

# Getting Knowledge into Action for Healthcare Quality

## Knowledge Translation as a Health Service: National Review and Implementation Plan

**“The great end of life is not knowledge but action”**

T.H. Huxley 1825-1895

# Overview

1. **The need for change** – knowledge as catalyst for healthcare quality.
2. **Current state** – a strong knowledge infrastructure.
3. **Improvement journey:**
  - **Vision and plans for change**
  - **Future state** – a knowledge translation health service for NHSScotland.

# The need for change

Knowledge as catalyst for  
healthcare quality

## Vale of Leven Hospital C. diff inquiry: expert discovers 10 more deaths

Published on 22 January 2012



Stef Lach

**A SUPERBUG outbreak originally thought to have killed 18 people may have been responsible for 28 deaths, according to an independent expert.**

# Vale of Leven Hospital C. diff inquiry: expert discovers 10 more deaths

Published on 22 January 2012



Stef Lach  
A **SUPERBUG** outbreak ori  
28 deaths, according to an

Important information for all staff

# stop press



## Management of Significant Adverse Events

### Message from John Burns, Chief Executive

The purpose of this Stop Press is to let you know about the actions we have taken to respond promptly to the recent review by Healthcare Improvement Scotland (HIS) into our management of significant adverse events.



## News & opinion

- ▶ [Analysis](#)
  - ▶ [Feed the family or fill the car: the stark choice facing nurses](#)
  - ▶ [Wright angle](#)
- ▶ [Editorial](#)
- ▶ [Health PR Zone](#)
- ▶ [Interviews](#)

## Poor quality care blamed on workload

### Nurses respond to key complaints reported to the Patients Association

Concerns about poor care top the list of complaints to the Patients Association's helpline. The association says there are four types of poor care that patients and relatives continually report.

First, nurses do not communicate effectively. For example, patient call bells often go unanswered. Second, patients are not assisted to go to the toilet. Third, patients are not given sufficient pain relief, and finally, patients are not given enough encouragement with nutrition. These four issues form the basis of our Care campaign.

**Scotland (HIS) into our management of significant adverse events.**

### Register your support



Register your support for the Care campaign

[Sign up today](#)



# A close call on health inequalities

New health inequality findings reveal that even in the wealthiest boroughs, some residents can expect to die long before their neighbours. **Rowenna Davis** reports



**Rowenna Davis**  
The Guardian, Wednesday 16 February 2011  
Comments (3)



An estate in St Charles ward, Kensington and Chelsea, where men can expect to live seven years less than those elsewhere in the borough Photograph: Teri Pengilley

In Glasgow's glittering West End, known as the "G12" after its prestigious postcode, the bars are filled with professional couples and Glaswegian musicians and artists, and celebrity footballers live close by. Outside the gated homes and 4WDs on Princes Gardens, a group of female students

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## load

### the Patients Association

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## All Our Futures Planning for a Scotland with an Ageing Population

1



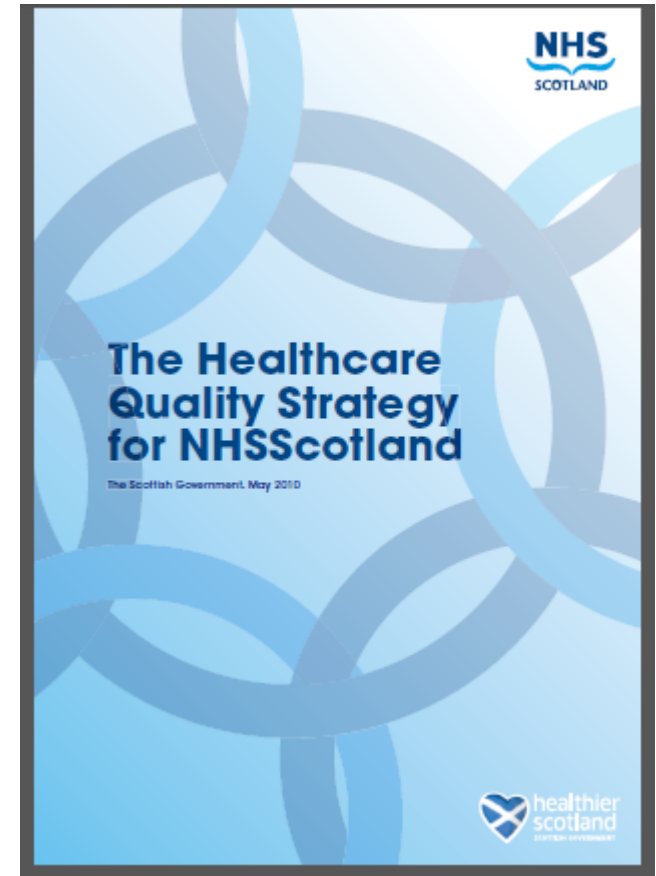
Summary and action plan



# Knowledge as catalyst for quality

- increased public expectations
- changes in lifestyle
- demographic change
- widening health inequalities
- an ageing population
- technology and information
- economic climate

