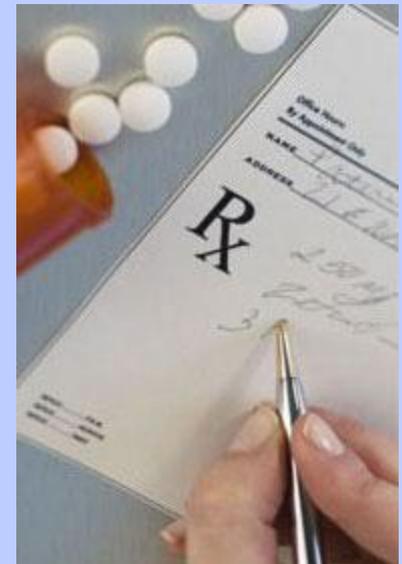# Development of prescribing safety indicators for use in general practice: the RCGP/NIHR criteria

Dr Rachel Spencer, University of Nottingham

GP Academic Clinical Fellow

Unfunded
2009　　　　　　Research associate (6m)
　　　　　　　　(RCGP indicators)

Deanery funded
2012　　　　　　GP registrar academic post (4m)

NIHR awards
2011-2013　　　ACF (GP registrar)
　　　　　　　　(NIHR toolkit project and indicators)

2013-2015　　　CPF (part time salaried GP in Coventry)
　　　　　　　　(PhD in patient safety in primary care – University of Nottingham)

The Team

Tony Avery – PINCER development and project lead

Brian Bell – NIHR criteria data analyst

Sarah Rodgers – PINCER and IT capability

Gill Gookey – NIHR criteria pharmacist

Stephen Campbell (UoM) – RAND expert

Brian Serumaga – RCGP criteria data analyst

Grant Dex – RCGP criteria information summaries

The University of Nottingham

UNITED KINGDOM · CHINA · MALAYSIA

2007 onwards – PINCER trial (10 indicators used to demonstrate improvement in prescribing after educational input)

Lancet. *2012 Apr 7;379(9823):1310-9. doi: 10.1016/S0140-6736(11)61817-5. Epub 2012 Feb 21.*
A pharmacist-led information technology intervention for medication errors (PINCER): a multicentre, cluster randomised, controlled trial and cost-effectiveness analysis.
Avery AJ, Rodgers S, Cantrill JA, Armstrong S, Cresswell K, Eden M, Elliott RA, Howard R, Kendrick D, Morris CJ, Prescott RJ, Swanwick G, Franklin M, Putman K, Boyd M, Sheikh A.

2009 – RCGP indicators (34 indicators developed for revalidation of UK GPs)

Br J Gen Pract. *2011 Aug;61(589):e526-36. doi: 10.3399/bjgp11X588501.*
Development of prescribing-safety indicators for GPs using the RAND Appropriateness Method.
Avery AJ, Dex GM, Mulvaney C, Serumaga B, Spencer R, Lester HE, Campbell SM.

2011 – NIHR indicators (56 indicators with wider application to practices)

In preparation, accepted by BJGP
Identification of an updated set of prescribing safety indicators
for general practitioner
Spencer R, Bell B, Avery A, Gookey G, Campbell SM

What is RAND UCLA?

A method of combining scientific evidence with the collective judgement of experts: a consensus opinion is derived from a group, with individual opinions aggregated

http://www.rand.org/health/surveys_tools/appropriateness.html

How does it work?

Select panel – experts, not too large, willing and interested
Information to panel – high quality low volume information sent out to each panellist
Round 1 – traditionally distant, rating alone after digesting information
Round 2 – collective face to face discussion followed by re-rating

How do we score it?

1–3: inappropriate, 4–6: equivocal, or unsure of appropriateness, and 7–9: appropriate
Inclusion = 80% panellists rate within 3 points of a median score ≥ 7

Exclusion criteria
Prescription not attributable to one doctor
Drugs rarely used in UK
Data not extractable from GP computer systems

Rapid literature review for indicators from known sources
Review by BNF team
RAND information summaries prepared by 2 medical doctors
50 indicators entered round 1 of the RAND (68 in total with variations)
23 further variations suggested in round 1

47 indicators were included after round 2 (23 original wording, 13 alternative wording, 2 newly generated)
6 indicators rated inappropriate and remainder equivocal

Final set of 34 achieved after removal of duplicated statements where overlap renders one redundant

Always the more specific and detailed statement is chosen

Always the highest rated statement is chosen

These two aims were never in conflict

e.g.

In an older patient (**>**65 years), prescription of aspirin at a dose **>**75 mg daily *for ≥1 month*

rated 8 (Agreement)

Chosen over…………..

