University of Birmingham and University of York Health Economics Consortium (NCCID)

Development feedback report on piloted indicators

QOF indicator area: Hypertension – target organ damage

Pilot period: 1st October 2013 – 31st March 2014

Potential output: Recommendations for NICE menu

Contents

Summary of recommendations

Indicator

1. The percentage of patients with a new diagnosis of hypertension in the preceding 1st April to 31st March who have a record of a test for haematuria in the three months before or after the date of entry to the hypertension register.

Acceptability recommendation:

- Band 3: 50-59% of practices support inclusion

Implementation recommendation:

- Band 2/3

  Band 2: minor problems identified during piloting or anticipated to arise in wider implementation. Problems resolvable prior to implementation through either 1) an amendment to indicator wording, 2) an amendment to the business rules and/or 3) by giving further clarification of indicator terms in associated guidance.

  Band 3: major problems identified during piloting or anticipated in wider implementation. Possibly resolvable through the actions described in band 2 but indicator requires further development work and/or piloting.

Cost effectiveness recommendation:

Cost effective up to 5 points, and up to 10 points for a combined indicator involving haematuria and ACR testing.

Issues to consider:

Issue	**Detail**	**Mitigating activity**
Clarification of haematuria testing	During piloting we looked for evidence of a dipstick for heamaturia using a reagent strip.	This could be reiterated in the QOF Guidance should this indicator be adopted into QOF.
Risk of increased demand for urgent urology appointments	Identifying asymptomatic haematuria in more people who then require an urgent secondary care referral.	

Indicator

2. The percentage of patients with a new diagnosis of hypertension in the preceding 1st April to 31st March who have a record of urinary albumin: creatinine ratio test in the three months before or after the date of entry to the hypertension register.

Acceptability recommendation:

- Band 2: 60-69% of practices support inclusion.

Implementation recommendation:

- Band 1

  Band 1: no problems identified during piloting or anticipated to arise. Indicator terms precisely defined.

Cost effectiveness recommendation:

Likely to be cost effective up to 5 points.

Issues to consider:

None identified

Indicator

3. The percentage of patients with a new diagnosis of hypertension in the preceding 1st April to 31st March who have a record of a 12 lead ECG performed in the three months before or after the date of entry to the hypertension register.

Acceptability recommendation:

- Band 2: 60-69% of practices support inclusion.

Implementation recommendation:

- Band 1

  Band 1: no problems identified during piloting or anticipated to arise. Indicator terms precisely defined.

Cost effectiveness recommendation:

Likely to be cost effective up to 5 points.

Issues to consider:

Issue	Detail	Mitigating activity
Access to ECG	Some concerns have been expressed about GPs access to ECG machines and their accuracy.	During piloting over half of practices reported performing ECGs on patients in house. Ensuring the adequate maintenance of medical devices is a core responsibility for practices.
GPs ability to interpret ECG's	Likewise some concern has been expressed about GPs ability to interpret ECG results. During piloting most practices interpreted their own ECGs although one did refer theirs to a cardiologist for reporting. Practices did not express any concerns about their ability to interpret ECG results.	

General issues relevant to all indicators

Issue	Detail	Mitigating activity
Managing cross-year issues	The three month timeframe for the activities will cross over into the next QOF year for patients whose hypertension diagnosis is made in the January-March.	The business rules can be written to look back 15 months to manage this and ensure that practices have 3 months to complete the activities. This solution has been used with other indicators e.g. cancer review, depression review.
Managing the 3 month exception rule for newly diagnosed patients	Patients may be exception reported against measurement indicators for 3 months after their initial diagnosis. For annual indicators this means that patients diagnosed between January and March each year	Write the business rules to look back over a 15 month window to ensure that all patients are offered the care described.

	may be exception reported without any impact upon practice achievement and may never receive the intended care.	

Background

As part of the NICE-managed Quality and Outcomes Framework (QOF) process, all clinical and health improvement indicators are piloted, using an agreed methodology, in a representative sample of GP practices across England, Scotland Wales and Northern Ireland.

