital at the beginning of 2012 was the prevalence of prescribing of PPIs. This was highlighted in the Pink One (February - March 2012).

Mounting evidence has led the Food and Drugs Administration (FDA) in the USA to strengthen its warning about the link between PPIs and CDI. It has said that a diagnosis of CDI should be considered for PPI users with diarrhoea that does not improve and that patients should seek immediate advice if they experience watery stool that does not go away, abdominal pain, and fever whilst taking a PPIs. The FDA is instructing that patients should use the lowest dose and shortest duration of PPI therapy appropriate to the condition being treated.

In 2012 the Highland guidelines for managing reflux and indigestion were updated as detailed in the Highland Formulary (HF). Again, this was covered in a Pink One article (October-November 2012). PPIs are no longer recommended as the first line antisecretory medicines for the treatment of reflux and indigestion. Instead, prescribers should first consider using ranitidine. This was followed by an update for the prescribing of antisecretory agents in the HF and Pink One (December 2012 - January 2013).

In addition, long-term PPI use has been associated with increased fracture risk.

Project Objectives and Outcomes

The objective of the project is to review patients with a repeat prescription for a PPI for simple reflux/hearburn and/or indigestion and consider whether a trial of ranitidine and lifestyle measures would be appropriate as an alternative. Some patients would be excluded from this project (see suggested protocol).

This project may best be carried out in two stages because of the volume of prescribing. Some practices may prefer, with the agreement of the Lead Pharmacist, that it should be carried out over two years.

Project Measurements and Reporting

Starting data:

- From PRISMS: total PPI use (expressed as DDDs/1000 weighted patients)
- From practice search: number of patients prescribed a PPI on repeat prescription

Outcome data:

- From PRISMS: total PPI use (expressed as DDDs/1000 weighted patients)
- From practice search: number of patients reviewed
- Number of patients where treatment was changed (PPI stopped, PPI dose reduced or switched to ranitidine) – specify patient numbers for each action.

DDDs (defined daily dose) have been chosen so that both dose reductions (i.e. moving from treatment to maintenance doses) and reducing volume of prescribing will be identified.

Suggested Project Protocol

Step one: Identify patients

1. Run a search for all patients with a current repeat prescription entry for a PPI: omeprazole, lansoprazole, esomeprazole, pantoprazole or rabeprazole (all strengths and formulations, generic and brand names).

To be included in the project, patients must have simple indigestion and/or reflux and/or symptoms predominately of heartburn.

2. Exclude the following patients:

- Reflux/symptoms predominately of heartburn with progressive dysphagia, anaemia, unintentional weight loss, persistent vomiting, or persistent reflux symptoms for 10 years or more.

- Patients whose reamin symptomatic following a trial of ranitidine 150 mg twice daily or 300 mg at night.
- Indigestion with epigastric mass, progressive dysphagia, unintentional weight loss, persistent vomiting, recent onset of progressive symptoms, melaena or haematemesis.
- Patients prescribed NSAIDs; in combination with low dose aspirin, warfarin, oral steroids and/or a past history of peptic ulcer disease and/or intermittent dyspepsia.
- Patients co-prescribed a single antiplatelet and assessed as high risk of a GI bleed.
- Patients co-prescribed a single antiplatelet who have developed dyspepsia whilst taking ranitidine.
- Patients co-prescribed dual antiplatelets and at risk of GI bleeding due to age or co-morbidity.
- Ranitidine contra-indicated (hypersensitivity to any ingredient) or interacts with concurrent medication e.g. Ulipristal.

Note: the following patients are considered to be at a higher risk of GI complications; history of gastroduodenal ulcer, GI bleeding or gastroduodenal perforation, concomitant use of medications that increase the risk of GI bleeds, older age with serious co-morbidities e.g. cardiovascular disease, hepatic or renal impairment, diabetes, hypertension.

Step two: Review patients

The aim is to review each patient according to the above inclusion/exclusion criteria with a view to stepping down PPI dose/frequency of use or to switch to ranitidine if appropriate. For each patient to consider:

- Does the patient have simple indigestion and/or reflux and/or symptoms predominately of heartburn? Should the patient be prescribed a PPI according to the new NHS Highland guidelines?
- Have lifestyle factors (poor diet, caffeine, reclining after meals, NSAID use, alcohol consumption, smoking, overweight) that may contribute to the patients need for an antisecretory medicine been addressed?
- Where a PPI is necessary due to a co-prescribed NSAID, consider whether another intervention could be considered instead e.g. intra-articular corticosteroids for acute gout, lifestyle measures and simple analgesics for osteoarthritis.
- Where patients use PPIs infrequently another approach may be more appropriate e.g. H. Pylori. Test and eradication therapy – see Highland Formulary for treatment algorithms.
- Consider ranitidine 300 mg at night if symptoms are mainly nocturnal.
- Educate patient on effect of withdrawing PPI and symptom management.

Step three: Further and on-going patient review

The aim is to further review patients identified in step two to determine if their therapy can be further stepped down e.g. trial of lifestyle measures alone, H. Pylori. test where appropriate, antacids etc.

See Highland Formulary for treatment algorithms.

Project Implementation

- Implementation details to be agreed with each practice (e.g. invite patient for discussion of a switch to ranitidine and lifestyle advice, send agreed patients a letter advising of a switch to ranitidine and lifestyle advice).
- Supporting PPI information and GP information sheets available (see appendices). Note that patients may find it difficult to stop a PPI because of rebound acid hypersecretion which occurs when a PPI is stopped. Strategies for overcoming this include: stepping down the dose gradually, providing Peptac for symptomatic relief and educating patients that acid levels will soon return to normal.
- Complete the GMS evidence report template with a summary of the results and send a copy to relevant Lead Pharmacist.

