General Practice Prescribing Committee

Annual Report for Prescribing Budget Setting Recommendations in 2014 - 2015

February 2014
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1 Executive Summary

1.1 Introduction

The NHS Lothian General Practice Prescribing Committee (GPPC) has compiled this report to aid and inform the allocation of the primary care prescribing budgets between general practices for the financial year 2014/15. Recommendations are based on the use of the Lothian Prescribing Budget Setting Formula (LPBSF), which has been reviewed and updated by Information Services Scotland (ISD) using data available in December 2013.

The Prescribing Budget Setting Group, developed this model and the formula over many years and has examined a very wide range of other variables which may have an influence over prescribing costs, but have been unable to find any other which can explain the variation in prescribing. This Group has not met over the last 2 years as it was felt that examining these issues again within the constraints of the available time would give little if any additional benefit.

1.2 Key Points

- The excellent prescribing record in Lothian continues to demonstrate quality and cost-effective prescribing. Lothian continues to have the lowest cost per patient per annum in Scotland
- GP willingness to engage with the Lothian Joint Formulary (LJF) is central to maintaining this position
- GP willingness to engage with and adhere to the Prescribing Indicators (PIs) continues to improve quality and cost-effective prescribing
- 97% of the variation in prescribing costs between general practices can be explained using the LPBSF model
- Adoption of the LPBSF model to determine full allocation of the prescribing budget would result in a transfer of resource to Edinburgh CHP from the other CHPs in Lothian.

1.3 Key Recommendations

- The budgets allocated to CH(C)Ps and practices should give these organisations a realistic opportunity to meet them
- The process for prescribing budget allocation between general practices should be transparent and understandable
- That the overall prescribing budget is recommended by the Medicines Management Team (MMT) Prescribing Pressures Report¹ and Primary Care Finance
- That the Prescribing Forum adopt 100% of the LPBSF model for budget allocation and not historic spend
- That the Prescribing Forum consider a risk sharing arrangement between CH(C)Ps.
2 The NHS Lothian Prescribing Budget Setting Formula

The LPBSF model for allocation of the prescribing budget between general practices has been developed through collaboration between PBSG and ISD. The figures are set out in Appendix 1 (Potential Budget Shares 2014/15) and Appendix 2 (Update of Budget Model 2014/15).

The LPBSF model is shown to account for 97% of the variation in prescribing spend between general practices. The accuracy of the predictive power of the model has been tested using data from 2009/10 and 2010/11, which is summarised in the November 2011 ISD report (Review of the NHS Lothian Prescribing Budget Setting Formula 2012-13)\(^2\). This built on earlier work by Duncan Buchanan, ISD (2008).

The LPBSF includes three elements to explain prescribing cost variation:

- Practice Population (60% of variation)
- Age-sex Register (23% of variation)
- Lothian Prescribing Budget Setting Formula (14% of variation)

The remaining 3% of variation cannot be explained by the current model.

The LPBSF focuses on the 17% of variation between general practices which cannot be explained by practice population or the age-sex register. The formula can explain 84.1% of this ‘additional’ variation and uses:

- The Standardised Long-Term Illness Rate (SIR) (based on census data)
- The QOF Composite Index (based on prevalence across the disease registers)

PI achievement is used in the prediction model, to ensure the other variables are calibrated correctly, and to ensure the effect of QOF prevalence is not underestimated. It is not however used in the LPBSF.

This year, Ahmed Mahmoud, Senior Information Analyst, Prescribing & Resources Team, ISD, updated the model and re-calculated the figures from the PBSG 2013/14 report for 2014/15 (Update of Budget Model 2014/15, Appendix 2), and presented these at the GPPC meeting in February 2014.

The key points were:

- The model had been updated and found to give a similar match between actual and predicted spend
- The model gives an 84% ‘fit’ which is extremely good and much better than using NRAC
- A majority of practice budgets in 2014/15 should be implemented with the 100% weighted model and the remainder received an adjusted budget. It was felt that the 100% model served as a good level for benchmarking purposes
- The model was accepted by the GPPC and recommended to the Prescribing Forum.
3 The Contingency Fund

The contingency fund covers drugs that are initiated in secondary care supported by shared care protocols (SCPs) and shared care agreements (SCAs), and prescribed in primary care. Historically in Lothian these have been called shared care protocols but in future will be called shared care agreements in line with the new NHS Lothian Policy for the Shared Care of Medicines. At the beginning of the financial year expenditure on all contingency fund drugs in the previous year is identified in each practice’s prescribing budget. Expenditure on these drugs is monitored throughout the year. If a practice’s expenditure on a drug exceeds the previous year’s costs then the practice budget is reimbursed the difference. If its expenditure on a drug is less than the previous year’s, costs are recovered from the practice’s prescribing budget.

In exceptional cases where a drug does not appear on the list but the cost of prescribing is high (e.g. a standard drug being prescribed in very high doses), an application to the contingency fund can be made.

Criteria for eligibility for contingency funding of expensive medicines:

1. Contingency funding is not available for the use of any medicines which have not been assessed and approved for use by the Lothian Formulary Committee. These are detailed in the Lothian Joint Formulary website at [www.ljf.scot.nhs.uk](http://www.ljf.scot.nhs.uk)

2. Medicines that are prescribed following approval of an Individual Patient Treatment Request (IPTR) application will not be routinely funded through contingency fund application. [Please refer to ‘The Individual Patient Treatment Request (IPTR) Policy and Procedures’, NHS Lothian’s Policy and Procedures for the Use of Medicines Not Recommended by the Scottish Medicines Consortium, which states that “The relevant CMT Director of Operations or CH(C)P Clinical Director will be responsible for review and sign-off of each IPTR application prior to submission to the IPTR Panel. This signature will be taken to mean that the CMT/CH(C)P accept any associated cost of the treatment requested if the application is approved.”]

3. Contingency funding is only available in exceptional cases where a drug does not appear on the list under the standard contingency fund arrangements (i.e. SCPs/SCAs), but where the cost of prescribing is high (e.g. as a result of the drug being prescribed in very high doses).

