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

Dr Rachel Spencer, University of Nottingham
Introductions

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

Sarah Rodgers – PINCER and IT capability

Stephen Campbell (UoM) – RAND expert

Brian Bell – NIHR criteria data analyst

Gill Gookey – NIHR criteria pharmacist

Brian Serumaga – RCGP criteria data analyst

Grant Dex – RCGP criteria information summaries
Phases of work

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


A pharmacist-led information technology intervention for medication errors (PINCER): a multicentre, cluster randomised, controlled trial and cost-effectiveness analysis.


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


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
RCGP Indicators – Method and Results

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
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
Where Next?

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 into a patient safety toolkit (stage 3)
Questions?

“I’m prescribing a squiggly line, two slanted loops, and something that looks like a P or J.”