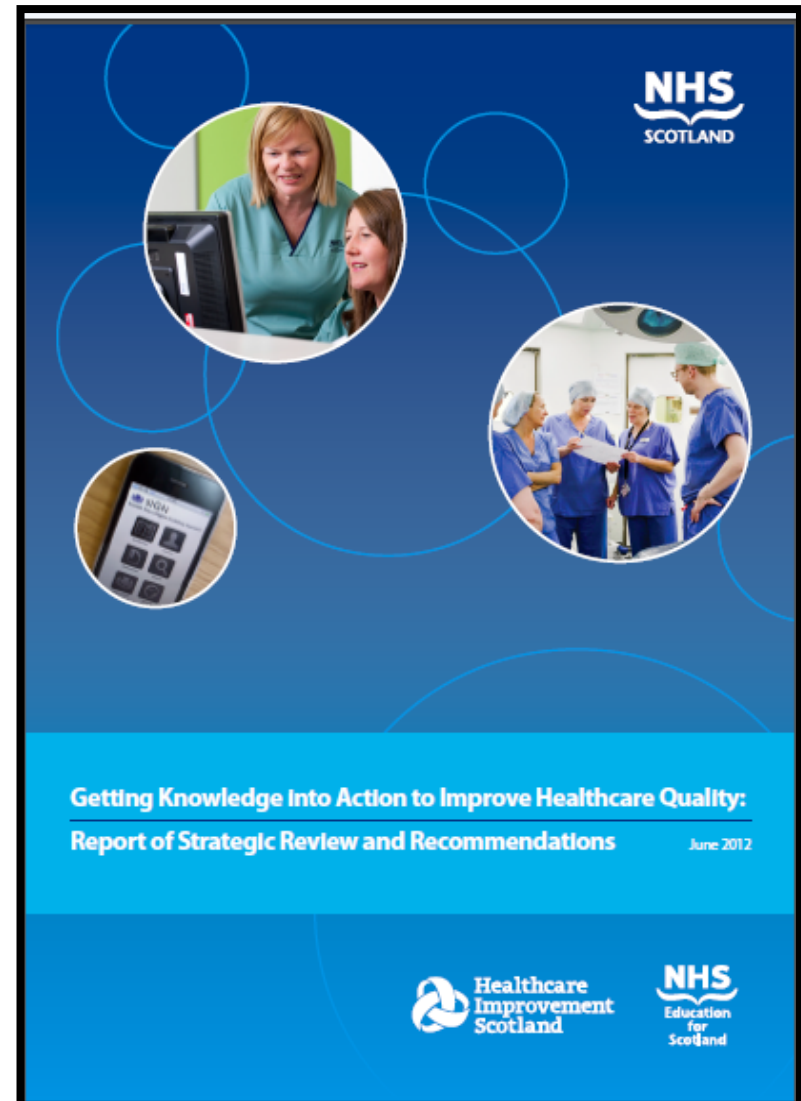
“More of the same will not work.”



# Knowledge into Action Review

## Define a national working service model to:

- \* help practitioners to **apply** knowledge to frontline practice.
- \* **embed** use of knowledge in healthcare improvement.
- \* support practitioners and managers to translate knowledge into better health **outcomes**



# **Current State: A Strong Knowledge Infrastructure**

# From Accessing to Applying Knowledge

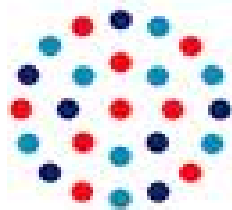


The screenshot shows the homepage of The Knowledge Network. At the top, there is a navigation bar with links for 'My Resource Space', 'About The Knowledge Network', and 'Help and Training'. A 'Login' button and a link to 'Why register?' are also present. The main header features the title 'The Knowledge Network' with the tagline 'Knowledge into Action for Health and Care' and the NHS Education for Scotland logo. Below this is a horizontal menu with tabs for 'Home', 'Portals and Topics', 'Communities', 'Library', 'Learning and CPD', 'Keep Up To Date', and 'Tools and Apps'. A welcome message box states: 'Welcome to the new look Knowledge Network. Find out about changes to the site from Help and Training. Please email knowledge@nes.scot.nhs.uk with any comments.' The central area is divided into a search section on the left and a 'Welcome' section on the right. The search section includes a search bar with the text 'Evidence, articles, books, elearning...', a 'Search' button, and options for 'All' and 'Evidence and Guidance'. Below the search bar, there are links to 'Narrow your search' and 'Go to the Library to find: A Journal, A Book, A Specific Article', along with a 'Trial our Full Text Article Search' link. The 'Welcome' section features a 'Knowledge Network - Key Areas' sidebar with links to 'Quality Improvement', 'Evidence into Practice', 'Social Services', 'Management', and 'Admin/Support Services'. The main content of the 'Welcome' section states: 'The Knowledge Network provides evidence, information, e-learning and community tools. It supports all staff to find, share and use knowledge in day to day work and learning.' Below this is a DNA double helix icon. At the bottom, there is a section titled 'Explore Knowledge Network Features' with four featured items: 'Journals and Books' (Full text journals, books, databases and point of care services), 'CLEAR' (Clinical Enquiry and Response Service), 'Point of Care Knowledge' (Key resources to support clinical decision making), and 'Online Training Sessions' (Free online training sessions on The Knowledge Network and SSKS).

