



26-28 SETTEMBRE 2022

10° CONGRESSO NAZIONALE

**SIMPIOS**

**SIMPIOS**

Società Italiana Multidisciplinare per la Prevenzione  
delle Infezioni nelle Organizzazioni Sanitarie

# Regional control of HAIs and MDROs: the Australian experience

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# Ancona

Victoria



Location in Shire of Mansfield

## Coordinates

 36°59'03"S  
145°47'55"E

## Population

84 (2016 census)<sup>[1]</sup>

## Postcode(s)

3715





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- Why a regional approach?
- Successes
- Challenges
- Lessons learnt



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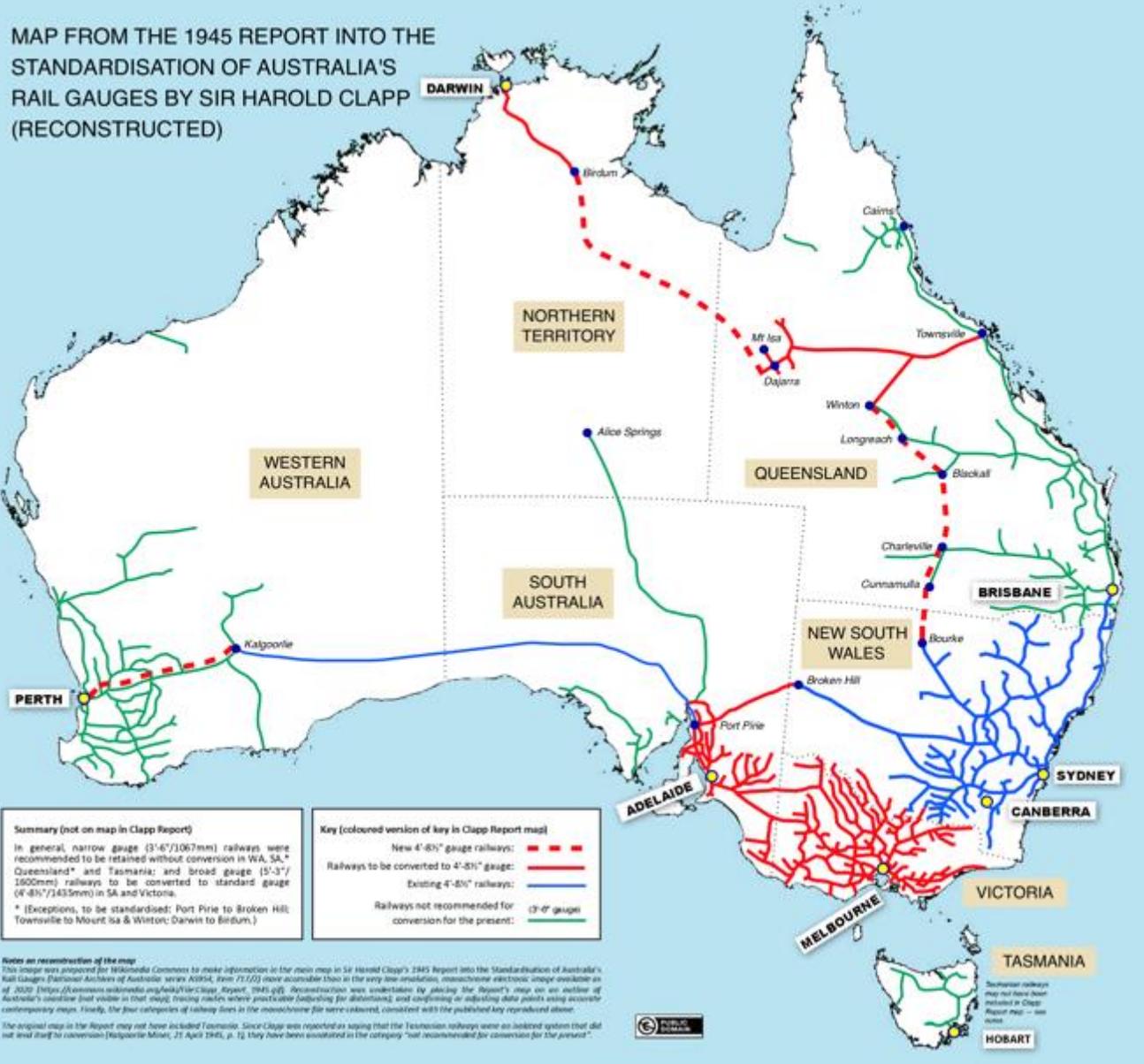
# • Why a regional approach?