In an older patient (**>**65 years), prescription of aspirin at a dose **>**75 mg daily

rated 7 (Agreement)

The indicators don't currently take account of the volume of prescribing by individuals

Although 400 potential indicators reviewed it is possible some sources were missed

Many of the potential source indicators were unsuitable (QoF and ACOVE especially)

The indicators need to be more precisely phrased to make them suitable for use as computer queries

Hence need for an updated indicator set for the NIHR toolkit………..
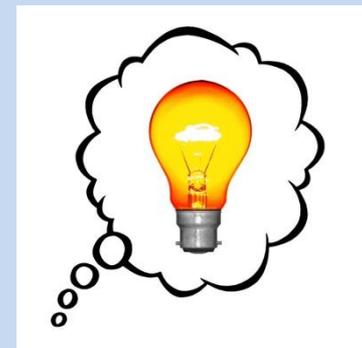
Project Brief

Create a functioning toolkit for general practices in England to use to improve patient safety in their organisations

What should a toolkit be or contain?

Mix of summative and formative items
Try to address all aspects of patient safety without overwhelming practices
Contain as many automated items as possible to reduce workload

How did we achieve this?

Steering advisory group with input from NES
Systematic literature review of interventions for primary care patient safety
2 RAND processes
       1st ; worldwide input considering a whole taxonomy of issues
       2nd ; prescribing indicator RAND

Identical RAND process to RCGP indicators

37 new indicators were presented to the panel (in addition to 34 RCGP indicators)
56 indicators resulted

In addition;
        An extra RAND round by email
        Designed to rank the 56 indicators by impact on patients
                harm scale from 1 (Insignificant) to 5 (Catastrophic)
                likelihood scale of 1 (Rare) to 5 (Almost certain)
        Ratings summed to give
                1-3 (Low Risk)
                4-6 (Moderate Risk)
                8-12 (High Risk) n=19
                15-25 (Extreme Risk) n=4

'Extreme Risk' Indicators

Metformin prescribed to a patient with renal impairment where the eGFR is ≤30 ml/min

Prescription of an NSAID, without co-prescription of an ulcer healing drug, to a patient with a history of peptic ulceration

Prescription of an NSAID in a patient with chronic renal failure with an eGFR <45

Concurrent use of warfarin and any antibiotic without monitoring the INR within 5 days

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Strengths

Systematic review for the toolkit was designed to capture prescribing indicators
New sources reviewed (over 600 indicators)
Summaries written by a pharmacist and a GP
9 of the 12 GPs on the RCGP panel were re-recruited

High acceptance rate by the panel
      31 of 34 RCGP indicators
      25 of 37 new indicators

      Why?
            RCGP indicators previously been through RAND
            Carefully selected indicators thought to have high impact and attention paid to wording and limits (such as GFR level) prior to the RAND

How do our indicators compare with others'?

In general – Indicators are an iterative process, our work is based on others' past work

Ireland – STOPP/START; we focus on errors of commission rather than omission for the most part as it automated searching for omission errors relies entirely on coding accuracy

Scotland – Tayside medicines unit; we focus on highly specifically defined indicators which are designed for computerisation (fewer indicators with a higher yield of error, hopefully!)

Other world-wide quality indicators – our focus is on safety rather than quality of care
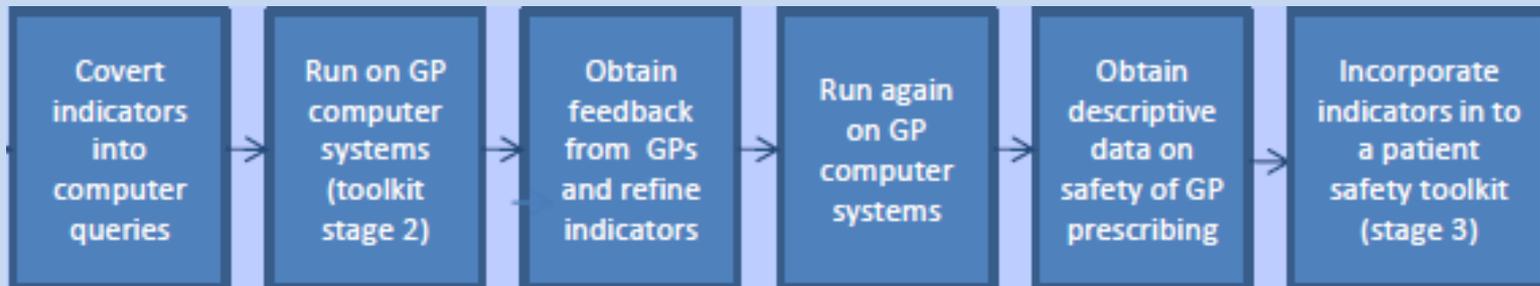
See Sarah's Posters

PRIMIS – automation of indicators using 'rules'

Testing Acceptability and Feasibility in Toolkit project phases 2+3

| Covert indicators into computer queries | Run on GP computer systems (toolkit stage 2) | Obtain feedback from GPs and refine indicators | Run again on GP computer systems | Obtain descriptive data on safety of GP prescribing | Incorporate indicators in to a patient safety toolkit (stage 3) |

Questions?