The Importance of Continuous Quality Improvement in Infection Control Programs

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National Center for Emerging and Zoonotic Infectious Diseases
Division of Healthcare Quality Promotion

Outline

1. Define Continuous Quality Improvement (CQI)
2. Why is CQI important?
3. Tips for a successful CQI program

Continuous Quality Improvement

Quality improvement (QI) in public health is the use of a **deliberate** and **defined** process which is focused on activities that are responsive to community needs and improving population health.

(Source: Defining Quality Improvement in Public Health Riley, William J. PhD; Moran, John W. PhD, MBA, CQIA, CQM, CMC; Corso, Liza C. MPA; Beitsch, Leslie M. MD, JD; Bialek, Ronald MPP; Cofsky, Abbey

PDSA Cycle
The basic structure for QI projects

Continuous Quality Improvement

It refers to a continuous and ongoing effort to **achieve measurable improvements** in

- Efficiency
- Effectiveness
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- Outcomes

and other indicators of quality services or processes which achieve equity and improve the health of the community.

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Definition - Continuous Quality Improvement

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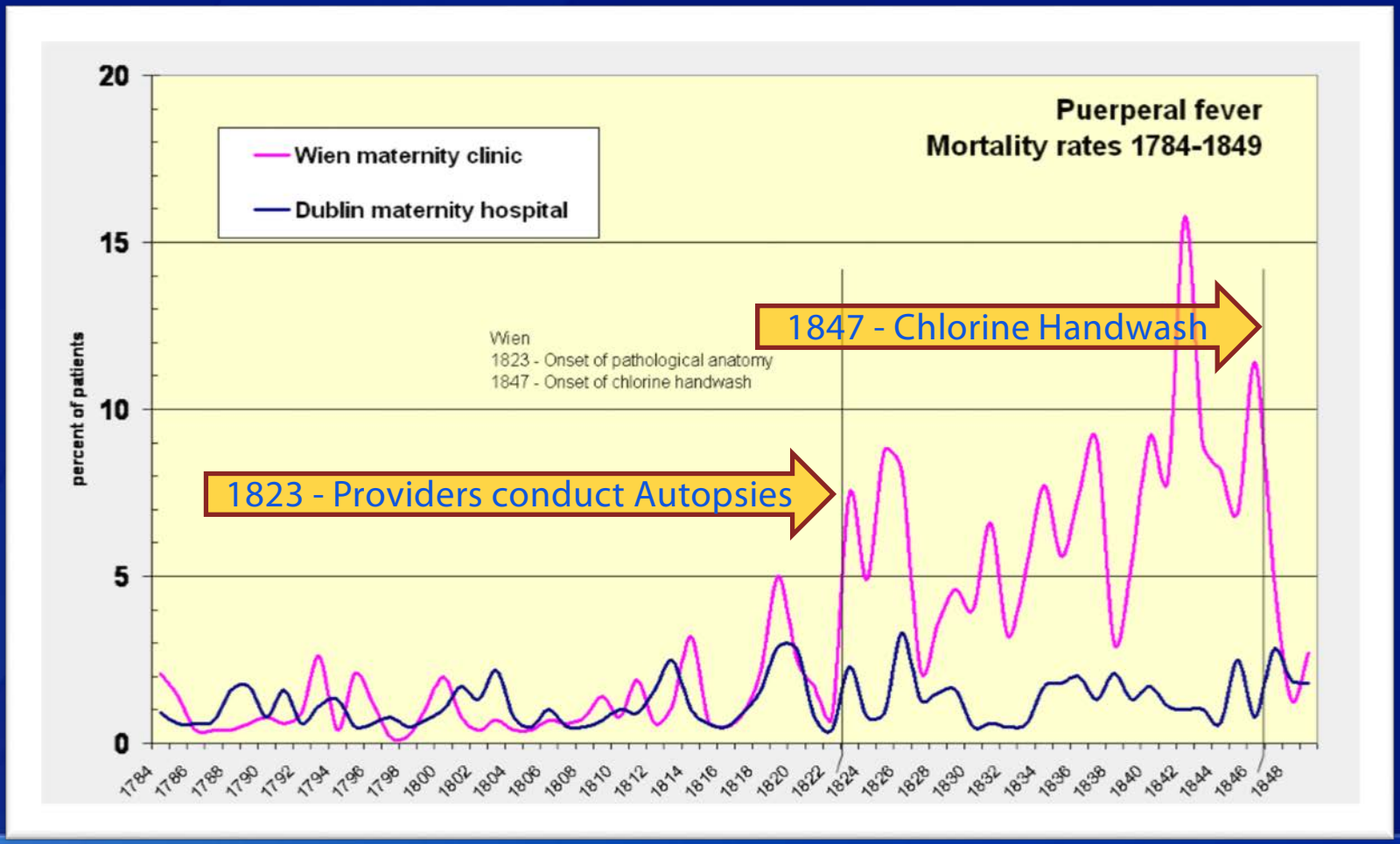