4. Contingency funding is only available for any prescription for any single drug where the single drug cost per patient per annum (pro rata) is ≥ £7,000.

5. If contingency funding is approved, an uplift will be added to the practice’s allocated budget for that [financial] year of prescribing only. Resubmission is required on an annual basis, if applicable.

6. Practice budgets will be adjusted quarterly to reflect any approved contingency applications.

MMT will consider each application in line with the criteria agreed as part of the budget setting process.
Recommendations

- SCP/SCA drugs and their reimbursement should continue as present
- General practice’s budgets should be uplifted for expensive drugs
- The contingency fund should remain at least at the current level of £1,500,000: £1.5m plus flu vaccinations (approximately £0.8m).

4 Practice Prescribing Budgets

A practice prescribing budget has two components: expenditure on contingency fund drugs and the core GP prescribing budget comprising drugs that are common to all general practices. GPs have greater control over the prescribing of the latter.

4.1 Baseline setting

The practice prescribing budgets are allocated as follows:

1. Expenditure on contingency fund drugs is excluded from the baseline budget.
2. The remaining core prescribing funds are allocated according to the practice share of the LPBSF model.
3. Practice budgets will be adjusted quarterly in response to any list size and SCP/SCA changes.

4.2 Issuing prescribing budgets

For 2014/15 prescribing budgets will be set using figures based on April to February 2014 information and extrapolated to 12 months. This will allow the prescribing budgets to be set at the beginning of the financial year. It is hoped that if the overall resource can be determined that the practice budgets are distributed as soon as the relevant information becomes available. This would allow practices to see the impact of changes and determine strategies with CH(C)Ps for forthcoming year well in advance of first budgetary information for 2014/15 year, i.e. the April 2014 information received late June 2014. These budgets will be reviewed during the year for list size and SCPs.

Recommendations

- Practice prescribing budgets will continue to be split into two components (contingency fund drugs and the core GP prescribing budget)
- Prescribing budgets for 2014/15 will be set using April 2013 to February 2014 figures
- The GPPC recommends that practice budget letters go out as soon as the relevant information becomes available.

5 Prescribing Indicators (PIs)

5.1 Lothian PIs

PIs are used in most Scottish Health Board areas. They were extensively used by Audit Scotland in its 2013 report on GP prescribing. A previous survey of Lothian GPs had shown that over two thirds of Lothian GP practices placed a high value on attaining PIs. It has previously been shown that for each PI achieved there is potentially on average a 1.6% drop in prescribing spend.
Reference has already been made in the introduction to the quality and cost-effectiveness of Lothian’s prescribing. The GPPC agrees with PBSG’s previous beliefs that the PIs are a measure of both quality and cost-effective prescribing.

**PI achievement**

The GPPC would like to highlight that high achievement across the PIs used in Lothian is associated with lower prescribing costs and would strongly urge the CH(C)Ps to give financial incentives for PI achievement.

The PI Special Interest Group (SIG), chaired by Maureen Reid, PCP, gives all PCPs and CH(C)P Prescribing Leads the opportunity to contribute to the review of the PIs. The PIs for 2014/15 are detailed in the PI Templates in Appendix 3. We have continued to describe the PIs in terms of quality, cost-effectiveness and compliance with the LJF and each PI is clearly labelled with one or more of these attributes in Appendix 4.

5.2 Incentive Payments

It was agreed by CH(C)Ps that the generic prescribing PI would no longer be a gateway to the Incentive Scheme and it is now contained in the overall basket of PIs.

In 2014/15 PI attainment is the only measure of prescribing where PBSG makes a recommendation to award incentive payments.

**General Practice Prescribing Intervention Project (GPPIP)**

Participation in other CH(C)P prescribing projects may be a qualifying gateway to PI incentive payment. Incentive Payments were divided into two phases.

For phase one, practices are invited to participate meaningfully in the local CH(C)P prescribing intervention projects (PIP). These projects support implementation of the NHS Lothian Prescribing Action Plan to deliver efficiency and productivity targets such as local reinvestment programme targets set against the prescribing budget.

The PIPs promote quality, cost-effective prescribing and maximise Lothian Joint Formulary (LJF) adherence. Practices are reimbursed for the administrative cost associated with identifying, reviewing and changing medication to a more cost effective LJF choice. Practices must achieve phase one to qualify for phase two.

Phase two is based on NHS Lothian PI attainment in quarter three as per GPPC recommendation that PIs are incentivised.

Again, the GPPC is keen to emphasise that high achievement across the PIs used in Lothian is associated with lower prescribing costs.

5.3 Summary of changes to the PIs

The main points to note are:
- Eight of the PIs remain unchanged (total antibiotics, fluoroquinolones, cephalosporins, effervescent paracetamol formulations, esomeprazole, ezetimibe, Fostair® and rosuvastatin)
- No new PIs have been added
- the measure for generic prescribing has been changed to exclude oral contraceptives from the measure and the target set at the Audit Scotland recommended optimum of 80%
- The modification of the co-amoxiclav target and amlodipine target
• The introduction of an optional 5% reduction target against practice baseline in the PPI measure
• The PIs are measured over a 3-month time period except the four antibiotic PIs which are measured over a 12 month time period as noted below