## Knowing

- Knowledge Network - 12 million + resources
- Knowledge products – SIGN, HIS, HPS, NES as “knowledge broker” organisations.
- 66 libraries
- 116 library staff

# From Accessing to Applying Knowledge



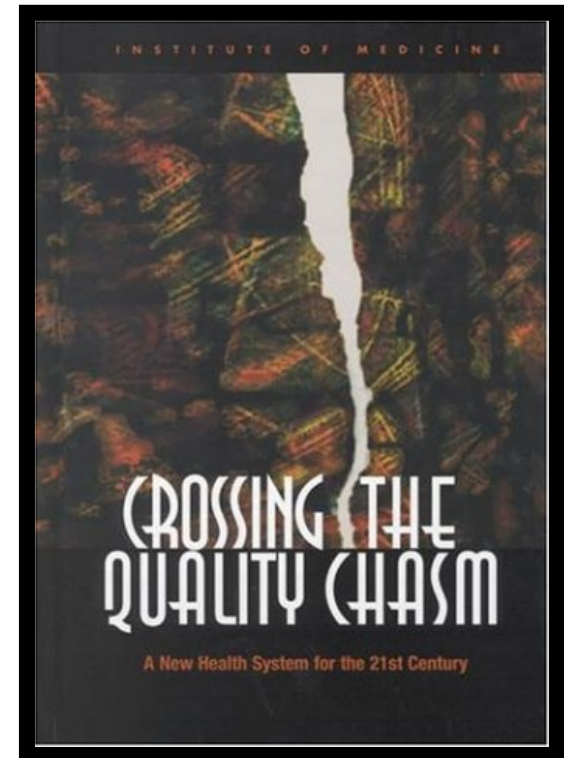
## Doing?

How much of this gets used in a meaningful way to improve safe, effective, person-centred care?



# Knowledge-Practice Gap

- 40-45% defect rate in healthcare system – patients not receiving care as recommended in guidelines. (Grol, 2001; McGlynn et al, 2003)
- 17 years to get research recommendations into practice. (Balas et al 2000)



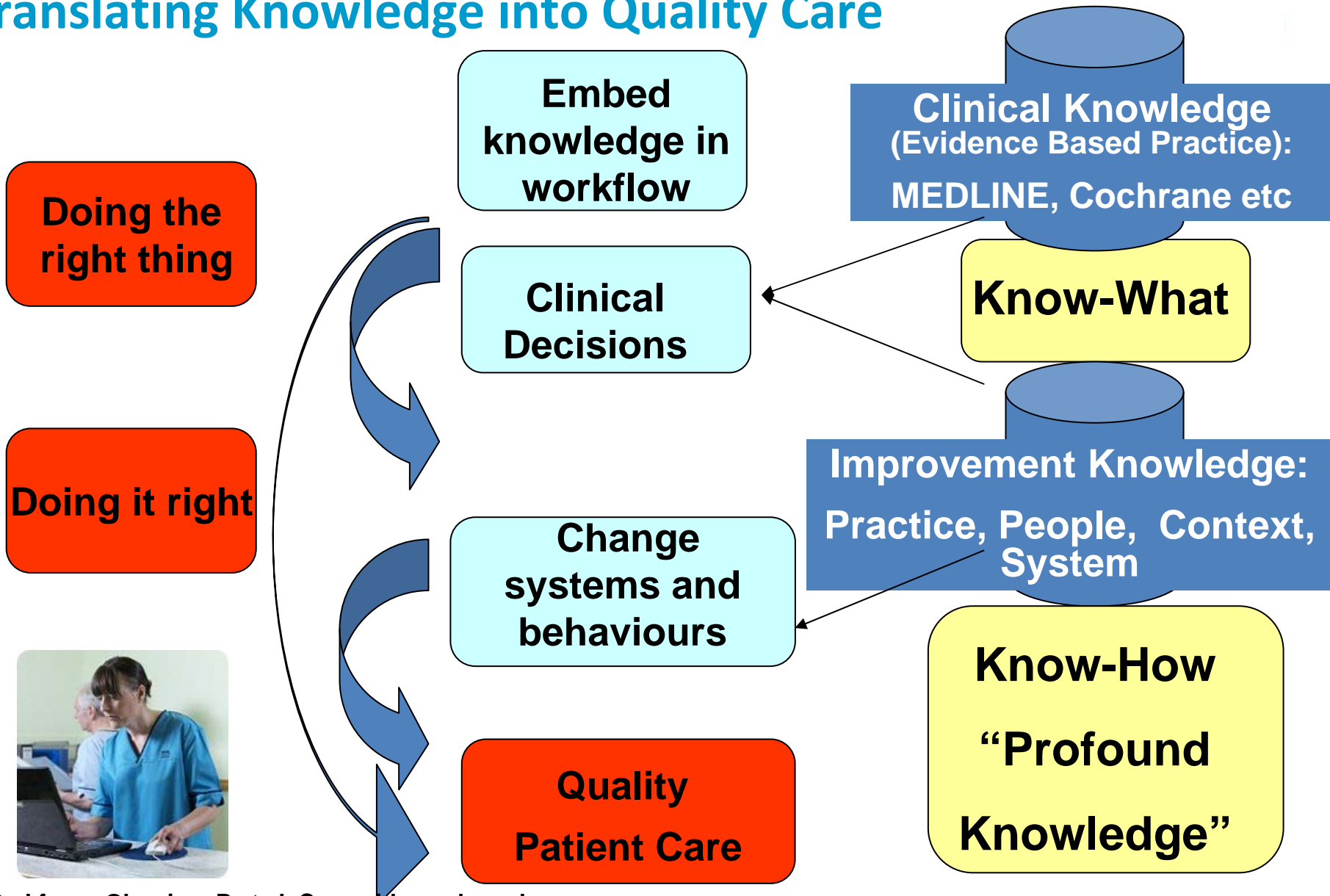
Institute of Medicine, 2001

# Need for a new knowledge paradigm



- 1. Limitations of research** evidence – 15%-20% of clinical issues. Williamson 1979, Sackett, 1995.
- 2. Information overload-** “Seventy-Five Trials and Eleven Systematic Reviews a Day: How Will We Ever Keep Up?” Bastian, H. et al 2010
- 3. Context:** Overestimation of impact in research studies compared with real-life contexts. Ioannidis, 2011.
- 4. Irreproducibility** of research results Naik, 2011
- 5. Personalisation:** Limitations in applying research results and guidelines to individual patients with complex needs. Kent, 2007; Lutgenberg, 2009.