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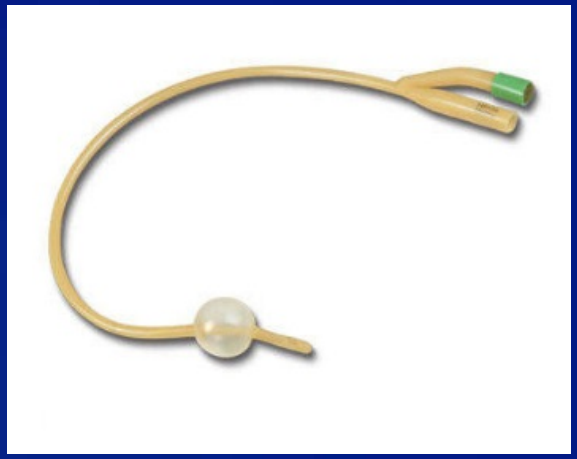

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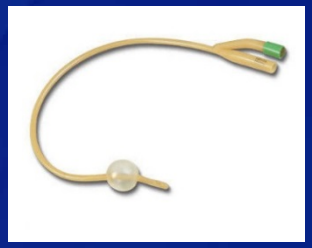

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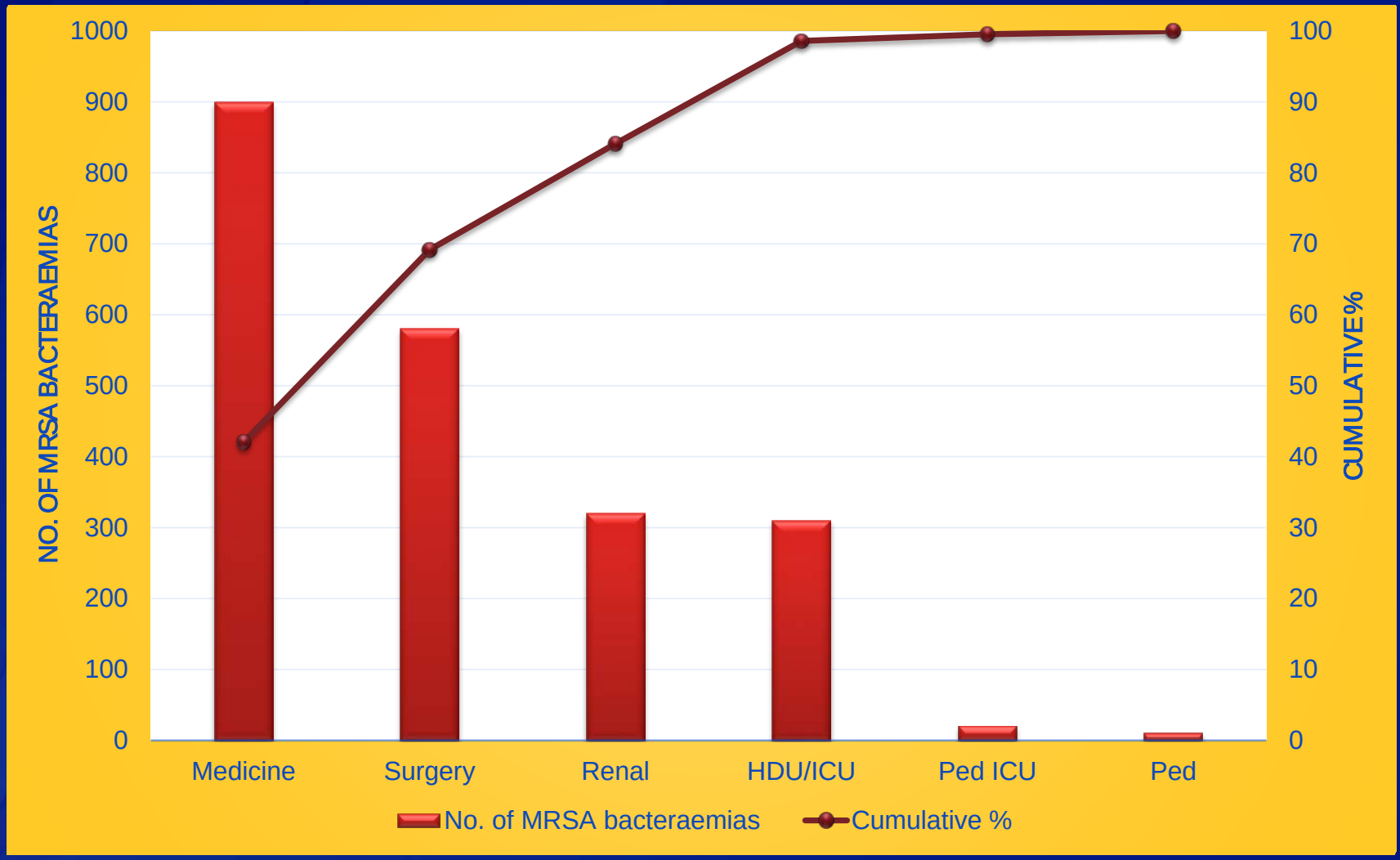
  - Errors reported and corrected