**Proposed 2014-15 PIs**

1. **GENERIC PRESCRIBING (Revised Measure and Target)** Generic prescribing rate (excluding oral contraceptives) ≥ 80%
2. **TOTAL ANTIBIOTICS** Items per 1000 patients per day ≤ 2 over preceding 12 months
3. **CO-AMOXICLAV (Revised Target)** Items per 1000 patients per day ≤ 0.10 over preceding 12 months
4. **FLUOROQUINOLONES** Items per 1000 patients per day ≤ 0.08 over preceding 12 months
5. **CEPHALOSPORINS** Items per 1000 patients per day ≤ 0.10 over preceding 12 months
6. **EFFERVESCENT/SOLUBLE PARACETAMOL AND PARACETAMOL COMBINATIONS** Total number of items of paracetamol and paracetamol combinations prescribed as effervescent/soluble as a percentage of all paracetamol combination tablets and capsules ≤ 5%
7. **ESOMEPRAZOLE** Total number of items of esomeprazole ≤ 4% of esomeprazole and LJF recommended PPIs
8. **PROTON PUMP INHIBITORS (PPIs) (Additional Target)** PPIs DDDs per 1000 patients per day ≤ 105 OR 5% reduction target against practice baseline at Q3 2013/14
9. **AMLODIPINE (Revised Target)** Total number of items of amlodipine ≥ 70% of all prescriptions for dihydropyridine calcium channel blockers
10. **EZETIMIBE** Ezetimibe DDDs (including the combination ezetimibe & simvastatin) ≤ 3.25% as a percentage of all lipid lowering drugs
11. **FOSTAIR®** Total quantity of Fostair® inhalers ≥ 15% of total quantity of inhalers of Seretide® MDI 125 and 250; Symbicort® 100/6 and 200/6
12. **ROSUVASTATIN** Rosuvastatin DDDs ≤ 5% as a percentage of all statins

**Recommendations**

- Incentive payments should be made available for PI achievement from each CH(C)Ps’ incentive allocation budget
- The GPPC only makes recommendation on incentive payments being based on PI performance
- CH(C)Ps may decide to set their own financial incentives in addition to PI performance
- The PBSG incentives and CHP incentives should be clearly identified and differentiated in the CH(C)P Prescribing Action Plan.

**6 Reporting pathway**

This report is supported by the GPPC and will subsequently be considered by the CH(C)P Prescribing Forum.
**References**


**Acknowledgements**

We would like to thank NHS Lothian for supporting the work of GPPC. The committee wishes to acknowledge the support of the Primary Care Pharmacists (PCPs). The committee would like to thank the PI SIG, chaired by Maureen Reid, PCP.

The group wishes to acknowledge the work undertaken by Ahmed Mahmoud, Senior Information Analyst, Prescribing & Resources Team, National Information & Intelligence Services (ISD), who re-worked the figures and the modelling of the PBSG 2013-14 Report for 2014-15, and presented these at the GPPC meeting in February 2014.

The group wishes to acknowledge contributions made by Mark Hunter, Head of PCCO Finance and Zena Trendell, Prescribing Accountant Analyst.
Members of GPPC

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Mr Mark Hunter, Head of Finance, PCCO
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Dr Richard Williams, GP Sub-Committee Representative
Ms Anne Young, PCP, North East Edinburgh LHP (Professional Secretary)
Vacant, GP, East Lothian CHP
Vacant, GP, North West Edinburgh LHP

Glossary of acronyms

CHP - Community Health Partnership
CHCP - Community Health Care Partnership
GPPIP - General Practice Prescribing Intervention Project
GPPC - General Practice Prescribing Committee
LHPs - Local Healthcare Partnerships
LJF - Lothian Joint Formulary
LPBSF - Lothian Prescribing Setting Formula
MMT - Medicines Management Team
PBSG - Prescribing Budget Setting Group
PCPs - Primary Care Pharmacists
PF - Prescribing Forum
PIs - Prescribing Indicators
PIPs - Prescribing Intervention Projects
PPIs - Proton Pump Inhibitors
QOF - Quality Outcomes Framework of the nGMS contract
SCPs - Shared Care Protocols
SCAs - Shared Care Agreements
SIMD - Scottish Indices of Multiple Deprivation
SIR - Standardised Illness Ratio
APPENDIX 1

Potential Budget Shares in 2014/15

These Model Figures have not taken into consideration SCP/SCA

Previous Financial Year 100% Model Shares:

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Budgetary Model using various percentages of historic spend:

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Redistributing the 13/14 allocation according to the new budget shares would:

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Update of Budget Model 2014-15

Summary

It was previously agreed that the update of the NHS Lothian Prescribing Budget Setting formula would be based on last year’s model as the performance of the model was shown to be similar to previous years at practice level.

It was recommended last year that the coefficients in the prediction model were adjusted for the PI composite index, with the index excluded from the final allocation. This would ensure that the effect of QOF prevalence is not underestimated and that the formula does not reward lower PI achievement with higher allocations. The output from the final regression model was as follows:

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\[R^2 = 84.1\%\]

For the recent update, the model coefficients remained the same as last year with only the following main input data changing:

- CHI Populations
- QoF Register Sizes
- Conditions prevalence data
- Scottish Prescribing (Scot-Pus) cost per head
- SIMD Domains, postcode and output areas

Based on the results in table 1 above, the prediction model for the additional needs component of the formula included coefficients for:

- The Standardised Illness Rate (SIR)
- A QOF composite index for Lothian

These coefficients were adjusted for PI achievement in the prediction model, but PI achievement was not included as an input in the allocation formula.

The methodology used for this year’s formula output remained unchanged to previous years. The final formula output produced by ISD has been sent to NHS Lothian to inform the allocations for GP practices.

The following chapter reports on how well the allocation formula predicts the actual costs.

The GPPC would like to acknowledge the assistance of Ahmed Mahmoud, Senior Information Analyst, Prescribing & Resources Team, National Information & Intelligence Services (ISD), who re-worked the figures and the modelling of the PBSG 2013-14 for 2014-15, and presented these at the GPPC meeting in February 2014.

Mr Mahmoud also provided a PBSG formula worksheet, which is available from the MMT.
**Allocation Formula results**

To investigate how well the allocation formula predicts actual costs among Lothian practices, shares were calculated at practice level based on the recommended allocation formula. These shares were then applied to the total 2012-13 GIC expenditure for Lothian, giving predicted costs for each practice, which were then compared to actual practice costs for 2012-13. Figure 1 shows the difference between actual costs and costs predicted by the allocation formula (excluding methadone), aggregated for LHPs:

![Figure 1: Comparison of allocation formulae with actual spend by LHP](image)

In comparison to last year's formula, the recommended formula results in a similar fit between actual and predicted spend across the majority of LHPs.

Figure 2 shows the difference between actual and predicted expenditure by practice, where predicted expenditure is based on the recommended allocation formula applied to the 2012-13 total spend. Practices are ranked within LHPs, from lowest to highest spend, with actual expenditure superimposed. This graphic representation emphasises the overall extent of how well the allocation model predicts actual spend.