# Translating Knowledge into Quality Care



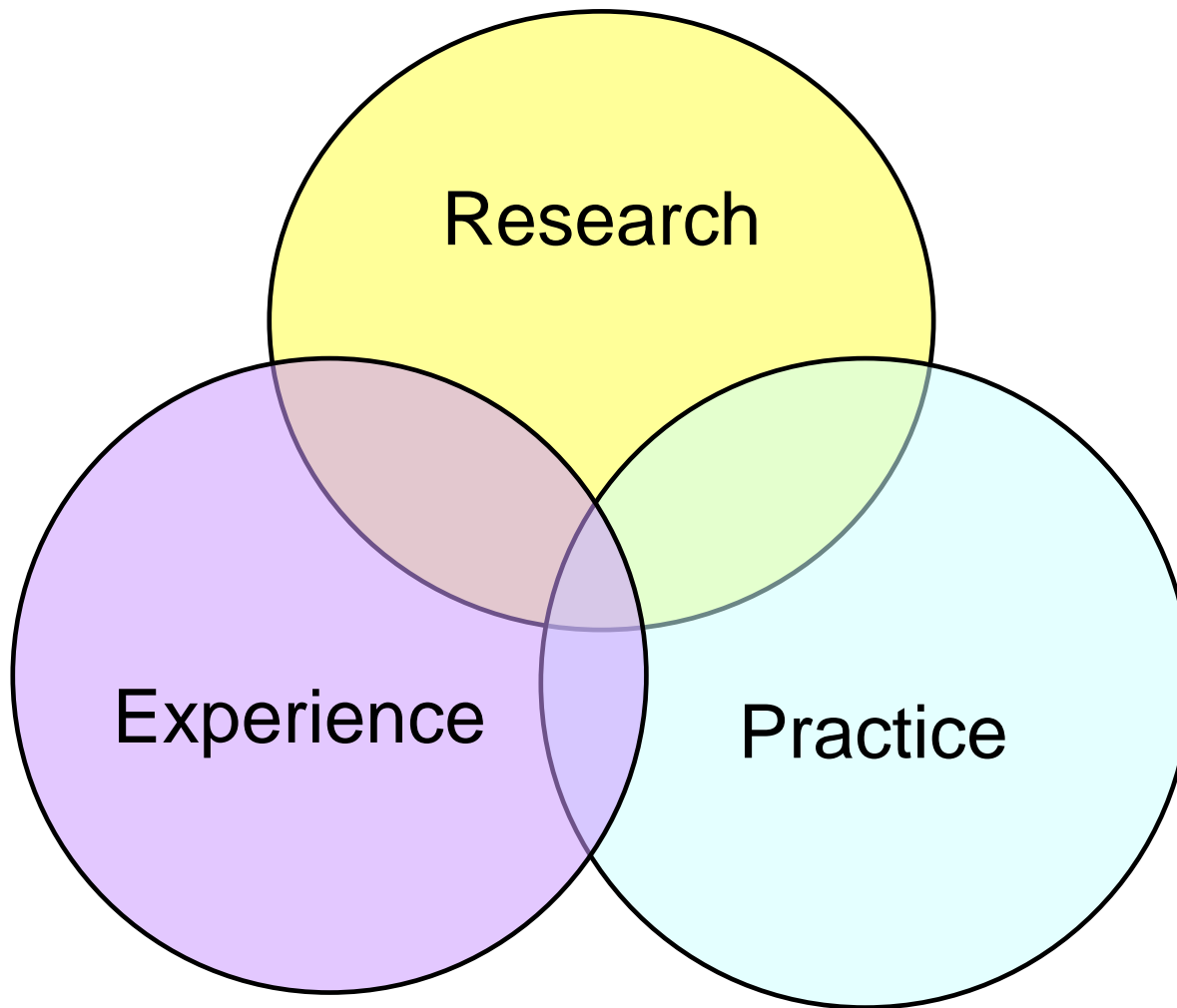
Adapted from: Glasziou, P et al. Can evidence-based medicine and clinical quality improvement learn from each other? 2011. *BMJ Qual Saf* 20 (suppl 1): i13-i17

**Activities within  
National Knowledge into Action Service  
- derived from Research Evidence and Tests of Change**

# **Service Element 1: Knowledge Search and Synthesis**



# Source- Combine- Present Knowledge



# Examples

1. Online clinical enquiry and summary service.
2. Case studies / stories of use of knowledge to improve stroke rehabilitation.
3. Combining research and statistics to define a model of prevalence of community acquired pneumonia - supports service planning.