Pareto chart of the number of MRSA bacteraemia by specialty, 01/03 - 03/09



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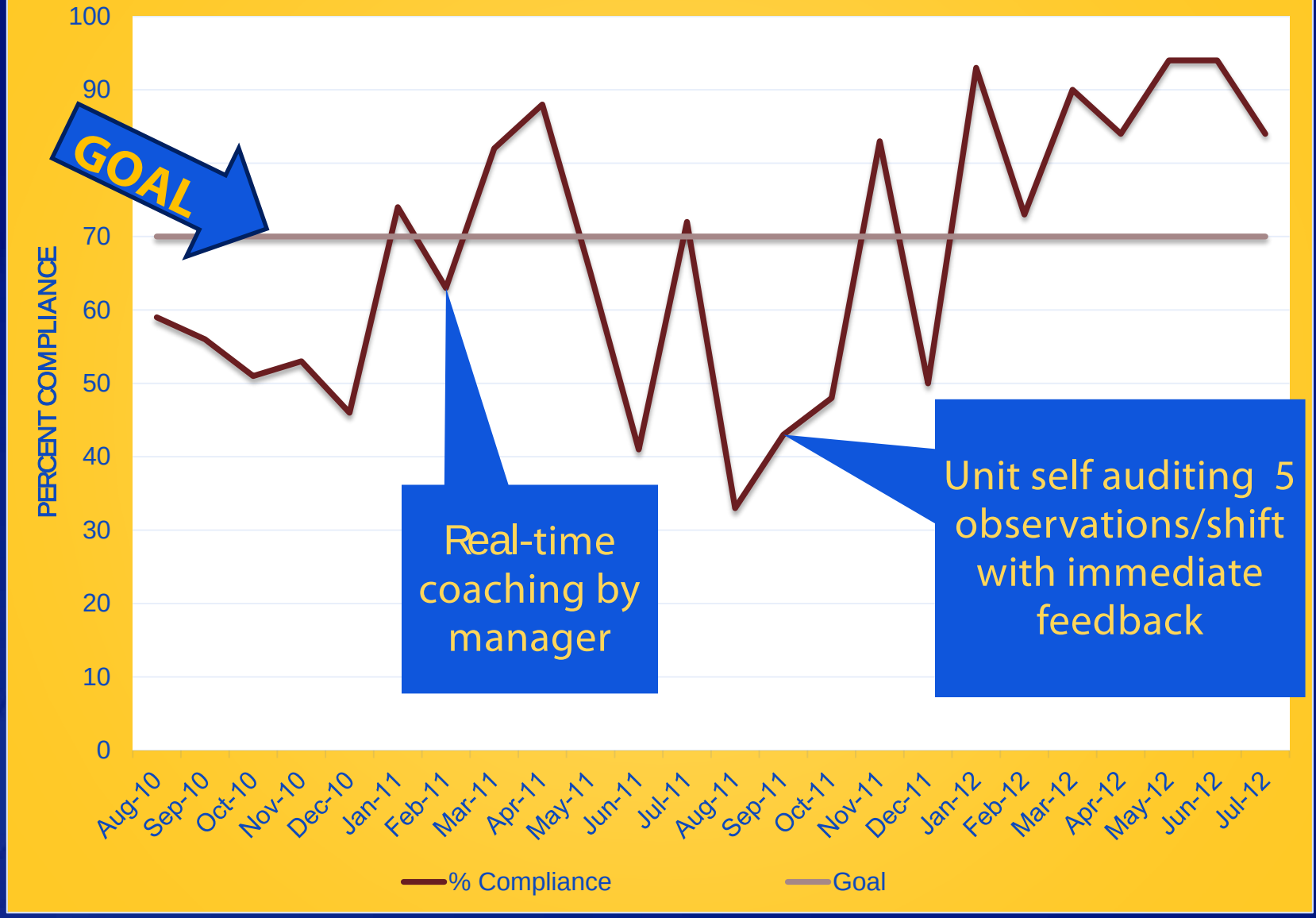
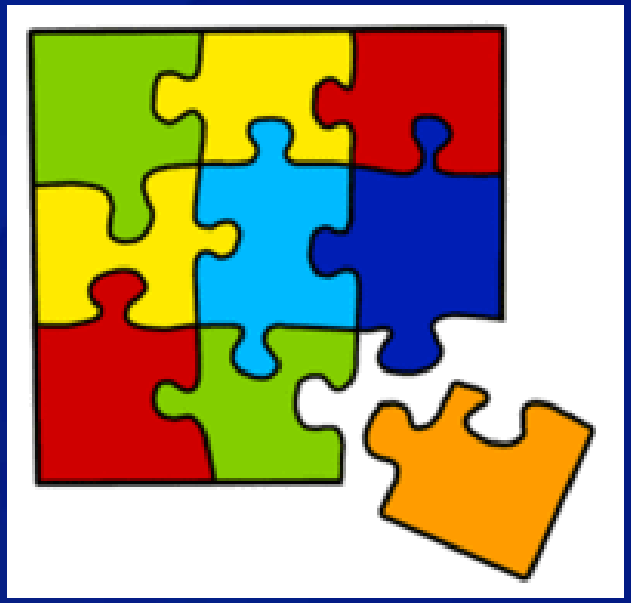
Unit 5 Hand Hygiene Compliance