As in previous years, the figures behind this chart are available in a separate Excel spreadsheet to accompany this report. This allows LHPs and practices to identify practices where significant variations exist between actual spend and predicted need, and explore possible reasons worthy of further analysis in future projects.
Figure 2: Comparison of actual and predicted practice spends for 2012-13, using the recommended allocation formula.
Figure 3 shows the residuals for each practice against their corresponding value from last year.

**Figure 3: Actual-predicted spend for 2011-12 vs. 2012-13:**

Figure 3 shows that practices that were under-predicted in 2011-12 tended to be under-predicted in 2012-13, although the relative size of under-predicting varies. Similarly those who were over-predicted in 2011-12 tended to be over-predicted in 2012-13. This indicates systematic reasons for over/under-predicting of spend rather than random variations from year to year.
1. Prescribing Indicator – **Generic Prescribing**

**Quality statement:**

For most but not all drugs it is good practice to prescribe drugs generically using their approved international non-
proprietary name (INN).¹

**Cost-effective statement:**

Generic medicines are overall less expensive to the NHS¹

**LJF adherence statement:** n/a

**2013/14 Target agreed:**

Generic rate ≥ 75% per quarter

**Is this a suitable indicator?**

**PROS**

Cost-effective
Audit Scotland SPiGP Report 2013

**CONS**

Pressure only upwards, maximum generic rate is unknown but 80% is thought to be optimal
Practice population characteristics may make this difficult to achieve if appropriate prescribing of branded drugs is high

**Comment:**

The proportion of generic medicines used within the NHS is an indication of efficient prescribing practice¹. Generic
products are generally cheaper than branded equivalents. Increasing the level of generic prescribing is a key
recommendation from the Audit Scotland². Generic prescribing in Scotland has remained fairly constant at around 82%
since 2007/08. In line with most other health boards, NHS Lothian shows a small increase between 2010/11 and
2011/12³. If a generic medicine is granted a licence, the regulatory authority has considered it equally safe and
clinically equivalent to the reference branded medicine when used at the same dose to treat the same condition.
There is little clinical evidence to suggest that interchanging branded and generic medicines causes any adverse
clinical consequences⁴. There are certain circumstances when it is appropriate to prescribe a specific
manufacturer’s product (branded or generic). These include drugs with a narrow therapeutic index; certain
modified- or controlled-release drugs; certain administration devices; multiple ingredient products; ‘biosimilar’
medicines; ensuring adherence to long-term medications, where differences in appearance between
manufacturer’s products might cause confusion and anxiety; avoidance of intolerable product-specific excipients⁴.
The PI measure developed for PRISMS has been revised and updated and also excludes oral contraceptives for
14/15.

**References:**

¹ National Audit Report Prescribing Costs in Primary Care 18th May 2007.
² Key Messages Audit Scotland Prescribing in General Practice in Scotland Jan 2013.
⁴ NPC MeReC Bulletin Generic Prescribing in Primary Care. 2011;21:03

**2014/15 Target proposed:**

Generic rate ≥ 80% (revised measure and target)
- measured over a 3-month period
Prescribing Indicator – Total Antibiotics

Quality statement:

This indicator takes into account the Standing Medical Advisory Committee, Sub-group on Antimicrobial Resistance report “The Path of Least Resistance”1. Reinforces further guidance on reducing antibiotic prescribing from the Scottish Government.2,3,4 The Scottish Antimicrobial Prescribing Group (SAPG) Annual Report 2012-13 on Primary Care PIs highlighted the following points5:

- Total antibiotic prescribing in NHS Scotland has increased by 3.1% in 2012-13
- Reducing unnecessary use of antimicrobials is a key aspect of antimicrobial stewardship in Scotland

A new SAPG quality indicator was introduced in 2013-14 relating to antibiotic use6.

Cost-effective statement: n/a

LJF adherence statement:

Empirical antimicrobial prescribing should follow LJF recommendations.

2013/14 Target agreed:

Items per 1000 patients/day ≤ 2.0 per annum (revised measure and target)

Is this a suitable indicator?

PROS

Encourages prudent prescribing of antibiotics
ScottMARAP
National Therapeutic Indicators

CONS

Appropriate rate of antibiotic prescribing unknown and is dependant upon practice population characteristics.

Comment:

This indicator is one of four indicators that measure certain aspects of antibiotic prescribing. This indicator promotes the prudent use of antibiotics by general practitioners, which follows guidance from the Scottish Executive. The indicator follows national measures for ease of comparison across health board areas.

Implementation of the Scottish Management of Antimicrobial Resistance Action Plan [ScottMARAP] has led to the appointment of a Lothian Antimicrobial Management Team; they will work supportively and collaboratively to promote prudent antimicrobial use across primary and secondary care settings. The four prescribing indicators for antibiotic prescribing support the work of this team. Reducing the unnecessary use of antibiotics is essential to combat the emergence of antibiotic resistant bacteria7.

References:

7 Audit Scotland Prescribing in General Practice in Scotland Jan 2013

2014/15 Target proposed:

Items per 1000 patients/day ≤ 2.0 (unchanged)
- measured over a 12-month period
Prescribing Indicator – Co-amoxiclav

Quality statement:

Co-amoxiclav is best reserved for bacterial infections likely or known to be caused by amoxicillin resistant β-lactamase producing strains. This is usually guided by the results of sensitivity tests or where its use is recommended as a first line choice. Routine use should be discouraged to avoid the development of microbial resistance. Reinforces guidance on reducing antibiotic prescribing from the Scottish Executive.1,2 Use of broad spectrum antibiotics such as co-amoxiclav increases the risk of clostridium difficile infection and MRSA. The Scottish Antimicrobial Prescribing Group (SAPG) Annual Report 2012-13 on Primary Care PIs highlighted the following points:

• Lothian has not reduced use of co-amoxiclav as much as other boards
• Lothian has the highest items of co-amoxiclav per 1000 patients per day of all Scottish Health Boards

Cost-effective statement: n/a

LJF adherence statement:

Co-amoxiclav is only recommended as a first line antibiotic in a small number of less common conditions such as pyelonephritis, Bartholins gland infections and episiotomy wound infections.

