



**Healthcare
Improvement
Scotland**

SUPPORTING CONTINUOUS CLINICAL IMPROVEMENT

Guidelines and outcome indicators

Prepared by: Karen Ritchie

Role of guidelines

- Guide safe, effective, person-centered care
- Improve health outcomes
- Reduce variation in practice and waste
- Reduce inequalities
- Support generalists



The screenshot displays the SIGN website interface. At the top, the SIGN logo (Scottish Intercollegiate Guidelines Network) and NHS Quality Standard logo are visible. The main content area features a large pink and white graphic for the '115 Management of Obesity' guideline, described as 'A national clinical guideline'. To the right, a green navigation menu lists: Home, Guidelines, Consultation, Patient involvement, Methodology, Search, About SIGN, and New on the site. Below the menu, a list of recent updates is provided:

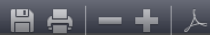
- 28 May 2008: [Management of invasive meningococcal disease in children and young people](#)
- 6 May 2008: [Publication of revised edition of British Guideline on the Management of Asthma](#)
- 24 April 2008: [Join a SIGN Guideline Group information](#)
- 16 April 2008: [May 2008 Patient Newsletter added](#)
- 15 April 2008: [Critical appraisals course dates added](#)
- 20 February 2008: [February 2008 Patient Newsletter added more](#)

On the right side of the page, there are several promotional banners:

- SIGN / BTS British Guideline on the Management of Asthma**: *Now edition now in print and on line*
- PATIENT NEWS UPDATE**: May 2008
- SIGN National Meetings**
- Join a SIGN Guideline Group**: *Click here for details*
- SIGN UPDATE**: *Sign up to hear the latest from SIGN. Leave your name and*

At the bottom right, a section titled 'WHY WE NEED A GUIDELINE' states: 'The persistent mortality associated with the early hours of rapidly progressive septicæmia, emphasises the need for...'

Implementing guidelines



REVIEW ARTICLE

Interventions to Modify Health Care Provider Adherence to Asthma Guidelines: A Systematic Review

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KEY WORDS

asthma, systematic review, guidelines

ABBREVIATIONS

CI—confidence interval
ED—emergency department
ICS—inhaled corticosteroids
OR—odds ratio
RCT—randomized controlled trial
SOE—strength of evidence

Dr Okelo developed the protocol, completed data collection and data synthesis, drafted the manuscript, and critically reviewed the manuscript; Dr Butz, Ms Sharma, Drs Diette, Pitts, and King, Ms Linn, Ms Reuben, and Dr Chelladurai developed the protocol, completed data collection and data synthesis, and critically reviewed the manuscript; Dr Robinson developed the protocol, completed data collection and data synthesis, drafted the manuscript, and critically reviewed the manuscript, and all authors approved the final manuscript as submitted.

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abstract



BACKGROUND AND OBJECTIVE: Health care provider adherence to asthma guidelines is poor. The objective of this study was to assess the effect of interventions to improve health care providers' adherence to asthma guidelines on health care process and clinical outcomes.

METHODS: Data sources included Medline, Embase, Cochrane CENTRAL Register of Controlled Trials, Cumulative Index to Nursing and Allied Health Literature, Educational Resources Information Center, PsycINFO, and Research and Development Resource Base in Continuing Medical Education up to July 2012. Paired investigators independently assessed study eligibility. Investigators abstracted data sequentially and independently graded the evidence.

RESULTS: Sixty-eight eligible studies were classified by intervention: decision support, organizational change, feedback and audit, clinical pharmacy support, education only, quality improvement/pay-for-performance, multicomponent, and information only. Half were randomized trials ($n = 35$). There was moderate evidence for increased prescriptions of controller medications for decision support, feedback and audit, and clinical pharmacy support and low-grade evidence for organizational change and multicomponent interventions. Moderate evidence supports the use of decision support and clinical pharmacy interventions to increase provision of patient self-education/asthma action plans. Moderate evidence supports use of decision support tools to reduce emergency department visits, and low-grade evidence suggests there is no benefit for this outcome with organizational change, education only, and quality improvement/pay-for-performance.