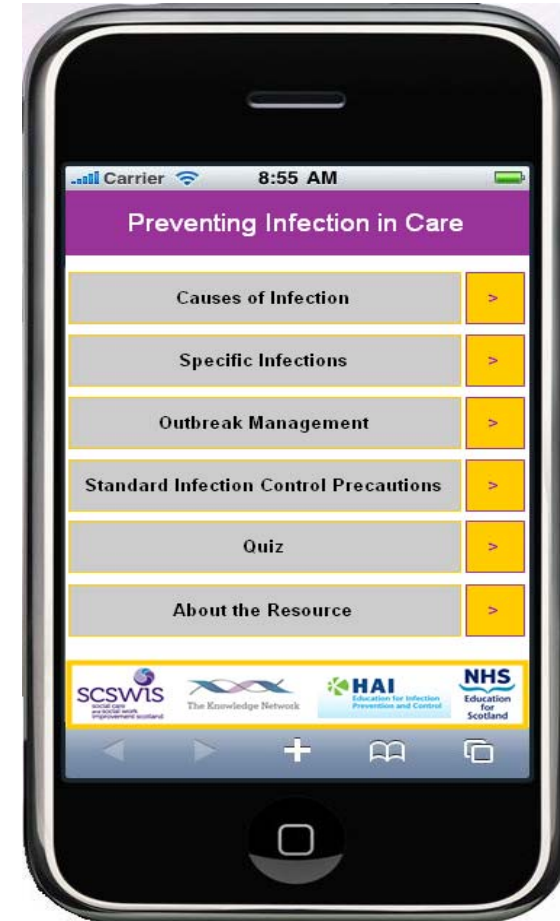
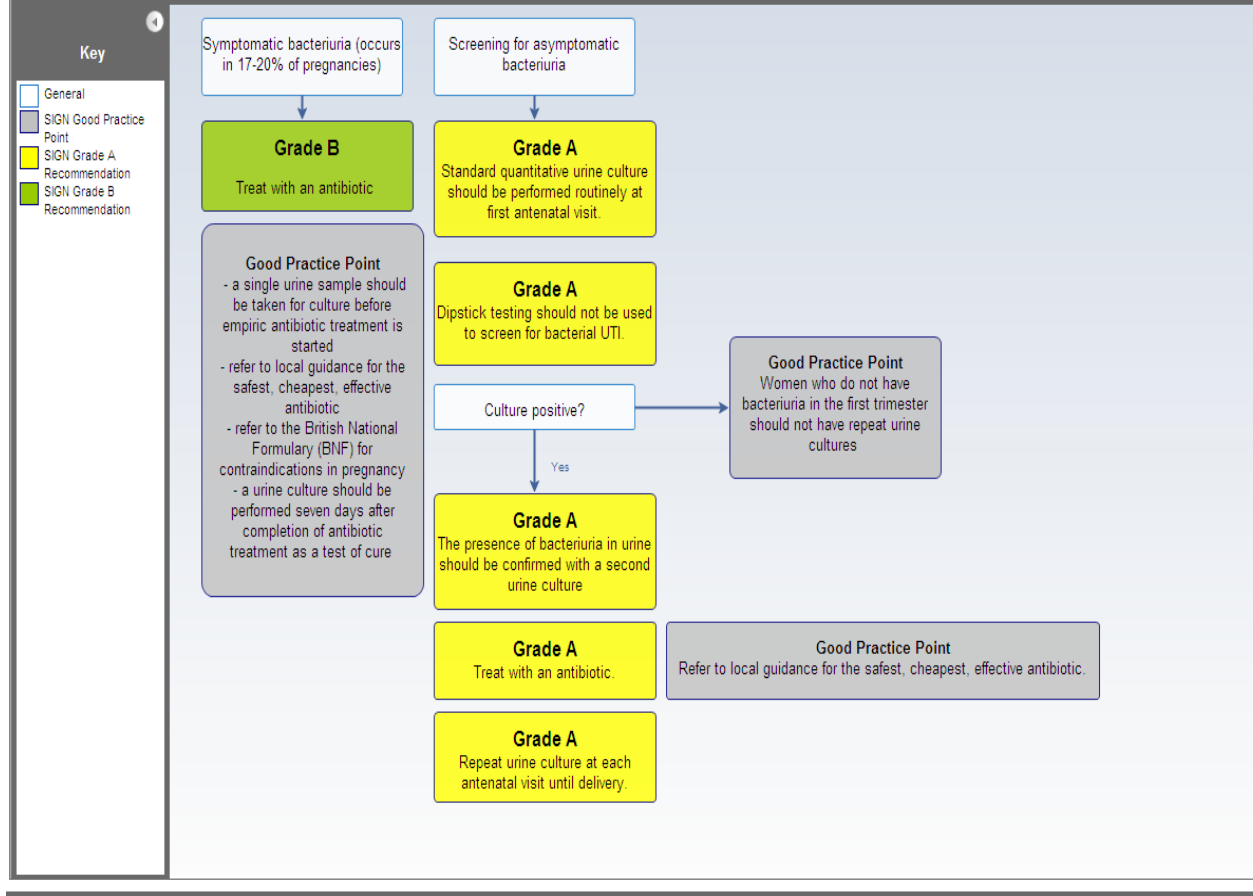


The screenshot shows the CLEAR website interface. At the top, it says "The Knowledge Network You are not logged in. Log In/Register" and "Help and Training". The main header is "CLEAR: clinical enquiry and response service" with the NHS Education for Scotland logo. Below the header is a "Resource Library" search bar. A navigation menu includes "Home", "Ask a question", "Answers", "About Us", and "Help". The main content area is divided into two columns. The left column is titled "Question and Answer Categories" and lists various medical topics such as "Blood and immune system", "Cancer", "Cardiovascular", "Central nervous system", "Diagnostic procedures", "Digestive system", "Ear, nose and throat", "Endocrine, nutritional and metabolic", "Eye", "Gynaecology, pregnancy, and birth", "Infectious disease", "Injuries, accidents and wounds", "Mental health and behavioural conditions", "Mouth and dental", and "Musculoskeletal". The right column is titled "Welcome to CLEAR: clinical enquiry and response service" and contains a welcome message, a "Recently Asked Questions" section, and a list of resources with their titles and brief descriptions.

# **Service Element 2: Actionable Knowledge**

Knowledge packaged and structured to embed within practitioner workflow.