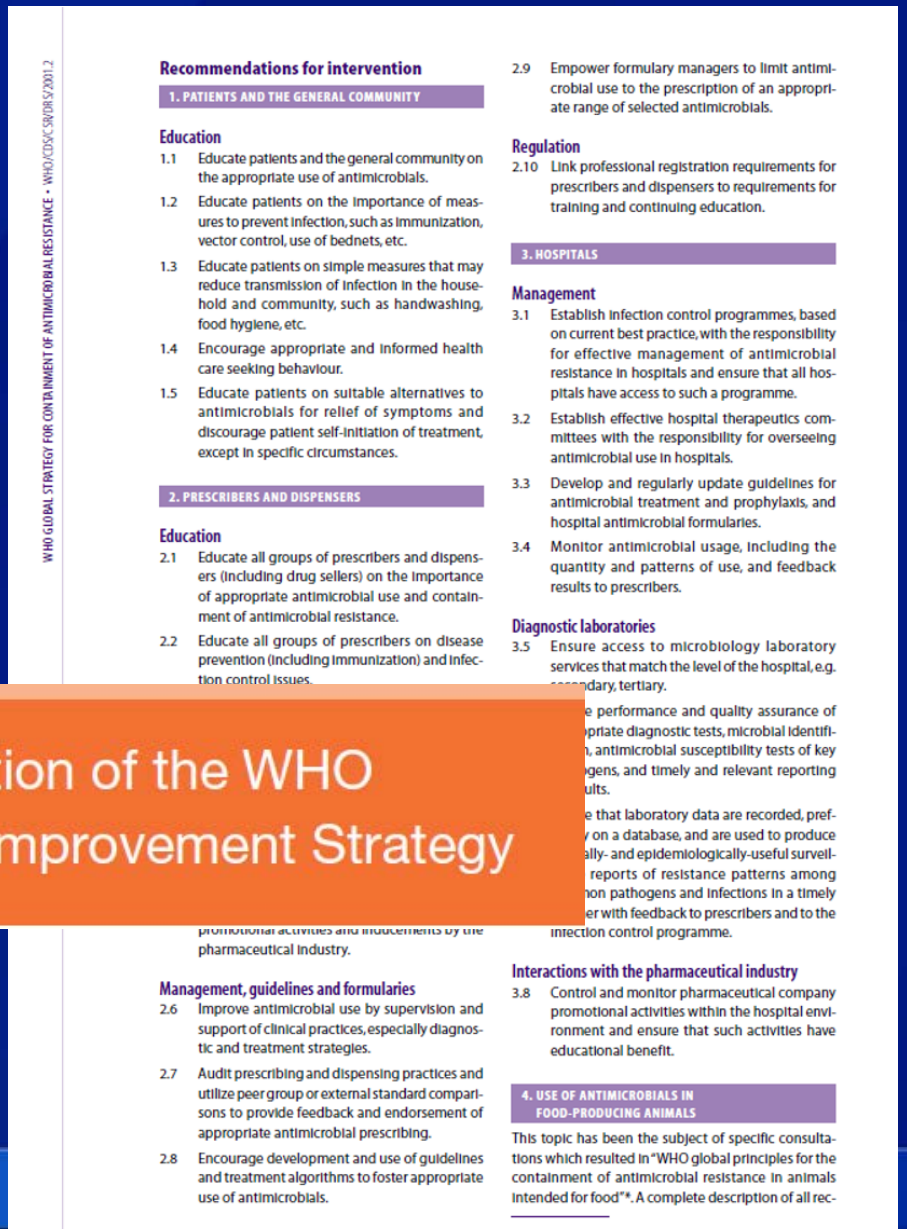
Tips for Successful Continuous QI.

Avoid a Piecemeal Approach to QI



WHO Global Strategy for Containment of Antimicrobial Resistance

A Guide to the Implementation of the WHO Multimodal Hand Hygiene Improvement Strategy



Recommendations for intervention

1. PATIENTS AND THE GENERAL COMMUNITY

Education

1.1 Educate patients and the general community on the appropriate use of antimicrobials.

1.2 Educate patients on the importance of measures to prevent infection, such as immunization, vector control, use of bednets, etc.

1.3 Educate patients on simple measures that may reduce transmission of infection in the household and community, such as handwashing, food hygiene, etc.

1.4 Encourage appropriate and informed health care seeking behaviour.

1.5 Educate patients on suitable alternatives to antimicrobials for relief of symptoms and discourage patient self-initiation of treatment, except in specific circumstances.

2. PRESCRIBERS AND DISPENSERS

Education

2.1 Educate all groups of prescribers and dispensers (including drug sellers) on the importance of appropriate antimicrobial use and containment of antimicrobial resistance.

2.2 Educate all groups of prescribers on disease prevention (including immunization) and infection control issues.

pharmaceutical industry.

Management, guidelines and formularies

2.6 Improve antimicrobial use by supervision and support of clinical practices, especially diagnostic and treatment strategies.