CONCLUSIONS: Decision support tools, feedback and audit, and clinical pharmacy support were most likely to improve provider adherence to asthma guidelines, as measured through health care process outcomes. There is a need to evaluate health care provider-targeted interventions with standardized outcomes. *Pediatrics* 2013;132:517–534

BMC Medical Informatics and Decision Making



Research article

Factors influencing the implementation of clinical guidelines for health care professionals: A systematic meta-review

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Open Access

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Abstract

Background: Nowadays more and more clinical guidelines for health care professionals are being developed. However, this does not automatically mean that these guidelines are actually implemented. The aim of this meta-review is twofold: firstly, to gain a better understanding of which factors affect the implementation of guidelines, and secondly, to provide insight into the "state-of-the-art" regarding research within this field.

Methods: A search of five literature databases and one website was performed to find relevant existing systematic reviews or meta-reviews. Subsequently, a two-step inclusion process was conducted: (1) screening on the basis of references and abstracts and (2) screening based on full-text papers. After that, relevant data from the included reviews were extracted and the methodological quality of the reviews was assessed by using the Quality Assessment Checklist for Reviews.

Results: Twelve systematic reviews met our inclusion criteria. No previous systematic meta-reviews meeting all our inclusion criteria were found. Two of the twelve reviews scored high on the checklist used, indicating only "minimal" or "minor flaws". The other ten reviews scored in the lowest of middle ranges, indicating "extensive" or "major" flaws.

A substantial proportion (although not all) of the reviews indicates that effective strategies often have multiple components and that the use of one single strategy, such as reminders only or an educational intervention, is less effective.

Besides, characteristics of the guidelines themselves affect actual use. For instance, guidelines that are easy to understand, can easily be tried out, and do not require specific resources, have a greater chance of implementation.

In addition, characteristics of professionals – e.g., awareness of the existence of the guideline and familiarity with its content – likewise affect implementation.

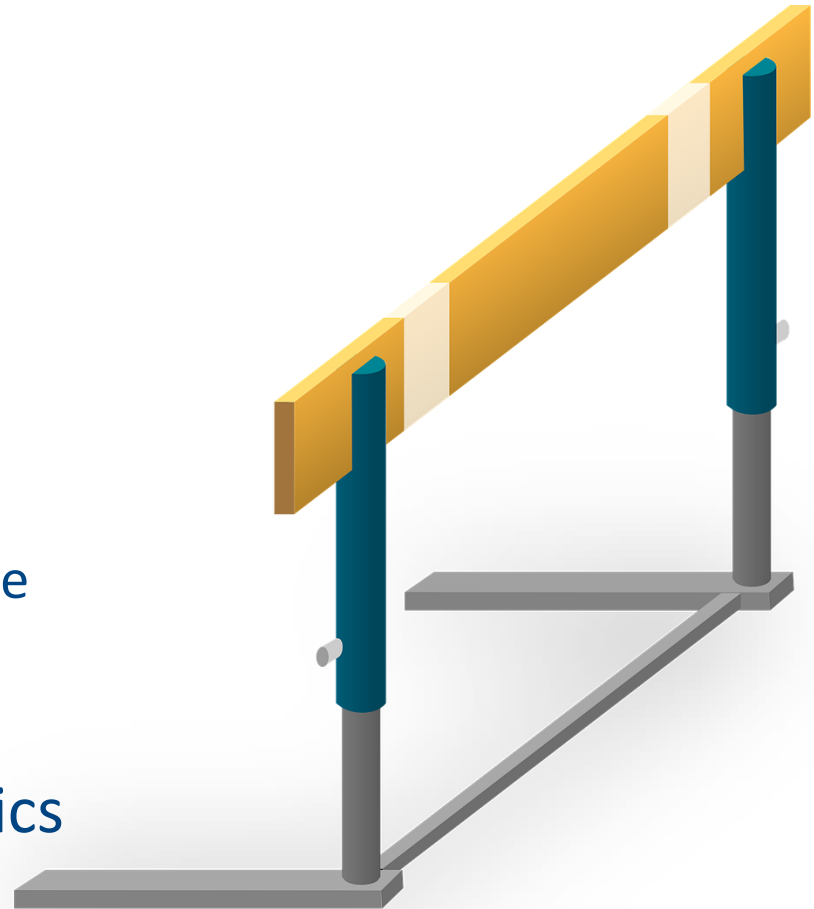
Furthermore, patient characteristics appear to exert influence: for instance, co-morbidity reduces the chance that guidelines are followed.

Finally, environmental characteristics may influence guideline implementation. For example, a lack of support from peers or superiors, as well as insufficient staff and time, appear to be the main impediments.