2013/14 Target agreed:

Items per 1000 patients/day ≤ 0.12 per annum (unchanged)

Is this a suitable indicator?

PROS

CONS

Audit Scotland SPiGP Report
ScotMARAP
National Therapeutic Indicators

Impact of choosing a less broad spectrum antimicrobial as empirical first line treatment on patient outcomes is unknown

Comment:

In the past this indicator was measured using the ratio of co-amoxiclav to co-amoxiclav and amoxicillin. However, there were examples of practices with very low levels of amoxicillin prescribing not achieving this indicator even though they were prescribing co-amoxiclav appropriately. The indicator is now based on the same measure as national antibiotic prescribing measures as items per 1000 patients/day. Like the previous indicator this is calculated to minimise inappropriate prescribing of antibiotics associated with Clostridium difficile infections.

References:

1 Scottish Antimicrobial Prescribing Group Guidance to optimise antimicrobial use and reduce Clostridium difficile associated disease in Scottish hospitals July 2008


3 Scottish Antimicrobial Prescribing Group (SAPG) Annual Report 2012-13 on Primary Care PIs. October 2013

2014/15 Target proposed:

Items per 1000 patients/day ≤ 0.10 (revised target)
- measured over a 12-month period
Prescribing Indicator – Fluoroquinolones

Quality statement:

Fluoroquinolones are associated with an increased risk of Clostridium difficile.
Fluoroquinolones are normally regarded as second line agents and routine use of broad spectrum should be discouraged to avoid the development of microbial resistance.

Reinforces guidance on reducing antibiotic prescribing from the Scottish Executive\(^1\).\(^2\)
Supports the Scottish Government and the Scottish Antimicrobial Prescribing Group (SAPG) primary care prescribing HAI CDI HEAT target\(^3\).
The Scottish Antimicrobial Prescribing Group (SAPG) Annual Report 2012-13 on Primary Care PIs highlighted the following point:\(^4\):
  - Lothian has the highest use of antibiotics (% of all antibiotics) associated with Clostridium difficile (CDI) compared to all other Boards in Scotland.

Cost-effective statement: n/a

LJF adherence statement:

Ciprofloxacin indications included in LJF are travellers’ diarrhoea, pyelonephritis, male UTI, complicated UTI, pelvic inflammatory disease, epididymo-orchitis, diabetic ulcers and osteomyelitis. They are second line for acute prostatitis and third line for uncomplicated UTI. Treatment of respiratory infection only if proven pseudomonal infection. Ofloxacin indications include pelvic inflammatory disease and tender epididimis.

2013/14 Target agreed:

Items per 1000 patients/day ≤ 0.08 fluoroquinolones per annum (unchanged)

Is this a suitable indicator?

PROS

Audit Scotland SPIGP Report
ScottMARAP
HAI CDI HEAT Target
National Therapeutic Indicators

CONS

Impact of choosing a less broad spectrum antimicrobial as empirical first line treatment on patient outcomes is unknown

Comment:

Quinolone antibiotics are broad-spectrum antibiotics for predominately Gram(-) bacteria. When they were first available to GPs in the UK they were heavily marketed for the treatment of infections common to general practice, such as lower respiratory tract infections. However there are few indications for their use as first-line antibiotics in simple infections and their use should be reserved to ensure microbial resistance is kept to a minimum. This indicator would discourage the excessive use of this class of antibiotics.

References:

1. Scottish Antimicrobial Prescribing Group Guidance to optimise antimicrobial use and reduce Clostridium difficile associated disease in Scottish hospitals July 2008
4. Scottish Antimicrobial Prescribing Group (SAPG) Annual Report 2012-13 on Primary Care PIs, October 2013

2014/15 Target proposed:

Items per 1000 patients/day ≤ 0.08 fluoroquinolones (unchanged)
- measured over a 12-month period
5. Prescribing Indicator – Cephalosporins

Quality statement:

Cephalosporins are associated with an increased risk of Clostridium difficile. The only recognised LJF indication for a cephalosporin is cefalexin as an alternative to amoxicillin to treat UTI in pregnancy.

Reinforces guidance on reducing antibiotic prescribing from the Scottish Government\textsuperscript{1,2}.

The Scottish Antimicrobial Prescribing Group (SAPG) Annual Report 2012-13 on Primary Care PIs highlighted the following points\textsuperscript{3}:

Lothian has the highest use of antibiotics (% of all antibiotics) associated with Clostridium difficile compared to all other Boards in Scotland

Cost-effective statement: n/a

LJF adherence statement:

The only recognised LJF indication for a cephalosporin is cefalexin as an alternative to amoxicillin to treat UTI in pregnancy.

2013/14 Target agreed:

Items per 1000 patients/day ≤ 0.10 per annum (unchanged)

Is this a suitable indicator?

PROS

Audit Scotland SPIGP Report
ScotMARAP
National Therapeutic Indicators

CONS

Impact of choosing a less broad spectrum antimicrobial as empirical first line treatment on patient outcomes is unknown

Comment:

Like the previous indicator for co amoxiclav this is calculated to minimise inappropriate prescribing of antibiotics associated with Clostridium difficile infections.

References:

\textsuperscript{1} Scottish Antimicrobial Prescribing Group Guidance to optimise antimicrobial use and reduce Clostridium difficile associated disease in Scottish hospitals July 2008
http://www.scottishmedicines.org.uk/files/sapg/Guidance_to_Optimise_Antimicrobial_use_and_Reduce_Clostridium_difficile_Associated_disease_in_Scottish_Hospitals.pdf

\textsuperscript{2} The Scottish Management of Antimicrobial Resistance Action Plan [ScotMARAP] 2008

\textsuperscript{3} Scottish Antimicrobial Prescribing Group (SAPG) Annual Report 2012-13 on Primary Care PIs. October 2013

2014/15 Target proposed:

Items per 1000 patients/day ≤ 0.10 (unchanged)
- measured over a 12-month period
Effervescent and soluble paracetamol and paracetamol combinations

Quality statement:

Effervescent or soluble formulations of analgesics are no more effective than the plain versions. There are also concerns that effervescent and soluble tablets contain high amounts of sodium\(^1\). High salt intake is directly linked to increased risk of stroke and cardiovascular disease.\(^2\)

Cost-effective statement:

More cost-effective alternatives are available.