The aim of piloting is to test whether indicators work in practice, have any unintended consequences and are fit for purpose.

Practice recruitment

We planned to recruit 34 practices in England and 2 in each of the Devolved Administrations. English practices were to be representative in terms of practice list size, deprivation and clinical QOF score. Given the limited variability in clinical QOF score we excluded practices with a score of ≤ 10th centile. Practice list size and IMD scores were divided into tertiles and a 3x3 matrix created with target recruitment numbers for each cell. These are detailed in the table below.

	List size		
IMD Score	Low	Medium	High
Low	3	4	5
Medium	3	4	4
High	4	4	3

As previously presented to the Committee, practice recruitment was extremely challenging. At the beginning of the pilot we had recruited 26 practices in England and 1 in each of the Devolved Administrations. Practice recruitment by strata is shown in the table below with cells in bold where we failed to meet target numbers.

	List size		
IMD Score	Low	Medium	High
Low	**2/3**	**3/4**	**2/5**
Medium	3/3	4/4	**3/4**
High	**3/4**	**3/4**	3/3

Number of practices recruited: 29

Number of practices dropping out: 3

Number of practices interviewed: 26

[26 GPs, 8 practice nurses, 9 practice managers, 1 health care assistant and 5 administrative staff = 49 primary care staff most involved in QOF piloting]

All percentages reported have been calculated using the 29 practices recruited to the pilot as the denominator.

Piloted indicators

1. The percentage of patients with a new diagnosis of hypertension in the preceding 1st April to 31st March who have a record of a test for haematuria in the three months before or after the date of entry to the hypertension register.

2. The percentage of patients with a new diagnosis of hypertension in the preceding 1st April to 31st March who have a record of urinary albumin: creatinine ratio test in the three months before or after the date of entry to the hypertension register.

3. The percentage of patients with a new diagnosis of hypertension in the preceding 1st April to 31st March who have a record of a 12 lead ECG performed in the three months before or after the date of entry to the hypertension register.

Assessment of clarity, reliability, feasibility, and acceptability

Clarity

All indicator terms defined. No concerns were raised at the GP focus group.

Reliability and feasibility

Business rules were developed for these indicators.

Issue	Detail	Mitigating activity
Require confirmation that all the codes are still valid. In particular are all exception codes included correctly.	Need to check that no new codes have been issued that might impact these indicators Also are there any specific exceptions for either haematuria testing or ECG which should be included at the moment. Do we need to request some if this is to go live? (could use XaJIG Diagnostic procedure declined (56F.. Diagnostic procedure declined*)*	Review with clinical coding expert and SDS team
Confirmation as to which codes are used for the ECG	In pilot used the procedure codes including the referral one. We will need to explore with practices how they code this as in some places they make the referral and then code the result only.	To be discussed with pilot team
Cross-year issues	The three month timeframe for the activities will cross over into the next QOF year for patients whose hypertension diagnosis is made in the January-March.	The business rules can be written to look back 15 months to manage this and ensure that practices have 3 months to complete the activities. This solution has been used with other indicators e.g. Cancer review, depression review.

Acceptability

General comments

Almost all practices thought that these indicators were evidence based and had either changed their practice protocols to incorporate these activities into the routine assessment of patients with suspected hypertension or were in the process of doing so during piloting.

"We've put it on the template now for the haematuria, to check the urine for blood as a, for a new diagnosis, and the ECG's on there for a new diagnosis." (GP9; ID9)

Acceptability indicator 1: haematuria testing

Seventeen practices (58.6%) were supportive of this indicator being considered for inclusion in QOF, and a further three (10.3 %) were ambivalent. Six practices (20.7%) were not supportive of this indicator being considered for QOF.

Most practices viewed this as easy to do and within the control of the practice. However, a small number of practices raised concerns that routinely performing haematuria testing could result in a number of positive results which would then require urgent referral to urology clinics for further investigation to exclude bladder cancer.

