

○○○○○○○ ***clinical audit and
outcome measures***

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outcome measures***

Nancy Dixon, UK



- • • • **The clinical audit process**
- • • • **Linking measuring outcomes and the evidence base**
- • • • **The UK experience**
- • • • **Lessons learned from a pilot in Saudi Arabia**



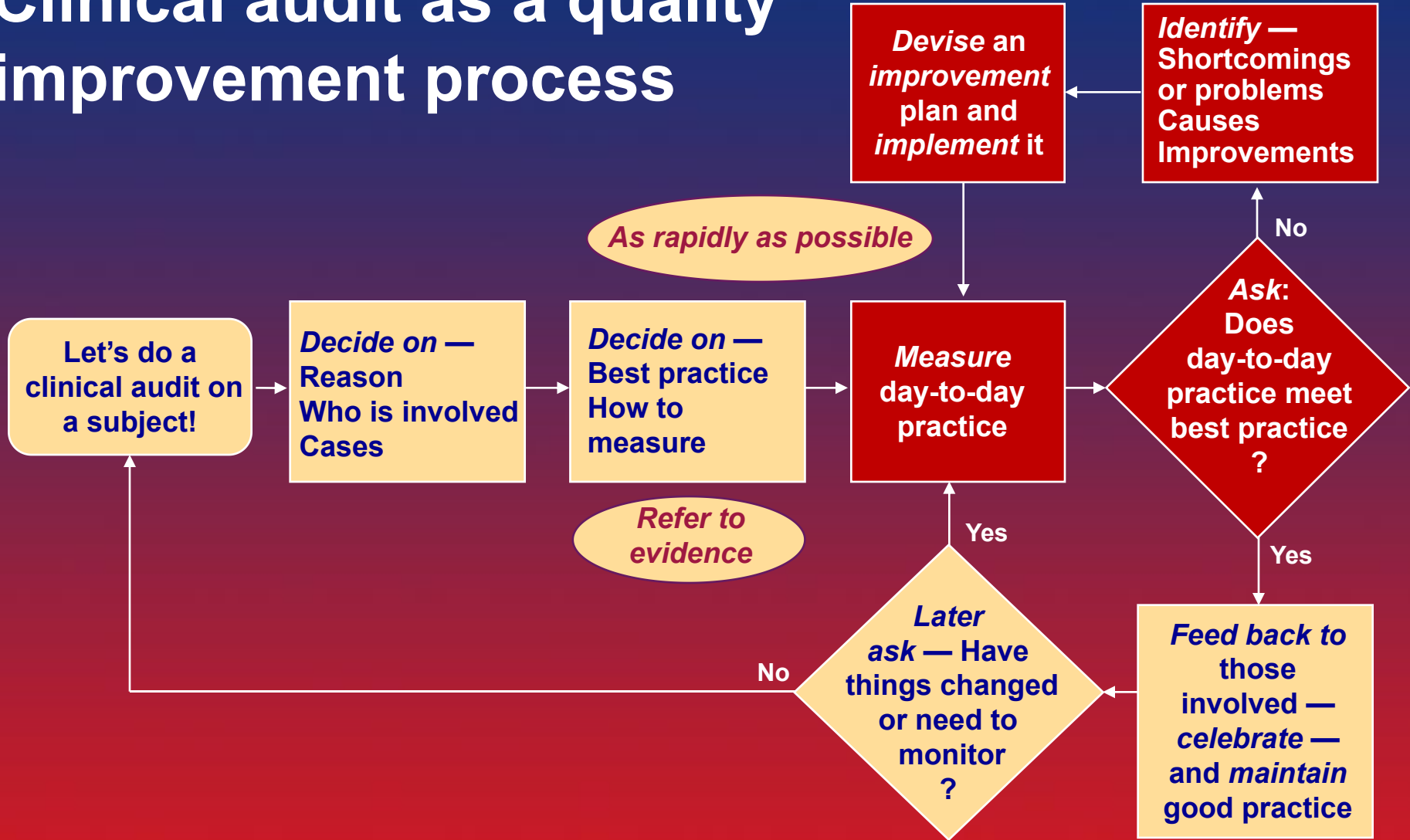
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***Clinical audit* is a quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit measures and the implementation of change**

Adapted from National Institute for Clinical Excellence. *Principles for Best Practice in Clinical Audit*. Abingdon: Radcliffe Medical Press; 2002