Conclusion: Existing reviews describe various factors that influence whether guidelines are actually used. However, the evidence base is still thin, and future sound research – for instance comparing combinations of implementation strategies versus single strategies – is needed.

Barriers to implementation

- Guideline characteristics
 - Strong evidence base
 - Easy to read/understand
- Professional characteristics
 - Lack of awareness
 - Lack of skills to implement
 - Lack of will to change practice
- Patient characteristics
 - Co-morbidity
- Environmental characteristics
 - Local resources
 - Support from peers



Questions...

- How do we know if following guidelines results in better outcomes?
- How can we show that we are achieving what we set out to achieve?

...if we don't measure, we don't know

What are indicators?

- Indicators are **succinct measures** that aim to describe as much about a system as possible, in as few points as possible.
- Indicators are important in that they allow us to **understand** a system, **compare** it with other systems, and **improve** it.

Four things to know about indicators

- Indicators only indicate
- Indicators force us to be clear and explicit about what we are trying to achieve
- Indicators are usually quantitative
- Indicators should not be about blame

How is an indicator constructed?

- **Title:** concise statement of the measure or outcome of interest
- **Rationale:** summary of evidence
- **Measurement:** How information is collected to demonstrate performance against the indicator
 - **Numerator:** number of patients who experienced the outcome of interest
 - **Denominator:** number of patients who could potentially have experienced that outcome
- **Data sources**

Types of indicators

- Structure indicators
 - Measure of infrastructure – resources and processes
- Process indicators
 - Direct measure of care
 - Easy to understand and measure
 - Variation is not necessarily due to quality of care
- Outcome indicators
 - Direct measure of health of patients
 - Intrinsically important

Process of Cancer QPI development

- Identify evidence based recommendations
- Stakeholder review
- Draft QPIs
 - Overall importance
 - Evidence based
 - Measurable
- Public engagement
- Indicator finalisation

<http://www.healthcareimprovementscotland.org/>

Example 1 – Renal Carcinoma QPI

- Indicator title: Multidisciplinary team meeting
- Description: Proportion of patients discussed at MDT before definitive treatment
- Numerator: Number of patients discussed at MDT before definitive treatment
- Denominator: Number of patients with renal cell carcinoma

Example 2 – Renal Carcinoma QPI

- Indicator title: 30 Day Mortality
- Description: Proportion of patients who die within 30 days of first treatment for renal cell carcinoma
- Numerator: Number of patients who undergo minimally invasive or operative treatment as first treatment for RCC who die within 30 days of first treatment
- Denominator: All patients who undergo minimally invasive or operative treatment as first treatment for

Criteria for good indicators

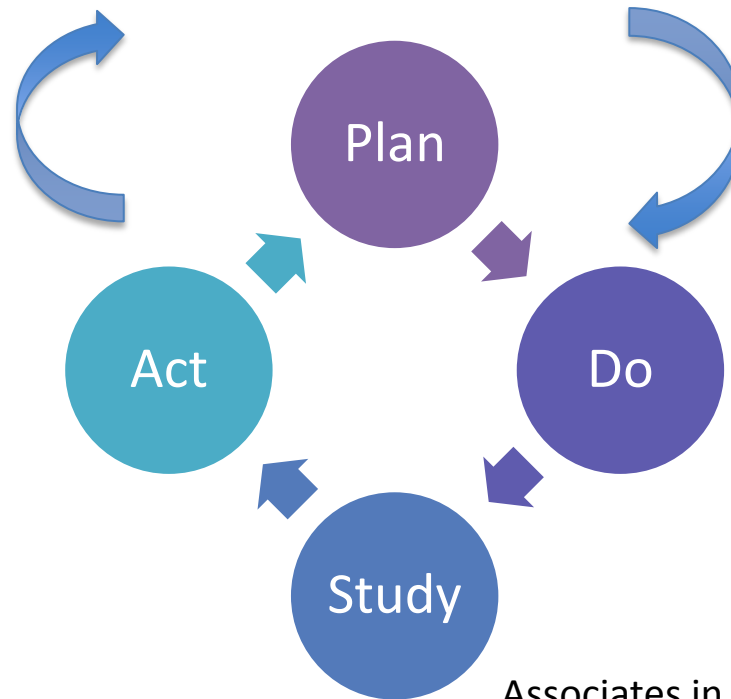
- **Important and relevant**
- **Valid** (actually measure what they claim to measure)
- **Feasible** (possible to collect the data)
- **Timely** (produce results on a timescale that supports improvement)
- **Meaningful** (results and variation can be effectively interpreted, understood and communicated)

The Model for Improvement

What are we trying to accomplish?