"...And more importantly I think is the enormous consequence of doing this around the country with enormous increases of costs. I can't be the first person to say that, because you're now massively going to increase urology outpatients. You know, I'll talk about - what we're now getting is people who happen to have microscopic haematuria in testing and that is a large group of people. The majority of people do not have erm significant pathology. And, you know, so, you know, up to now we've not suggested asymptomatic screening for urological cancers by dipstick testing. So you're going to massively increase governmental costs by doing this. Now, because we've got relatively few at any individual practice, probably we'll have none come up from this practice at a guess, but it's - there's no doubt from it that testing willy nilly with these sticks is going to end up with lots and lots." (GP4; ID4)

"I can't remember what the statistics are – but something like ten or twenty per cent of patients will have non-visible haematuria. Screening in that way is not a recommended screening test 'cos there's just too many false positive and it could lead to a lot of over-investigation of patients. So my concern is that you could, you could end up sort of dipping these patients, erm, for haematuria and then quite a lot of those patients could end up having to go for urological investigations, some of which are invasive, erm, so systems and stuff, erm, and I'm not sure what the pickup rate in terms of, you know, is going to be in that situation. If you're screen, what you're screening for is kidney damage then are you not already screening for that by doing the urine ACR? So why also add in the screening for haematuria?" (GP18; ID18)

"I think the issues about dipping the urine in an older person is you're gonna get a lot of false positives and it might lead to a quite a lot of investigations, whereas you're much more able to sort've, you know, if you get one plus or a tra, non-haemolysed trace of blood in a 40 year, 35 year old, I'm gonna be far happier to ignore it. So I think you might want to consider which age it's appropriate to do a urine dip. Are we screening for kidney causes of hypertension, in which case that's the younger population, not the older population 'cos their bloods are gonna be abnormal in the older population, or are you also doubling up on your screening for...urological cancer which is of not proven and a bad thing to do. So that would be my suggestion. So we do ACRs on everybody, 'cos

I think that's absolutely right, and I think we do probably dip for blood but I don't think we should, in the older patients." (GP3; ID3)

Acceptability indicator 2: ACR test

Nineteen practices (65.5 %) were supportive of this indicator being considered for inclusion in QOF with a further four practices (13.8%) being ambivalent. Three practices (10.3 %) were not supportive of this indicator being considered for QOF.

A small number of practices questioned the role of ACR in the management of these patients.

"....because they're saying out of the 22,000, there's only about 1,000 of them that turned out to be abnormal, so therefore, the hit rate was so small, and it just caused a lot of work and a lot of money*" (GP10; ID10)*

Acceptability indicator 3: ECG

Nineteen practices (65.5%) were supportive of this indicator being considered for inclusion in QOF with a further five practices (17.2 %) being ambivalent. Two practices (6.9%) were not supportive of this indicator being considered for QOF.

The majority of practices interviewed (n=16) performed ECGs in their practices and a further four practices reported that they referred to the local hospital. Of those practices that performed ECGs themselves all but one also reported on the results. Where practices referred out for ECGs they reported that results were usually available within 1-3 weeks, so well within the proposed 3 month window in which to measure success. Although they also noted that this time could increase if this indicator went into QOF and more practices started using the ECG service. A small number of practices noted that this indicator might be challenging for practices without their own ECG machine.

"I think that's something in theory that, all across England you're going to work with CCG's because CCG's are going to have to make sure they've got either clinics in the community or at the hospital that can perform it, or if they're willing to pay towards giving ECG's at practices to get them to do it, because again, some of that, and practices could pay for their own ECG machine, but then if they've not got anybody specialist at the practice that can read the ECG's, it's pointless, so you are going to have to rely on a community or a hospital care setting, and we're not in control of getting those clinics set up and getting them extra funding so we'd be, we'd have to wait as long as they needed to wait basically, to get a patient in." (PN5; ID11)

"Yeah they go up to the hospital for that...there's a drop in session on a Monday and a Wednesday so they can go up there and we can have them back in a week" (PN6; ID13)

A small number of practices (n=2) questioned the value of performing an ECG in this group and posed the question of what impact a positive result for left ventricular hypertrophy would have upon patient management.