Clinical audit as a quality improvement process





Key components of the clinical audit process

Clinical audit design	<ul style="list-style-type: none">● Objective/s● Stakeholders● Population or sample and time period for data collection
Quality-of-care measures	<ul style="list-style-type: none">● Evidence of quality — derived from the evidence base● Standard — how many patients should receive evidence-based care● Exceptions — clinically or patient-related reasons for not providing EBM● Instructions for data collection

Key components of the clinical audit process

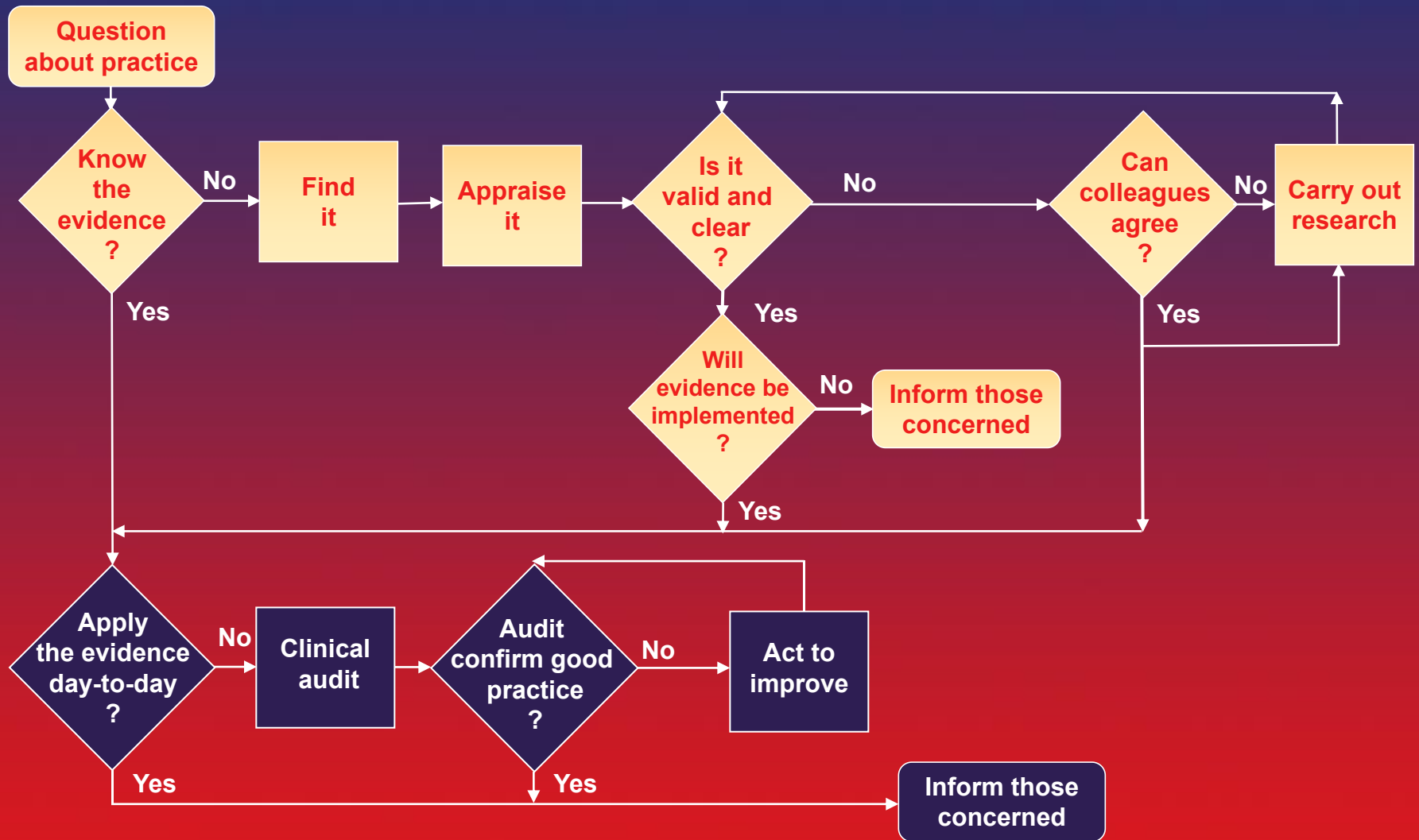
Reliable data collection	<ul style="list-style-type: none">● Reliability testing of data collection
Peer review of findings	<ul style="list-style-type: none">● Peer groups looks for explanations of why EBM was not provided (more exceptions)

*The quality improvement process takes over —
Shortcomings, root causes, change process,
repeat data collection*



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The evidence-based medicine process — linked with clinical audit