LJF adherence statement:

The LJF does not include effervescent or soluble paracetamol or paracetamol combination preparations. Demonstrates compliance with formulary recommendations.

2013/14 Target agreed:

Total number of items of paracetamol and paracetamol combinations prescribed as effervescent/soluble as a percentage of all paracetamol and paracetamol combinations tablets and capsules ≤ 5% per quarter (new measure and target).

Is this a suitable indicator?

**PROS**
- Encourages use of less expensive preparations
- Encourages generic prescribing
- Audit Scotland SPiGP Report
- Avoiding effervescent tablets reduces sodium intake

**CONS**
- Effervescent preparations might be more suitable for patients with swallowing difficulties

Comment:

The measured items are all the prescribed effervescent or soluble paracetamol and paracetamol combination preparations. The denominator items are all prescriptions for paracetamol and paracetamol combination tablets and capsules. **Paediatric formulations are excluded.** An observational study\(^4\) has shown an association between sodium-containing formulations of effervescent, dispersible and soluble medicines and adverse cardiovascular events. While soluble dosage forms may appear convenient, it is important to be aware of the sodium content of some formulations, prescribing them with caution and only if there are compelling reasons to do so.

References:


2014/15 Target proposed:

Total number of items of paracetamol and paracetamol combinations prescribed as effervescent/soluble as a percentage of all paracetamol and paracetamol combinations tablets and capsules ≤ 5% (unchanged) - measured over a 3-month period
Prescribing Indicator – **Esomeprazole**

**Quality statement:**

No trials have demonstrated a therapeutic advantage of esomeprazole over the other proton pump inhibitors (PPIs) when the treatments are given at equivalent doses.\(^1\)

Esomeprazole is not recommended for use in NHS Scotland for the prevention of gastric and duodenal ulcers associated with NSAID therapy or the healing of gastric ulcers associated with NSAID therapy following assessment by the Scottish Medicines Consortium.\(^2,3\)

**Cost-effective statement:**

Omeprazole is available generically and is substantially less expensive than the generic versions of esomeprazole available. Esomeprazole was granted market authorisation 2 years before the expiry of the patent for omeprazole.

**LJF adherence statement:**

Esomeprazole 40mg daily may be required only on the advice of a GI consultant, for patients with endoscopically proven treatment failure of oesophagitis or those whose next treatment option is surgery. Esomeprazole 20mg should not be prescribed - this is equivalent to omeprazole 40mg.

**2013/14 Target agreed:**

Total number of items of esomeprazole ≤ 4% of esomeprazole and LJF recommended PPIs per quarter (unchanged)

*Is this a suitable indicator?*

<table>
<thead>
<tr>
<th><strong>PROS</strong></th>
<th><strong>CONS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Supports formulary advice</td>
<td>SMC recommend esomeprazole in certain circumstances (e.g. Zollinger-Ellison Syndrome)</td>
</tr>
<tr>
<td>Promotes cost-effective prescribing</td>
<td></td>
</tr>
<tr>
<td>National Therapeutic Indicators</td>
<td></td>
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</table>

**Comment:**

Omeprazole is a racemic mixture of two enantiomers and esomeprazole is the s-entantiomer. Both s- and r-omeprazole are pro-drugs, which are converted in the parietal cell to the active proton pump inhibitor. Unlike the pro-drug the active drug does not have a distinct chiral isomer, so the structural difference between pro-drugs has no bearing on pharmacological action or adverse effects.\(^1\)

**References:**

1. Drug and Therapeutics Bulletin, 2006; 44(10): 73-77

**2014/15 Target proposed:**

Total number of items of esomeprazole ≤ 4% of esomeprazole and LJF recommended PPIs (unchanged) - measured over a 3-month period
Proton Pump Inhibitors (PPIs)

**Quality statement:**

The quantity of proton pump inhibitors prescribed has continued to increase year-on-year whilst lower acquisition cost has held expenditure down. Evidence of potential long-term adverse effects for this class of drugs is increasing including an association with Clostridium difficile, fractures, osteoporosis and increased mortality in the elderly. PPIs should only be used where there is a clear indication and using the lowest effective dose.

**Cost-effective statement:** n/a

**LJF adherence statement:**

In most patients with gastro oesophageal reflux disease a step down or on demand regimen is encouraged to maintain symptom control.

**2013/14 Target agreed:**

PPIs ≤ 105 DDDs per 1000 patients/day per quarter (target changed)

**Is this a suitable indicator?**

**PROS**
- Supports formulary advice
- Supported by Care of the Elderly
- Link to C. difficile infection
- National Therapeutic Indicators

**CONS**
- Use in gastroprotection for high risk patients
- Rebound effects + management of step-down
- WHO Maintenance dose DDDs

**Comment:**

Scottish Antimicrobial Prescribing Group (SAPG) recommends development of strategies to reduce inappropriate prescribing of PPI. Besides increasing the risk of Clostridium difficile infection PPIs use is also associated with an increased rate of spine, lower arm and total fractures and an increase in community and hospital acquired pneumonia.¹ Following a review in 2012 of SIGN 68 Dyspepsia March 2003 this guidance is still considered valid² Drug Safety reported recent epidemiological evidence for an increased risk of fractures with long-term use of PPIs.³ NICE CG17⁴ supports that patients prescribed PPIs should be reviewed at least annually. When it is not possible to stop the PPI then as required low dose with the most cost-effective agent should be prescribed. For patients at high risk of gastro-intestinal complications with an NSAID or antiplatelet a PPI should be considered for gastro protection if treatment with an NSAID or antiplatelet is essential.⁵ The aim is to encourage use of PPIs at the lowest dose and to minimise their inappropriate long-term prescription.⁶

**References:**

1. Health Protection Scotland: Scottish Medicines Consortium; SAPG Briefing Paper: Proton Pump Inhibitors and Clostridium difficile Infection 21st June 2010
2. Dyspepsia SIGN Guideline 68 march 2003
4. NICE CG17 Dyspepsia. August 2004

**2014/15 Target proposed:**

PPIs DDDs ≤ 105 per 1000 patients/day (unchanged) or 5% reduction against practice Q3 baseline (Dec13) (new measure)
- measured over a 3-month period
Prescribing Indicator – **Amlodipine**

**Quality statement:**

In hypertensive patients aged 55 or older or black patients of African or Caribbean family origin of any age, the first choice for initial therapy should be a calcium-channel blocker (CCB) or a thiazide-type diuretic if a CCB is not suitable or tolerated.