### SIGN 88: MANAGEMENT OF SUSPECTED LUTI IN PREGNANT WOMEN



# Pathway Publication Tool

O'Connor, Betty

NHS Number: 052157-9456 Age:

City:

Patient search Change history Library Attachments Selfcare Efficacy transfer Logout

Information Visits Diagnoses Medication Measurements Patient summary

Diagnoses

30.05.2008 Non-insulin-dependent diabetes mellitus

Acute diagnoses

Medication and dosage

30.05.2008 Simvastatin 40mg tablets

Other allergies

Decision support

Target values

Reminders:

- The patient has type 2 diabetes. Metformin is the primary choice for better glycemic control. As the glomerular filtration rate calculated with the MDRD formula is below normal range (45 ml/min), lower dosage should be considered. (scr00016)
- The patient has type 2 diabetes and no indication of ASA allergy or asthma. Based on current knowledge, ASA treatment is encouraged using a dose 100 mg daily. (scr00108)

Guidelines:

- Metabolic syndrome
- Newly diagnosed type 2 diabetes
- Diabetes: definition, differential diagnosis and classification
- Treatment and follow-up in type 2 diabetes
- Lifestyle education in type 2 diabetes
- Oral antidiabetic drugs in the treatment of type 2 diabetes
- Insulin therapy in type 2 diabetes



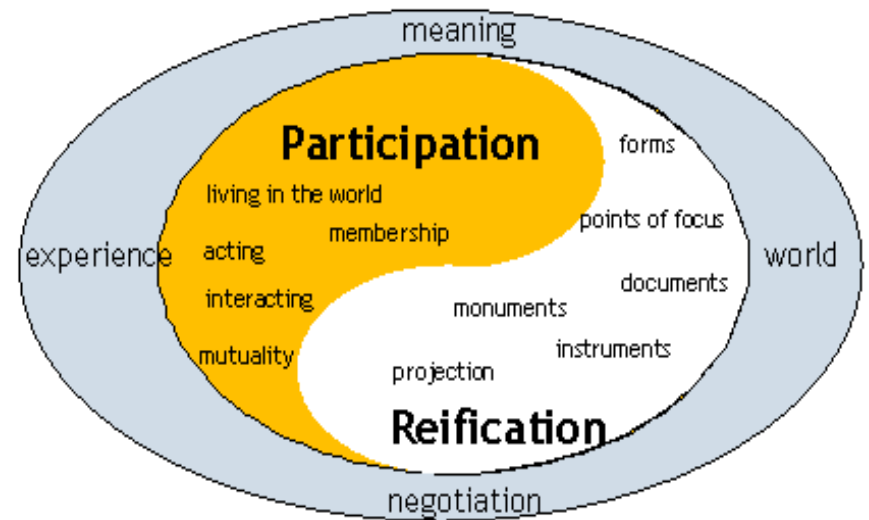
## **Service Element 3: Social/Relational Use of Knowledge**

Facilitating interaction among people to exchange and disseminate knowledge.

# Social network



# Community of Practice



# **Service Element 4: Building Capacity and Capability for Use of Knowledge**

# Capacity and capability

- Executive Leads
- Clinical Champions
- Workforce capabilities
- Planning creation, exchange and dissemination of knowledge.



“Your proposal is innovative. Unfortunately, we won’t be able to use it because we’ve never tried something like this before.”

# **Service Element 5: Delivery Agents - a National Network of Knowledge Brokers**



# National Knowledge Broker Network



## What?

A coordinated network, providing the package of knowledge translation services.

## Who?

Librarians, clinical effectiveness leads, practice education facilitators, public health practitioners, researchers, information services etc.

## How?

Develop knowledge, skills, values of knowledge brokering  
Coordination processes.  
Culture of collaboration and sharing.



# Knowledge into Action Vision



An integrated network of knowledge brokers working in close partnership with improvement teams and clinicians to translate knowledge into action through services for :

- expert search and synthesis of evidence from research and experience
- delivering actionable knowledge solutions
- exchange and dissemination of knowledge through people networks.

# Future State: A National Knowledge Translation Service

“The future is already here – it’s just not very evenly distributed.”

*Attr William Gibson*

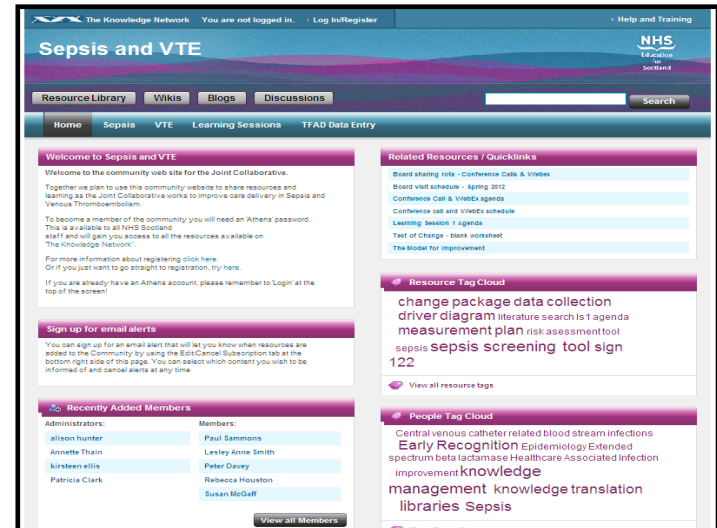
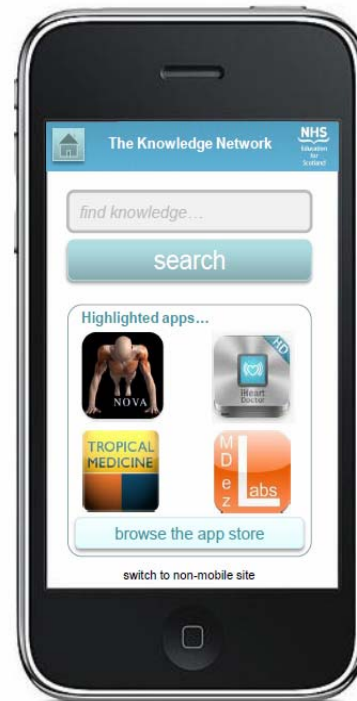
# 1. Whole System Improvement