2.7 Audit prescribing and dispensing practices and utilize peer group or external standard comparisons to provide feedback and endorsement of appropriate antimicrobial prescribing.

2.8 Encourage development and use of guidelines and treatment algorithms to foster appropriate use of antimicrobials.

2.9 Empower formulary managers to limit antimicrobial use to the prescription of an appropriate range of selected antimicrobials.

Regulation

2.10 Link professional registration requirements for prescribers and dispensers to requirements for training and continuing education.

3. HOSPITALS

Management

3.1 Establish infection control programmes, based on current best practice, with the responsibility for effective management of antimicrobial resistance in hospitals and ensure that all hospitals have access to such a programme.

3.2 Establish effective hospital therapeutics committees with the responsibility for overseeing antimicrobial use in hospitals.

3.3 Develop and regularly update guidelines for antimicrobial treatment and prophylaxis, and hospital antimicrobial formularies.

3.4 Monitor antimicrobial usage, including the quantity and patterns of use, and feedback results to prescribers.

Diagnostic laboratories

3.5 Ensure access to microbiology laboratory services that match the level of the hospital, e.g. ...ndary, tertiary.

...e performance and quality assurance of ...priate diagnostic tests, microbial identifi... antimicrobial susceptibility tests of key ...gens, and timely and relevant reporting ...ults.

...e that laboratory data are recorded, pref... on a database, and are used to produce ...ally- and epidemiologically-useful surveil... reports of resistance patterns among ...non pathogens and infections in a timely ...er with feedback to prescribers and to the infection control programme.

Interactions with the pharmaceutical industry

3.8 Control and monitor pharmaceutical company promotional activities within the hospital environment and ensure that such activities have educational benefit.

4. USE OF ANTIMICROBIALS IN FOOD-PRODUCING ANIMALS

This topic has been the subject of specific consultations which resulted in "WHO global principles for the containment of antimicrobial resistance in animals intended for food"*. A complete description of all rec-

Use a **deliberate** and **defined** process

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Step 1: Plan – Plan changes aimed at improvement using information from root cause analysis.

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Step 4: Act - Make changes based on what was learned.