**Cost-effective statement:**

There is a difference in cost between generic amlodipine and branded and modified release dihydropyridine CCBs.

**LJF adherence statement:**

Amlodipine is the first-line CCB for the management of hypertension.

**2013/14 Target agreed:**

Total number of items of amlodipine ≥ 65% of all scripts for dihydropyridine calcium channel blockers per quarter (changed).

Is this a suitable indicator?

**PROS**

Supports formulary advice
Promotes cost-effective prescribing

**CONS**

For many years the LJF had recommended nifedipine
MHRA advice on drug interaction with simvastatin

**Comment:**

CCBs are associated with a reduced risk of developing diabetes compared to use of a β-blocker and a thiazide type diuretic. Assuming a 20% baseline risk of developing diabetes over the next 10 years, it has been estimated that the use of a combination of a thiazide diuretic and a β-blocker may lead to an additional four cases of diabetes per 1000 patient-years of treatment compared with alternative antihypertensive treatments. Long-acting CCB appears to be the most effective treatment option to suppress blood pressure variability, which in turn appears to be an independent predictor of cardiovascular disease risk in people with treated hypertension.

**References:**

3. MeReC Bulletin 2006;17(1) part 3

**2014/15 Target proposed:**

Total number of items of amlodipine ≥ 70% of all scripts for dihydropyridine calcium channel blockers (changed target)
- measured over a 3-month period
Prescribing Indicator – **Ezetimibe**

**Quality statement:**

The Lothian Formulary Committee (FC) recommend that ezetimibe should be reserved for patients who are statin intolerant* or when a statin is contraindicated in secondary prevention. Ezetimibe is not recommended in primary prevention. The FC does not recommend the use of ezetimibe in combination with a statin because of the lack of evidence of effect on clinical outcomes. Unlike some statins, ezetimibe is not specifically licensed for primary or secondary prevention of cardiovascular disease.

**Cost-effective statement:**

The cost per month of ezetimibe is £26.31; the cost per month of simvastatin 40mg is £1.39 (Sept 09).

**LJF adherence statement:**

Simvastatin is the first choice lipid lowering agent for primary and secondary prevention in cardiovascular disease and peripheral vascular disease. The LJF provides guidance for the use of lipid lowering treatment in Lothian.\(^1\)

**2013/14 Target agreed:**

Ezetimibe DDDs as % of all lipid lowering agents ≤ 3.25% per quarter (QOF QPI measure 2011/12)

**Is this a suitable indicator?**

**PROS**

- Supports formulary advice
- Promotes cost-effective prescribing

**CONS**

- Recommended for familial hypercholesterolaemia

**Comment:**

Statins should be prescribed whenever possible as the only treatment that has a robust evidence base for reducing clinical outcomes in CVD. Neither product is specifically licensed for the prevention of primary or secondary prevention of cardiovascular disease\(^2\). Most studies assessing efficacy of ezetimibe have used LDL-cholesterol lowering effects as a surrogate measure of clinical outcomes\(^2,3\). However one recent study in 1873 patients comparing ezetimibe and simvastatin versus simvastatin alone in aortic stenosis showed no significant difference in major cardiovascular event rates or death between the two study arms, despite a greater fall in the mean plasma LDL cholesterol concentration in the ezetimibe arm\(^4\). There remains no published evidence that ezetimibe, alone or added to a statin reduces the risk of cardiovascular disease or mortality compared with an active comparator.

**References:**

1. Lothian Lipid Guidelines 2009
2. Ezetimibe – an update. DTB 2009;47, 91-95

**2014/15 Target proposed:**

Ezetimibe DDDs as % of all lipid lowering agents ≤ 3.25% (unchanged)
- measured over a 3 month period
Quality statement:

The LJF first choice combination inhaler for asthma in adults over 18 years is Fostair®. Fostair® is indicated in the regular treatment of asthma were use of a combination product is appropriate.

Cost-effective statement:

Combination inhalers can be a cost effective alternative to the individual products and are more convenient to use. Equivalent Seretide evohaler® preparations are more expensive than Fostair®. Seretide 125 evohaler® 2 puff BD £35 vs Fostair® 2 puffs BD £29.32 respectively.

LJF adherence statement:

The LJF recommends Fostair® as the first-line combination product in the treatment of asthma with Seretide® being the second choice.

2013/14 Target agreed:

Total quantity of Fostair® inhalers ≥ 15% of total quantity of inhalers of Seretide® MDI 125 and 250; Symbicort® 100/6 and 200/6 per quarter (target changed)

Is this a suitable indicator?

PROS

- Supports formulary advice
- Promotes cost-effective prescribing

CONS

- It does not provide the high-dose inhaled corticosteroid that is required for Step 4 (of BTS guidelines) in asthma management, therefore an alternative inhaler would have to be prescribed.
- Fostair® is not recommended for children and adolescents under 18 years.

Comment:

Fostair® is recommended as the first-choice combination inhaler (inhaled corticosteroid and a long-acting beta2-agonist) within the LJF. It is licensed for use in asthma and in patients and adults 18 years and over. It is licensed for the use in patients who are not adequately controlled with an inhaled corticosteroids and an ‘as needed’ inhaled short-acting beta2-agonist, or for patients who are already adequately controlled on both inhaled corticosteroids and long-acting beta2-agonists.