Key components of the evidence-based medicine process related to outcomes

Analysis of the evidence	<ul style="list-style-type: none">● Key aspects of clinical care to achieve the best outcomes● Clinical actions for each key aspect of care
Selection of evidence to be measured	<ul style="list-style-type: none">● Aspects of care and actions that are shown — from the evidence — to —<ul style="list-style-type: none">● contribute positively to best clinical outcomes● be reasonably feasible to implement in the care setting

Measuring outcomes versus clinical process

If you measure only outcomes

- You may not know if or how if your clinical care is failing

If you measure key processes and outcomes

- You can see if there are any failures in clinical care and act

Patient factors can affect outcomes



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Evidence-based medicine and clinical audit

National clinical audits	Measure implementation of nationally agreed evidence-based practice <ul style="list-style-type: none">• National Institute for Health and Care Excellence (NICE)• Royal Colleges and professional bodies
Local clinical audits (a single healthcare organization)	Measure implementation of nationally — or locally — agreed evidence-based practice Focus on organizational clinical priorities for improvement

Usually key processes that produce best outcomes

National clinical audits

Arthritis

Asthma and COPD

Bariatric surgery

Bladder cancer

Blood transfusion

Breast cancer

Breast and cosmetic implant

Cancer diagnosis

Cardiac (ACS/MI/surgery)

Cardiac arrest

Cardiac rehabilitation

Child health outcomes

Child mortality

Cleft

Cystic fibrosis

Dementia

Diabetes (several audits)

Elective surgery

Emergency laparotomy

Emergency medicine

End of life care

Epilepsy and seizures

Falls and fragility fractures

Gastrointestinal cancer



National clinical audits

**Head and neck cancer
Joint registry
Learning disabilities
Lung cancer
Maternity and perinatal
outcomes
Medical and surgical
outcomes
Mental health outcomes
Neonatal
Nephroureterectomy
Neurosurgery
Obesity**

**Ophthalmology
Parkinson's disease
Prostate cancer
Psychosis
Pulmonary hypertension
Psychosis
Renal
Respiratory
Spinal
Stroke
Trauma
Vascular**

The way national clinical audits work

**A national group
(usually of
experts and
patient
representatives)**

- **Designs the audit**
- **Decides what is being measured about quality**
- **Specifies data to be captured**
- **Analyses data submitted**
- **Provides findings of the audit**

**Local clinical
groups**

- **Collect and submit data**
- **Act on findings**

Examples of the impact of national clinical audits

Mortality rate of babies undergoing cardiac surgery has halved in 10 years

Access into specialist stroke units has increased and 30-day mortality, length of stay and rates of institutionalization following stroke all have decreased

Substantial improvements in access to clinical resources for children with epilepsy were made in 2 years

79% of patients with heart attacks were treated in 150 minutes of calling for help and 90% were treated in 90 minutes of arrival

Between 97.4% and 98.5% of Parkinson's patients are reviewed clinically each year by their doctor or nurse specialist

Examples of the impact of local clinical audits

All staff learn about measuring and improving the quality of patient care through clinical audit

Each clinical service takes responsibility for what the service needs to audit — and improve

Every healthcare organization is accountable for measuring and improving quality through clinical audit

Every doctor is required to participate in clinical audit and quality improvement to be revalidated as a doctor (every 5 years)

Numerous examples of improvements in patient care at local level through clinical audit

NHS Standard Contract — *References to clinical audit*

The provider must...

At local level...

Implement an ongoing programme of clinical audits of the services provided

Provide to a commissioner the findings of any clinical audit requested

Act on recommendations in clinical audits

Some 'audits' are specified — safeguarding of patients, training for staff on implementing the Mental Capacity Act, protection of clinical information

At the healthcare organization's expense



For national clinical audits...

Participate in designated national clinical audits

Make national clinical audit data available to support national publication

Payment is provided



A Quality Account
is an annual report
to the public from a provider
of NHS healthcare services
about the quality of services
provided by the organization

Components of a Quality Account

Part 1	Summary of quality Statement of accuracy by senior person
Part 2	3 priorities for improvement for the coming year Statements on: <ul style="list-style-type: none">● Consideration of quality in all services● Participation in national clinical audits and enquiries● Number of local clinical audits and actions taken● Number of patients involved in research
Part 3	Review of previous year's quality Stakeholder involvement in setting priorities for improvement Statements by interested organizations

***Clinical audit is a valuable
quality improvement process***

But ... for national clinical audits

- **Every national clinical audit needs to be very well designed and executed**
- **Organizations leading national clinical audits need to show national leadership in quality improvement**
- **Healthcare organizations benefit from incentives to participate in national clinical audits**