Examples of QI Models

CARE Model

Lean Model

Model for Improvement

FADE

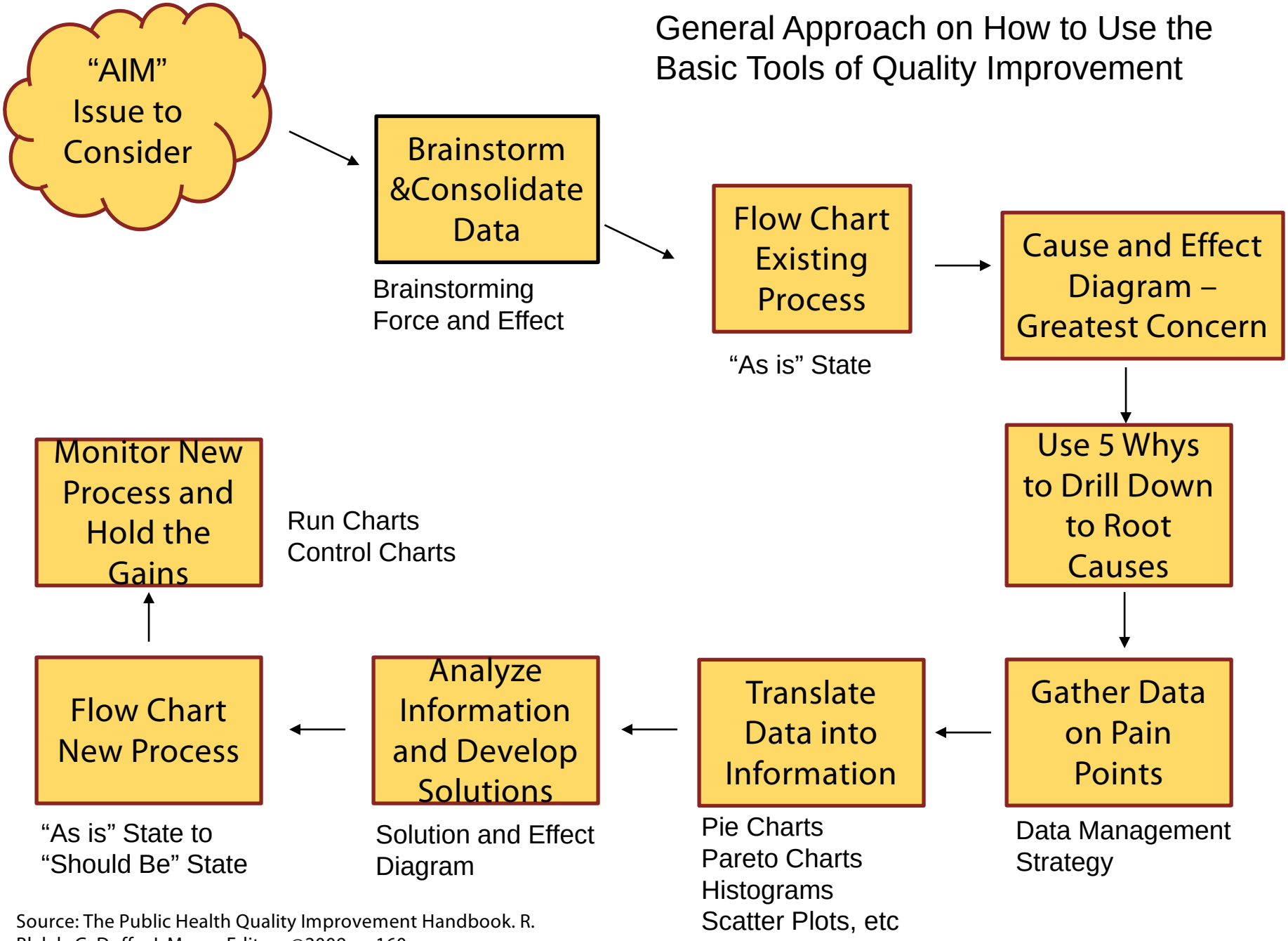
Six Sigma

FOCUS - PDSA

Tools

- Flow Chart
- Fishbone Diagram
- Pareto Chart
- Check Sheet
- Histogram
- Scatter Diagram
- Control Chart

General Approach on How to Use the Basic Tools of Quality Improvement



Source: The Public Health Quality Improvement Handbook. R. Blalek, G. Duffy, J. Moran Editors @2009, p. 160.

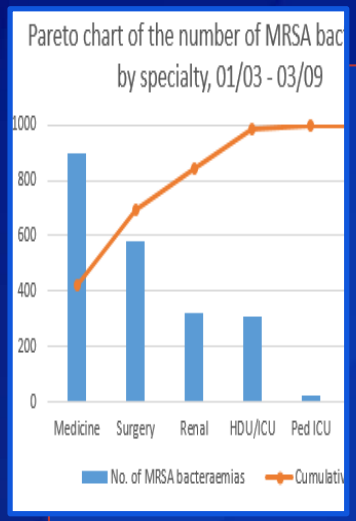
Tips from the Study of the Efficacy of Nosocomial Infection Control (SENIC)

- SENIC Study found that hospitals could reduce hospital associated infection rates by approximately **32%**. Four variables were found to be critical components of an effective infection control program.

Haley, et al American Journal of Epidemiology, 1985.

Measure Success

- :



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Communication

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Identify and Empower a Dedicated Team

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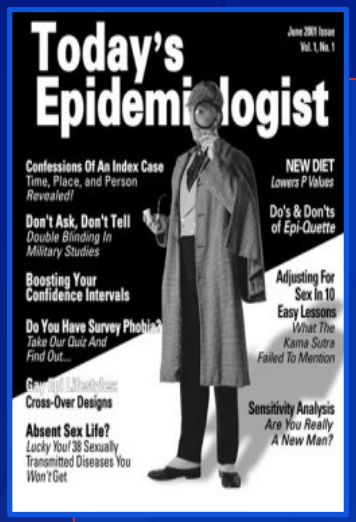

3) A trained hospital epidemiologist

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4) At least one full-time infection-control practitioner per 250 beds

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