Assessment of implementation

Assessment of piloting achievement

Indicator 1: haematuria testing

HYP P802 INDICATOR	Baseline	Final
Number of Practices Uploading	**20**	**20**
Practice Population	165,048	165,692
Hypertension Register	1,173	1,844
Excluded regardless		
HYP 802 Rule 1 False: diagnosis outside of relevant timeframe	0	817
Excluded if they do not meet Numerator criteria		
HYP 802 Rule 3 True: exception reported as declined to give sample	0	0
HYP 802 Rule 4 True: exception reported urinary dipstick declined	0	0
HYP 802 Rule 5 True: registration in last 3 months	33	34
HYP 802 Rule 6 True: exception reported using generic hypertension exception codes	7	11
HYP 802 Rule 7 True: diagnosis in last 3 months	343	503
Total Exclusions	383	1,365
HYP 802 Denominator	790	479
HYP 802 Numerator	135	115
Numerator as % of Denominator	**17.09%**	**24.01%**

Achievement increased by 6.92% during the pilot period. At a practice level, final achievement ranged from 0% to 62.5% (median 18.33%, IQR 3.82%; 45%).

Indicator 2: ACR testing

HYP P803 INDICATOR	Baseline	Final
Number of Practices Uploading	**20**	**20**
Practice Population	165,048	165,692
Hypertension Register	1,173	1,844
Excluded regardless		
HYP 803 Rule 1 False: diagnosis outside of relevant timeframe	0	817
Excluded if they do not meet Numerator criteria		
HYP 803 Rule 3 True: exception reported as declined to give sample	0	1
HYP 803 Rule 4 True: registration in last 3 months	36	29
HYP 803 Rule 5 True: exception reported using generic hypertension exception codes	7	11
HYP 803 Rule 6 True: diagnosis in last 3 months	338	474
Total Exclusions	381	1,332
HYP 803 Denominator	792	512
HYP 803 Numerator	174	189
Numerator as % of Denominator	**21.97%**	**36.91%**

Achievement increased by 14.94% during the pilot period. At a practice level, final achievement ranged from 13.33% to 69.7% (median 34.31%, IQR 25.61%; 55%).

Indicator 3: ECG

HYP P804 INDICATOR	Baseline	Final
Number of Practices Uploading	**20**	**20**
Practice Population	165,048	165,692
Hypertension Register	1,173	1,844
Excluded regardless		
HYP 804 Rule 1 False: diagnosis outside of relevant timeframe	0	817
Excluded if they do not meet Numerator criteria		
HYP 804 Rule 3 True: registration in last 3 months	37	34
HYP 804 Rule 4 True: exception reported using generic hypertension exception codes	4	13
HYP 804 Rule 5 True: diagnosis in last 3 months	318	469
Total Exclusions	359	1,333
HYP 804 Denominator	814	511
HYP 804 Numerator	216	179
Numerator as % of Denominator	**26.54%**	**35.03%**

Achievement increased by 8.49% during the pilot period. At a practice level, final achievement ranged from 0% to 73.08% (median 37.5%, IQR 15.25%; 50%).

Changes in practice organisation

Practices did not describe any major changes being required to practice organisation.

Resource utilisation and costs

There will be resource implications in terms of practice time to perform and review the ECG for each patient, and in terms of laboratory costs for ACR testing.

There may be an increase in demand for urgent urology outpatient appointments if routine haematuria testing in these patients results in an increase in the number of patients requiring referral to exclude bladder cancer. This may also lead to increased anxiety for patients.