Standards for National Clinical Audits

***Clinical audit is a valuable
quality improvement process***

But ... for locally-based clinical audit

- The healthcare organization's management has to be accountable (clinical audits are carried out and the findings acted on)
- All groups of professional staff have to be trained to carry out clinical audits properly
- The process has to become part of the culture



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Pilot national clinical audits on —

- Stroke
- Myocardial infarction
- Major trauma
- Sepsis



وزارة الصحة
Ministry of Health

In 16 MoH hospitals in 2 cities

National Clinical Audit Pathway

**Find and
analyse
best
practice**

**Develop
clinical care
standards
with experts**

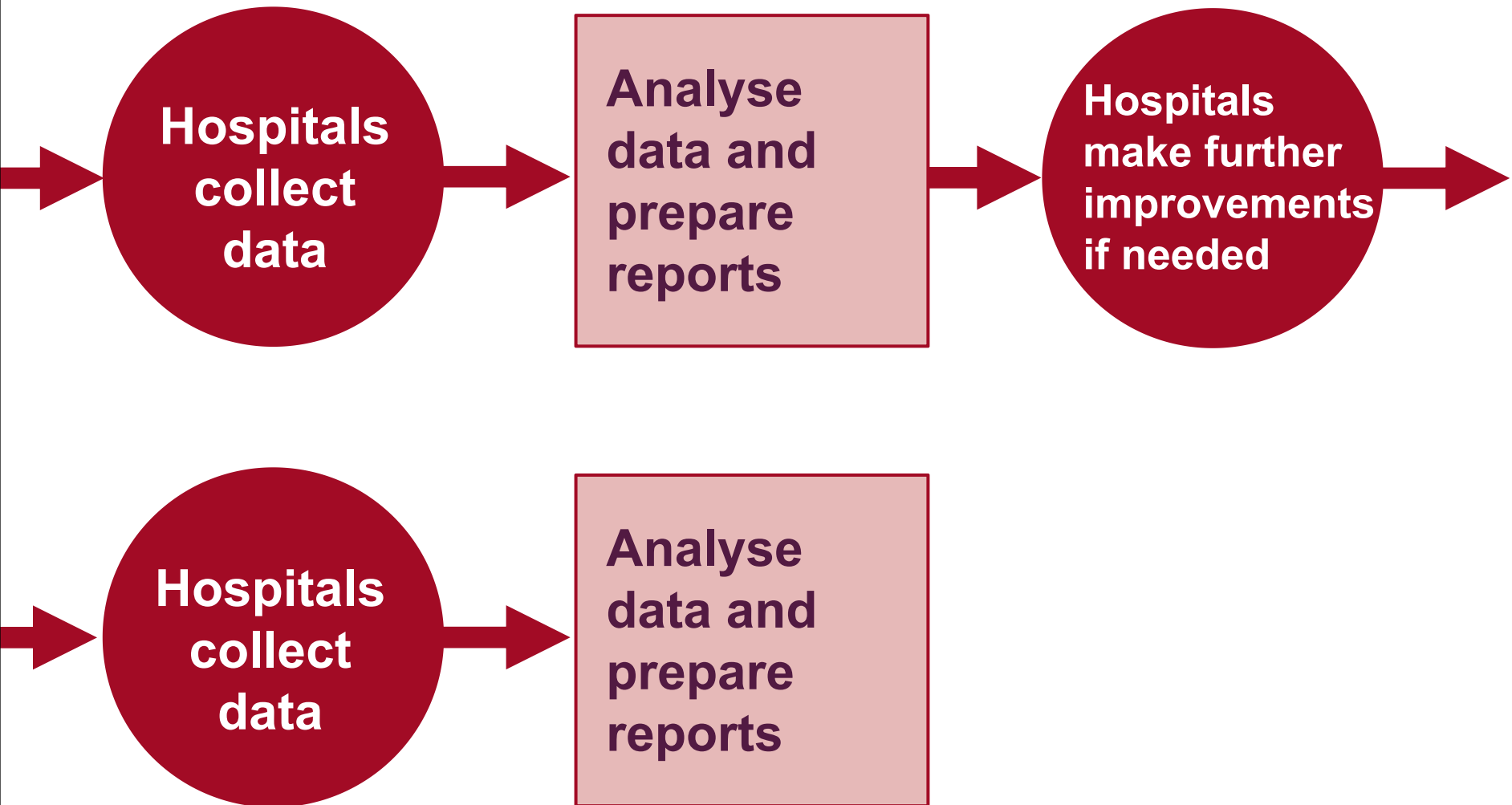
**Design
clinical
audits in
detail**

**Hold
workshops
for hospital
teams**

**Hospitals
start on
implementing
standards**

**Train
data
collectors**

National Clinical Audit Pathway





A clinical care standard is a statement that describes clearly the care a patient with a specific clinical condition should receive from a healthcare facility that is consistent with best evidence