Advice to support manageable and effective implementation of this project

- Compile an Excel spreadsheet by extracting data from a Vision/EMIS search of all patients with an active repeat of a PPI and include the following details; Patient name, CHI number, usual and seen by GP, PPI details (name, strength, form, directions), date commenced, date last requested and leave space for details of relevant medical history, concomitant medicines and updates.
- Breakdown the list of patients project into manageable amounts, at all times referring to the inclusion/exclusion criteria, for example:

1. Sort the data in the Excel spreadsheet in order of when a repeat prescription was last requested. Consider inactivating repeats not requested within a set period e.g. 12 months (to be agreed with practice). Update spreadsheet.
2. Inactivate repeats and write to patients (to invite them to come in and see a GP if symptoms return) where they are not requesting a prescription after a shorter period e.g. 4 months (to be agreed with practice). Update spreadsheet.
3. Sort the data in the Excel spreadsheet into age order. Younger patients are less likely to have exclusion criteria and are more likely to be suitable for a switch to ranitidine. Review patients e.g. less than 50 years for their suitability for a switch to rantitidine. If appropriate switch to ranitidine and write to inform the patient of this change. Update spreadsheet.
4. When reviewing patients look for patients who were prescribed a NSAID which has subsequently stopped but were also prescribed a prophylactic PPI which has continued inappropriately.
5. Consider focusing on patients prescribed prophylactic PPIs with NSAIDs and check whether this is appropriate according to NHSH guidance.
6. For older patients with relevant indications for a PPI, consider a reduced dose.
7. Consider focusing on patients taking high dose PPIs e.g. Lansoprazole 30 mg bd or Omeprazole 40 mg daily where stepping down might have been overlooked.

References

1. NHS Highland. *The Pink One*. Number 88 (October-November 2010).
2. NHS Highland, *The Pink One*. Number 96 (February-March 2012)
3. Scottish Antimicrobial Prescribing Group. *Briefing paper: proton pump inhibitors and Clostridium difficile infection.* June 2010.
4. FDA Drug Safety Communication: Clostridium difficile-associated diarrhoea can be associated with stomach acid drugs known as proton pump inhibitors (PPIs). Available at http://www.fda.gov/Drugs/DrugSafety/ucm290510.htm [accessed 26th March 2012].
5. NHS Highland. *The Pink One*. Number 100 (October-November 2012).
6. NHS Highland. *The Highland Formulary accessed via intranet on 7th January 2013*.
7. NHS Highland, The *Pink One*. Number 101 (December 2012-January 2013)
8. Health Protection Scotland. Section on website about *Clostridium difficile* infection. Available at: http://www.hps.scot.nhs.uk/haiic/sshaip/clostridiumdifficile.aspx [accessed 26th March 2012].

Protocol prepared February 2013 and updated March 2014

Medicines for indigestion, heartburn and stomach ulcers (Proton Pump Inhibitors)

Proton pump inhibitors (PPIs) are a group of medicines used to treat indigestion, heartburn and stomach ulcers.

What are PPIs?

PPIs are usually capsules or tablets. Examples include: omeprazole (Losec), lansoprazole (Zoton), rabeprazole (Pariet), esomeprazole (Nexium) and pantoprazole (Protium). They reduce the amount of acid made by the stomach. This allows any ulcers or inflammation to heal, which makes symptoms like indigestion and heartburn disappear.

Why does the stomach need acid?

Stomach acid is needed for food to be digested and to kill any bacteria in food.

How long does it take for a PPI to work?

PPIs usually take between one and two months to work. It takes this time to allow your stomach to heal. After two months, most ulcers and inflamed areas are healed.

What happens if a PPI is taken for longer than two months?

Taking a PPI for longer than two months increases your risk of getting the infection *Clostridium difficile* (sometimes referred to as *C diff*). It is thought this is because the reduced level of acid in the stomach caused by the PPI makes bacteria more likely to survive. Long-term use of PPIs has also been linked with an increased risk of osteoporosis and bone fractures, increased risk of pneumonia, and interference with vitamin B_{12} absorption.

What happens when a PPI is stopped?

PPIs must be stopped gradually to allow the stomach to re-adjust its acid production. If they are stopped too quickly, you may get symptoms related to over-production of acid.

How should a PPI be stopped?

Your GP will advise you how your PPI should be stopped. This is likely to be in 4 stages:If you are on a high dose (more than 20mg) you will reduce to a lower dose for one month. This will be reduced again until you are taking the lowest dose of your PPI.

1. You should then take the low dose PPI on alternate days for one month. If you have any indigestion or heartburn on the non-medicine days, your GP will give you Peptac. Peptac is an antacid: it neutralises the acid but doesn't interfere with acid production.
2. You should then reduce the dose again to take the PPI once or twice a week for one month, again using Peptac if needed.
3. Finally, you should stop the PPI. Any symptoms of indigestion or heartburn should clear up within two weeks of stopping the PPI as the level of stomach acid returns to normal. If you still have symptoms after three weeks, consult your doctor.

Alternatively, some patients may have their PPI prescription changed to ranitidine, a medicine that also reduces acid in the stomach but does not have the same side effects as PPIs.

What else should I do to avoid indigestion and heartburn?

Indigestion and heartburn are reduced by: stopping smoking, eating in moderation, avoiding rich and fatty foods, cutting down on alcohol and caffeine, and avoiding being overweight. Using an extra pillow at night can relieve symptoms.

Leaflet produced by North Highland CHP Prescribing Support Team (part of NHS Highland)
Date of production: July 2008, updated May 2014, to be reviewed May 2016