Barriers to implementation

Practice achievement increased by 6.92% for haematuria testing, 14.9% for ACR testing and 8.49% for ECG recording during the pilot period suggesting that these indicators can be implemented relatively easily. Denominator numbers at a practice level ranged from 4 - 72 (mean = 23.9) for haematuria testing, 7-86 (mean = 25.6) for ACR testing and 4-70 (mean = 25.5) for performing an ECG at the final upload.

We specifically explored access to ECG machines. Fifteen practices reported that they performed ECGs in the surgery for their patients and three practices referred to secondary care. All felt that that the three month timescale was achievable.

Assessment of exception reporting

The biggest contributor to exception reporting once patients with a new diagnosis of hypertension had been identified from the register population was due to patients being exception reported as their hypertension diagnosis had been made in the last 3 months. This was the case for all three indicators and account for 25-27% of exception reports at final upload.

The exception reporting criterion relating to new diagnoses or recent registration is worded as follows:

“Patients newly diagnosed or who have recently registered with the contractor who should have measurements made within three months and delivery of clinical standards within nine months e.g. blood pressure or cholesterol measurements within target levels.”

Assessment of potential unintended consequences

The main potential unintended consequence relates to routine testing for haematuria. A number of practices expressed concern that as patients get older then the likelihood is that they will test positive for microscopic haematuria which will then require an urgent urology referral to exclude bladder cancer. Some practices commented that this indicator risked becoming an informal bladder cancer screening programme.

Assessment of overlap with and/or impact on existing QOF indicators

None.

Suggested amendments to indicator wording

None.

Appendix A: Indicator details

At their June 2013 meeting the NICE Advisory Committee recommended that indicators be developed to reflect the following guideline recommendations:

Hypertension Quality Standard (QS28):

- Statement 2: People with newly diagnosed hypertension receive investigations for target organ damage within 1 month of diagnosis.

Clinical Guideline 127:

- Recommendation 1.2.6: While waiting for confirmation of a diagnosis of hypertension, carry out investigations for target organ damage (such as left ventricular hypertrophy, chronic kidney disease and hypertensive retinopathy) (see recommendation 1.3.3) and a formal assessment of cardiovascular risk using a cardiovascular risk assessment tool.
- Recommendation 1.3.3: For all people with hypertension offer to:
    - Test for the presence of protein in the urine by sending a urine sample for estimation of the albumin: creatinine ratio and test for haematuria using a reagent strip
    - Take a blood sample to measure plasma glucose, electrolytes, creatinine, estimated glomerular filtration rate, serum total cholesterol and HDL cholesterol
    - Examine the fundi for the presence of hypertensive retinopathy
    - Arrange for a 12-lead electrocardiograph to be performed.

The Committee specifically requested indicator development to focus upon tests for renal damage and electrocardiographs.

Three indicators were developed and shared with the hypertension experts working with NICE. No comments were received. These progressed to discussion at a GP focus group.

Recommendation	Potential indicator	Issues/ Questions
CG127: 1.2.6: While waiting for confirmation of a diagnosis of hypertension, carry out investigations for target organ damage (such as left ventricular hypertrophy, chronic kidney disease and hypertensive retinopathy) and a formal assessment of cardiovascular risk using a cardiovascular risk assessment tool. 1.3.3: For all people with hypertension offer to: • Test for the presence of protein in the urine by sending a urine sample for estimation of the albumin: creatinine ratio and test for haematuria using a reagent strip • Take a blood sample to measure plasma glucose, electrolytes, creatinine, estimated glomerular filtration rate, serum total cholesterol and HDL cholesterol • Examine the fundi for the presence of hypertensive retinopathy • Arrange for a 12 lead electrocardiograph to be performed.	1. The percentage of patients with a new diagnosis of hypertension in the preceding 1st April to 31st March who have a record of a test for haematuria in the three months before or after the date of the hypertension diagnosis. 2. The percentage of patients with a new diagnosis of hypertension in the preceding 1st April to 31st March who have a record of an albumin: creatinine ratio test in the three months before or after the date of the hypertension diagnosis. 3. The percentage of patients with a new diagnosis of hypertension in the preceding 1st April to 31st March who have a record of a 12 lead ECG performed in the three months before or after the date of the hypertension diagnosis.	• Business rules will need to look back 15 months in order to ensure that patients diagnosed in the last 3 months of any QOF year are not automatically exception reported. • Is three months a reasonable timeframe to arrange an ECG?