Developing clinical care standards

- **Clinical experts**
 - Saudi named by Model of Care program
 - International selected by HQQ and approved by MoH
- **Used the Delphi process with the experts to agree on priorities for standards (10 to 15 maximum)**
- **Established criteria for selection**
 - Patient-focused
 - Evidence-based
 - Outcome-oriented
 - Multidisciplinary
 - Feasible



Developing clinical care standards

- Content and face validity provided for
- Standardized format for presentation of clinical care standards
 - The **standard**
 - The **purpose** of the standard in simple language
 - Explanations of **key terms** in simple language
 - **What the standard does for** — patients, clinical staff and the hospital — in simple language

Designing each clinical audit

- **Objectives, stakeholders, patients included and excluded, time period for data collection, strategy for data collection, quality-of-care measures (including exceptions), definitions of terms and instructions for data collection**
- **Drafted by HQQ clinical audit expert team and reviewed by Clinical Excellence Department and Saudi clinical expert groups**
- **Quality-of-care measures met internationally published criteria for measures**



Developing the data collection process

- **Data collection protocol**
- **Criteria for the design of data collection forms**
- **Process for developing the data collections forms**
- **Detailed instructions for data collectors**
- **Workshops for data collectors**

Preparing hospital teams

*Required a multidisciplinary team for each audit
— based on current evidence*

- **Workshops *before and after* data collection**
 - ***Before* — get ready to implement the Clinical Care Standards**
 - ***After* — change practice to improve compliance with the Clinical Care Standards**
- **Ongoing support for hospital teams**



Validating data and providing reports

- Data validation workshop
- Independent data validation — *Reliability standard of 85%*

Before	After
54.9% to 97.7%	94.1% to 100.0%

- Data "cleaning" and request for corrections or completions
- Provided detailed before and after change reports to everyone

Examples of the impact of pilot national clinical audits

For stroke patients, substantial increases in percentage of patients —

- For which ambulance crew alerts hospital of patient on the way
- Having NIHSS assessment completed and swallow screen in 4 hours
- Being closely monitored for temperature and blood glucose level and having LMWH

For MI patients, substantial increases in percentage of patients —

- Having fast and appropriate assessment in ED and fast transfer to cardiac cath lab
- Referred to a cardiac rehabilitation program

For Major Trauma patients, substantial increases in percentage of patients —

- Having trauma team leader there when patient arrives, pain relief and rehabilitation plan

For Sepsis patients, substantial increase in percentage of patients —

- Having the prescribed “bundle” of care on time

Impacts on patients and the public

Improved clinical outcomes

Improved patient-provider communication, information and education

The assurance that clinical care in the MoH hospital is consistent with international best practice

Access to Clinical Care Standards (*on the MoH website in English*)

More confidence in the care provided

Impacts on clinical staff

Credible Clinical Care Standards

Respect for the scientific approach of the pilot national clinical audits – *no challenges in 13 workshops with hospital staff*

Credible data collected through independent validation of the data — *no challenges to initial reports*

The need and willingness to improve clinical practice — *all hospitals submitted improvement plans*

Multidisciplinary team involvement — *contributing to changing the clinical culture*

Staff education and professional development priorities — *to meet the Clinical Care Standards*

Impacts on participating hospitals

Hospital management is aware of gaps in clinical effectiveness

Direct feedback to clinicians about the quality of patient record-keeping

Experience of how the quality improvement process applies to delivering clinically effective care

Use of hospital information systems to standardize clinical practice — *using pathways and protocols*

Sharing among hospitals how teams have improved the clinical effectiveness of care

Benefits of linking outcomes and clinical audit

<i>Patients</i>	Better clinical outcomes Better informed patients
<i>Clinical staff</i>	Clinical excellence in day-to-day practice Multiprofessional teamworking Priorities for staff education Better record-keeping Quality improvement applied to clinical practice Good practice shared

Benefits of linking outcomes and clinical audit

<i>Hospitals</i>	Collaborative culture across departments and professional lines
<i>Healthcare system</i>	Value-based care Pathways into IT systems Systems failures affecting patient outcomes Priorities for investment Clinical governance Healthcare organization reputation



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