## Sepsis Collaborative

Sepsis Improvement Programmes – 6 hour bundle

Change (Sepsis resuscitation bundle - within 6 hours)	IHI	Surviving Sepsis Campaign	NHS Wales 1000 lives (based on Surviving Sepsis campaign & Sepsis Six)	Daniels et al. 2010	SPSP/SAPG
Serum lactate measured	✓	✓	✓	✓	
Blood cultures obtained prior to antibiotic administration	✓	✓	✓	✓	
Improve time to broad-spectrum antibiotics	✓	✓	✓	✓	
Treat hypotension and/or elevated lactate with fluids	✓	✓	✓	✓	✓
Apply Vasopressors for ongoing hypotension	✓	✓	✓	✓	(Outlined but no detail provided)
Maintain adequate central venous pressure	✓	✓	✓	✓	
Maintain adequate central venous oxygen saturation	✓	✓	✓	✓	

Click on the ✓'s for links to full details under each improvement programme



## Community of Practice

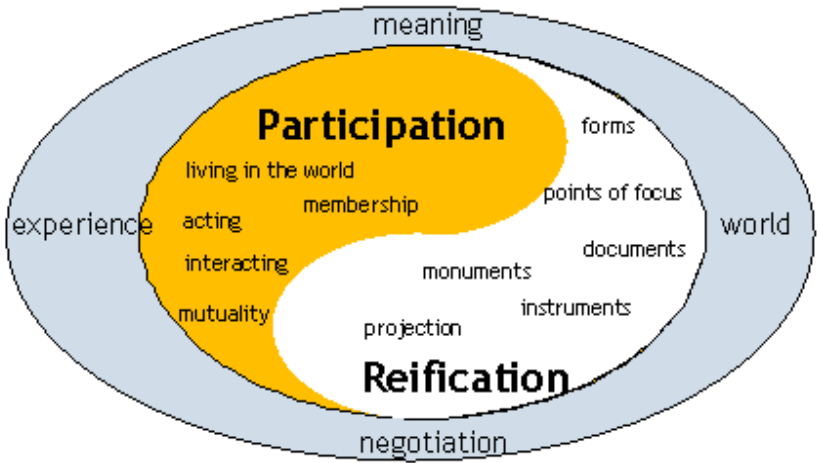
## Actionable knowledge

## Know-how and Know-what

# 2. Organisational Improvement



## Community of Practice creates Decision Support Rules for Diabetes in Primary Care in NHS Tayside



Community of Practice

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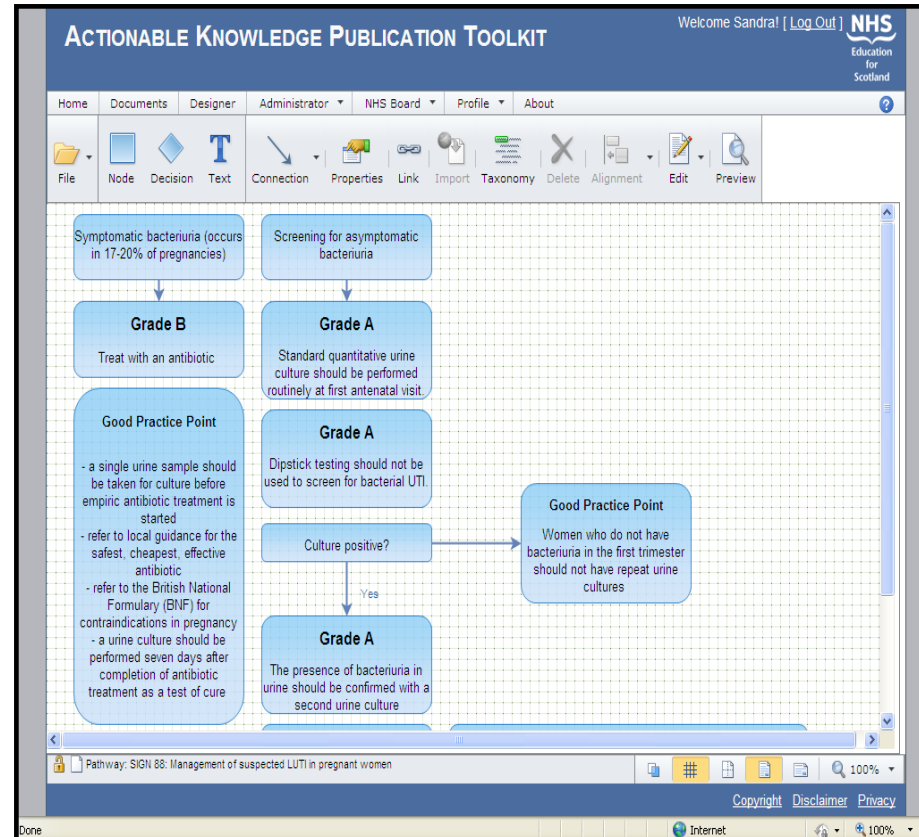
# 3. Team improvement



Macmillan Cancer Lead Nurse in NHS Fife - audit data showed that lung cancer patients admitted to respiratory wards were not always receiving care in line with best evidence.