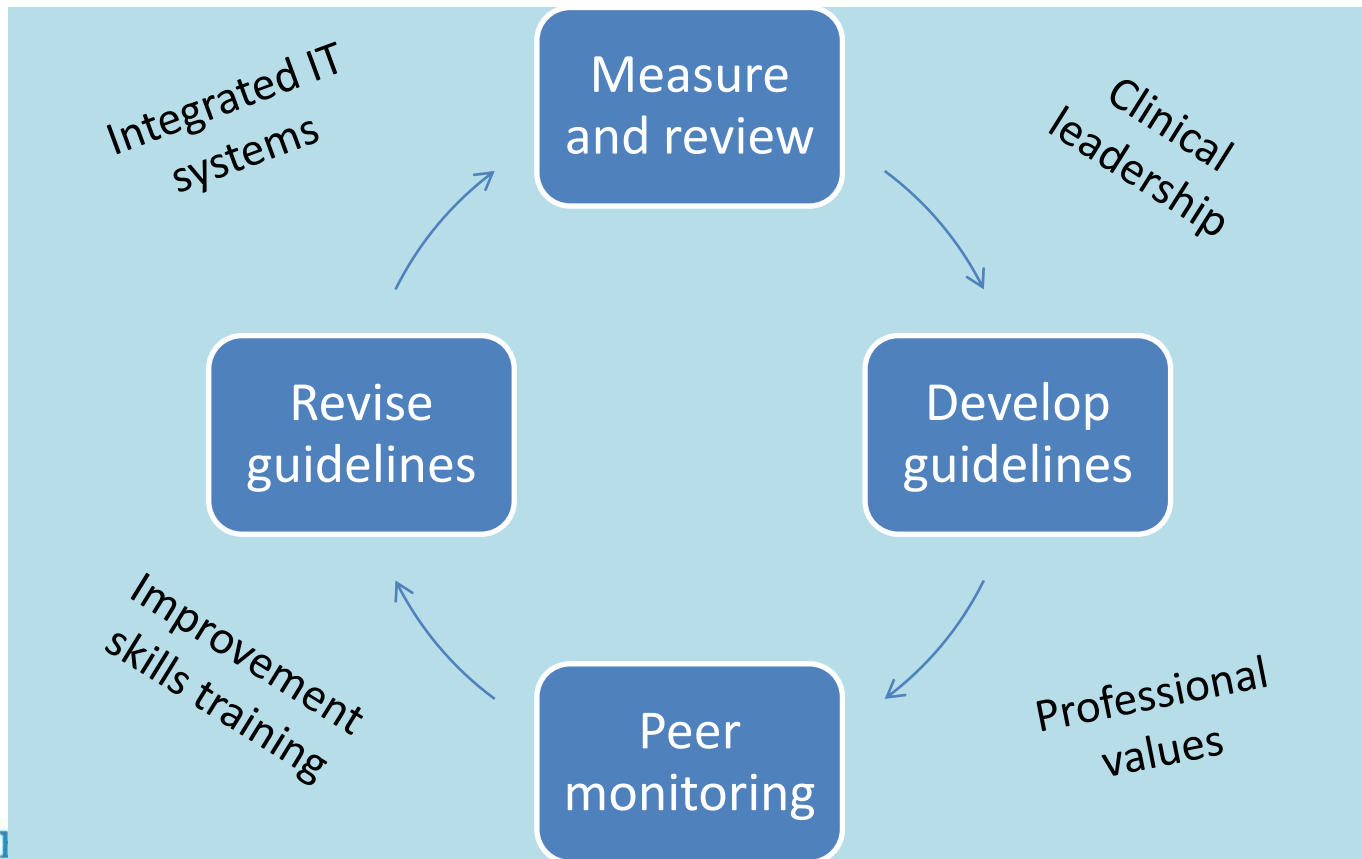
How will we know change is an improvement?

What changes can we make which will result in improvement?



Intermountain Healthcare, USA

‘making the right thing the easy thing to do’



Role for ERN?

- Dissemination and awareness raising of guidelines
- Implementation toolkits
- Indicator development
- Benchmarking outcomes
- Improvement skills training
- Leadership for continuous improvement