GP focus group

A GP focus group was held on 19th July 2013 where all potential indicators were discussed. Focus group attendees were volunteers recruited via the West Midlands Faculty of the RCGP. Over 100 GPs responded to the initial invitation. From this group we purposively selected 10 GPs to attend the focus group to ensure an equal balance of men and women, representation from minority ethnic groups and a range of ages.

All of those invited attended the meeting. Half were male. Six of the 10 were GP partners. The majority of participants described themselves as being of white ethnicity (n=6). A GP registrar attended the meeting as an observer. Participants were reimbursed £250 for their attendance.

Daniel Sutcliffe, Gavin Flatt and Laura Hobbs attended on behalf of NICE and Paul Amos for the NHS HSCIC.

Indicator discussions are summarised in the table overleaf. These were generally felt to be reasonable and achievable. Although it was also noted that the care described was not routinely delivered.

Some concern was expressed about focusing upon the long-term effects at diagnosis and the potential difficulty of performing these tests in hard to reach populations. Some concern was also expressed about whether an intended consequence of the indicators could be to discourage GPs from formalising an early diagnosis.

All three indicators progressed to piloting with a minor wording change from ‘diagnosis of hypertension’ to ‘entry onto the hypertension register’.

All three indicators were progressed to piloting.

Recommendation	Potential indicator	Issues/ Questions	Decision post focus group
CG127: 1.2.6: While waiting for confirmation of a diagnosis of hypertension, carry out investigations for target organ damage (such as left ventricular hypertrophy, chronic kidney disease and hypertensive retinopathy) and a formal assessment of cardiovascular risk using a cardiovascular risk assessment tool. 1.3.3: For all people with hypertension offer to: • Test for the presence of protein in the urine by sending a urine sample for estimation of the albumin: creatinine ratio and test for haematuria using a reagent strip • Take a blood sample to measure plasma glucose, electrolytes, creatinine, estimated glomerular filtration rate, serum total cholesterol and HDL cholesterol • Examine the fundi for the presence of hypertensive retinopathy	1. The percentage of patients with a new diagnosis of hypertension in the preceding 1st April to 31st March who have a record of a test for haematuria in the three months before or after the date of the hypertension diagnosis. 2. The percentage of patients with a new diagnosis of hypertension in the preceding 1st April to 31st March who have a record of an albumin: creatinine ratio test in the three months before or after the date of the hypertension diagnosis. 3. The percentage of patients with a new diagnosis of hypertension in the preceding 1st April to 31st March who have a record of a 12 lead ECG performed in the three months before or after the date of the hypertension diagnosis.	• Business rules will need to look back 15 months in order to ensure that patients diagnosed in the last 3 months of any QOF year are not automatically exception reported. • Is three months a reasonable timeframe to arrange an ECG?	• Not routinely done. • Some concern about focusing upon long term consequences at diagnosis. • Some concern about the timescale being challenging for some practice populations. • Progress all to piloting.

• Arrange for a 12 lead electrocardiograph to be performed.			

Indicator wording as piloted

1. The percentage of patients with a new diagnosis of hypertension in the preceding 1st April to 31st March who have a record of a test for haematuria in the three months before or after the date of entry onto the hypertension register.

2. The percentage of patients with a new diagnosis of hypertension in the preceding 1st April to 31st March who have a record of an albumin: creatinine ratio test in the three months before or after the date of entry onto the hypertension register.

3. The percentage of patients with a new diagnosis of hypertension in the preceding 1st April to 31st March who have a record of a 12 lead ECG performed in the three months before or after the date of entry onto the hypertension register.