She uses the knowledge translation service to:

- Create a clinical pathway via the pathway publication toolkit and embed this in the web browsers of all computers in the wards.
- Deliver 1-1 Educational detailing sessions with ward staff.



## 4. Improving individual practice

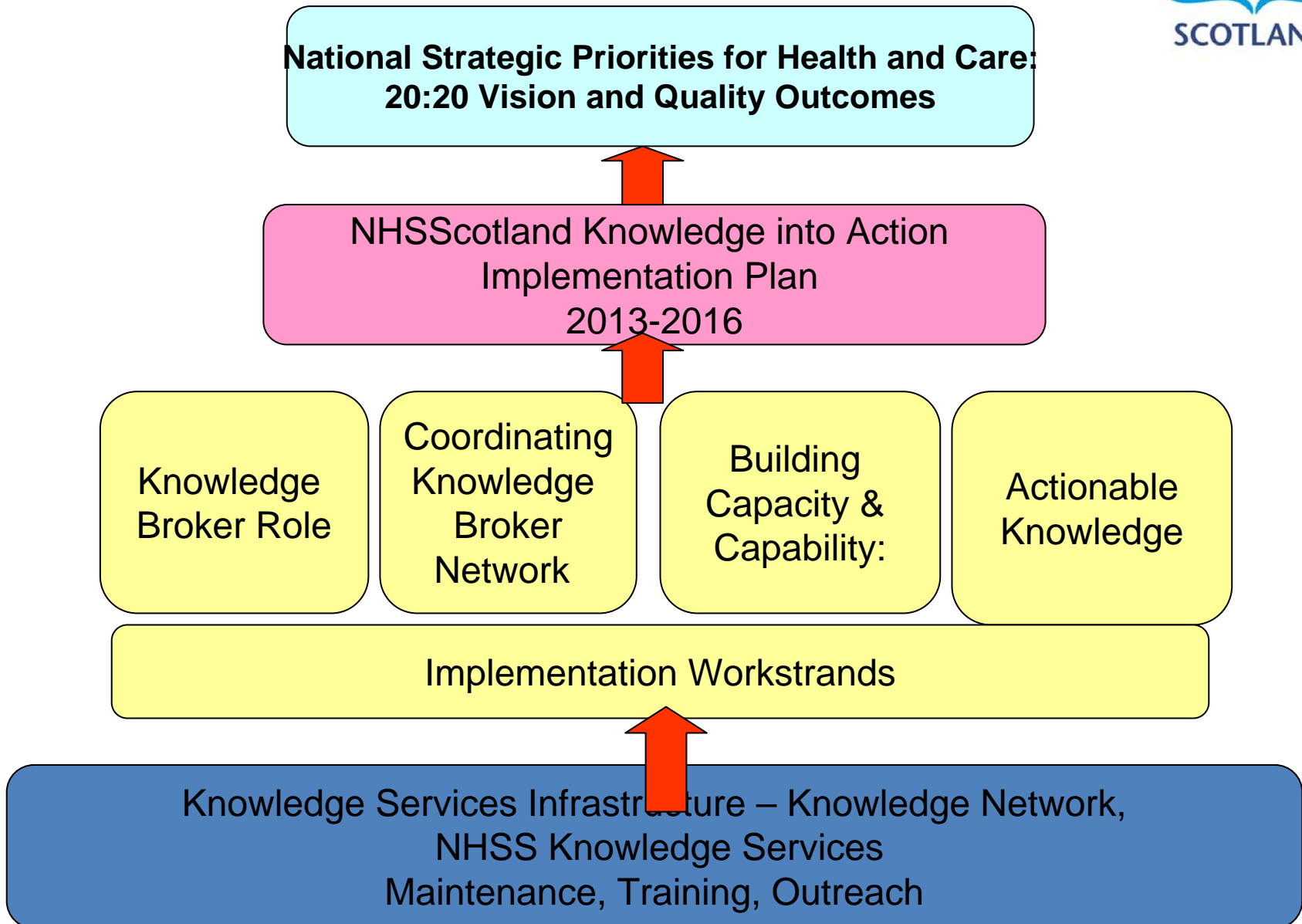
Piloting clinical librarian services:

- ITU – NHS Greater and Clyde.
- Urogynaecology – NHS Ayrshire and Arran
- 71% of cases – answers helpful for patient;
- 26% of cases – changed decisions.





# Implementation Structure 2013-2016



# What does this mean for patients and practitioners?



## Measuring direct and indirect impact

- **Improve outcomes** – doing the right things in the right way, doing things better every year.
- **Prevent disease**, improve health - e.g. Preventing premature deaths through timely treatment.
- **Reduce harm** – identifying safety problems by making tacit knowledge explicit.
- **Reduce waste** – through acting on knowledge of ineffective or wasteful practice.
- **Improve care experience** - by embedding knowledge in therapeutic relationship.

**“The transfer of knowledge *is* care.”**



*Crossing the Quality Chasm, 2001*

- From knowledge support service to knowledge translation as a health and care service in its own right.
- Crucial component of the healthcare quality agenda.
- Power to transform the experiences of patients, service users and practitioners.

# Getting Knowledge into Action for Healthcare Quality

## Knowledge Translation as a Health Service

**“Knowing is not enough; we must apply.  
Willing is not enough; we must do.”**

*- J.W. Goethe (1749 –1832)*