It can be noted that 100 micrograms of beclometasone dipropionate(BDP) extrafine (in the Fostair®) preparation are equivalent to the 250 micrograms of beclometasone dipropionate(BDP) in a non-extrafine formulation (e.g. Clenil modulite®). Seretide evohaler® 25/125 2 puffs twice daily BDP equivalent is 1000mcg. Furthermore, Fostair® is stored in the fridge until dispensing (shelf life 15 months), once dispensed and out of the fridge it lasts up to 5 months.

References:


2014/15 Target proposed:

Total quantity of Fostair® inhalers ≥ 15% of total quantity of inhalers of Seretide® MDI 125 and 250; Symbicort® 100/6 and 200/6 (unchanged)
- measured over a 3-month period
Prescribing Indicator – Rosuvastatin (Crestor®)

Quality statement:
Rosuvastatin is one of a number of statins available to regulate lipids. Different types of statin have broadly similar beneficial outcomes\(^1\). Rosuvastatin is not the first or second choice statin on the LJF\(^2\). Rosuvastatin is not recommended for prescribing in Scotland for primary prevention\(^3\). There are no published randomised controlled trials that demonstrate that patient outcomes are better with rosuvastatin than other available statins.

Cost-effective statement:
Rosuvastatin is likely to remain on patent until 2017 and is a less cost-effective option when compared with simvastatin and atorvastatin. Simvastatin 40mg £1.22; atorvastatin 40mg £2.02 per 28; rosuvastatin 10mg £18.03 per 28.

LJF adherence statement:
The LJF recommends simvastatin as first choice statin for all indications and atorvastatin as second choice for secondary prevention.

2013/14 Target agreed:
Rosuvastatin DDDs as % of all statins ≤ 5% (new PI)

Is this a suitable indicator?

PROS
Supports formulary advice
Promotes cost-effective prescribing
National Therapeutic Indicators

CONS

Comment:
The Lothian Lipid Guidelines (2009) only recommend rosuvastatin where total cholesterol remains above 5mmol/litre after 3 months treatment with simvastatin as an alternative to atorvastatin if the patient is on medication that affects the cytochrome P450 3A4 pathway and the patient is being treated for secondary prevention diabetes or Familial Hyper-cholesterolaemia\(^4\). The JUPITER study\(^5\) compared rosuvastatin 20mg with placebo in lower-risk patients and reduced the risk of a major cardiovascular event in this group. The MHRA\(^6\) have advised caution in initiating rosuvastatin at this dose. Rosuvastatin has been associated with dose-related muscle toxicity leading to rare cases of rhabdomyelitis.

References:
\(^1\) SIGN Guideline 97 Risk Estimation and the Prevention of Cardiovascular Disease. A National Guideline SIGN 2007
\(^3\) Scottish Medicines Consortium Rosuvastatin , 5mg, 10mg ,20mg film coated tablets (Crestor\(^\circ\)) SMC No 725/11 September 2009. http://www.scottishmedicines.org.uk/SMC_Advice/Advice/725_11_rosuvastatin_Crestor/rosuvastatin_Crestor

2014/15 Target proposed:
Rosuvastatin DDDs as % of all statins ≤ 5% (unchanged)
- measured over a 3-month period
## APPENDIX 3

Summary of Proposed Lothian Prescribing Indicators 2014/15

1. **GENERIC PRESCRIBING (REVISED MEASURE AND TARGET)**  
Generic prescribing rate (excluding oral contraceptives) ≥ 80%

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<tr>
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<th>Quality</th>
<th>Cost Effective</th>
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<tbody>
<tr>
<td>✓</td>
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<td>✓</td>
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</table>

2. **TOTAL ANTIBIOTICS**  
Items per 1000 patients per day ≤ 2

<table>
<thead>
<tr>
<th>Formulary Compliance</th>
<th>Quality</th>
<th>Cost Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

3. **CO-AMOXICLAV (REVISED TARGET)**  
Items per 1000 patients per day ≤ 0.10

<table>
<thead>
<tr>
<th>Formulary Compliance</th>
<th>Quality</th>
<th>Cost Effective</th>
</tr>
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<tbody>
<tr>
<td>✓</td>
<td>✓</td>
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4. **FLUROQUINOLONES**  
Items per 1000 patients per day ≤ 0.08

<table>
<thead>
<tr>
<th>Formulary Compliance</th>
<th>Quality</th>
<th>Cost Effective</th>
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<tbody>
<tr>
<td>✓</td>
<td>✓</td>
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5. **CEPHALOSPORINS**  
Items per 1000 patients per day ≤ 0.10

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6. **EFFERVESCENT/SOLUBLE PARACETAMOL AND PARACETAMOL COMBINATIONS**  
Total number of items of paracetamol and paracetamol combinations prescribed as effervescent/soluble as a percentage of all paracetamol combination tablets and capsules ≤ 5%

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7. **ESOMEPROZOLE**  
Total number of esomeprazole scripts ≤ 4% of esomeprazole and LJF recommended PPIs

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8. **PROTON PUMP INHIBITORS (PPIs)**  
PPIs DDDs per 1000 patients per day ≤ 105 or 5% reduction against practice Q3 baseline (Dec13) (new measure)

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9. **AMLODIPINE (REVISED TARGET)**  
Total number of items of amlodipine ≥ 70% of all prescriptions for dihydropyridine calcium channel blockers

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10. **EZETIMIBE**  
Ezetimibe DDDs (including the combination ezetimibe & simvastatin) ≤ 3.25% as a percentage of all statins

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11. **FOSTAIR® (REVISED TARGET)**  
Total quantity of Fostair® inhalers ≥ 15% of total quantity of inhalers of Seretide® MDI 125 and 250; Symbicort® 100/6 and 200/6

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12. **ROSUVASTATIN**  
Rosuvastatin DDDs ≤ 5% as a percentage of all statins

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*The four antibiotic PIs are measured over a 12 month time period; all the other PIs are measured over a 3 month time period.*