- Successes
- Challenges
- Lessons learnt

# Australia is a federation of states & territories



MAP FROM THE 1945 REPORT INTO THE  
STANDARDISATION OF AUSTRALIA'S  
RAIL GAUGES BY SIR HAROLD CLAPP  
(RECONSTRUCTED)

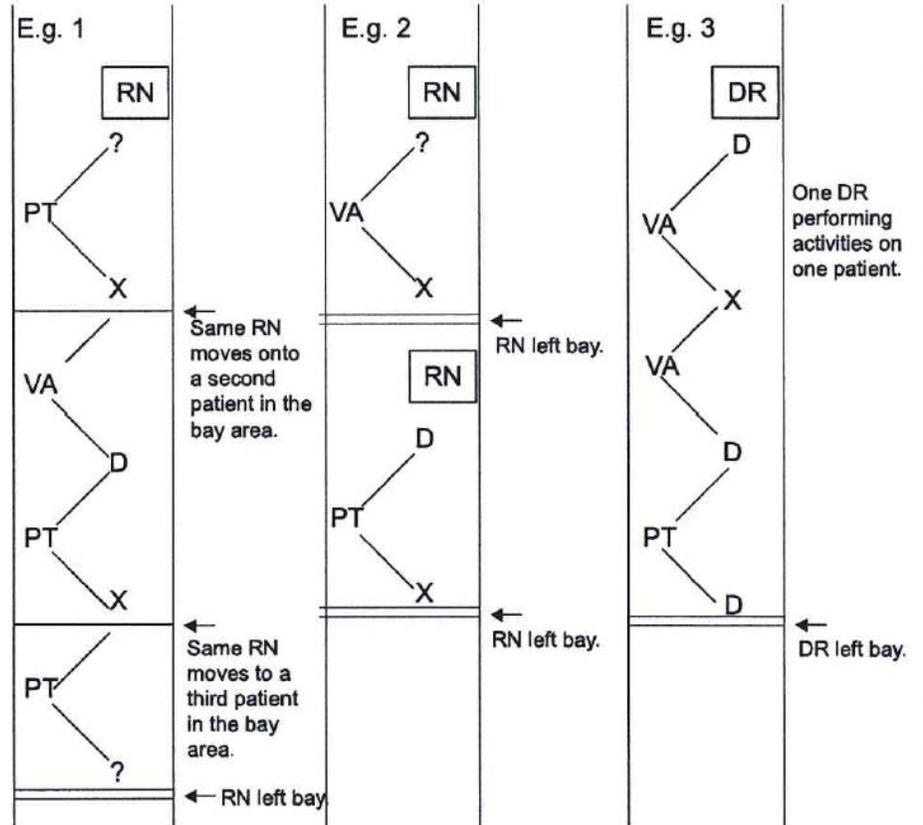


Coordination  
between states &  
territories takes  
deliberate effort



Triple gauge, Galdstone, South Australia

# Victoria: Hand Hygiene Compliance Tool (HHCT)



- 8 HCW types
- 9 hand hygiene methods
- Gloves: Non-sterile vs. sterile
- 14 indications

# New South Wales: *Clean hands save lives* program

Overt Observation Tool		Facility:							
Date:		Nurses				Doctors			
Time:		Before		After		Before		After	
Low Risk		Opp.	HH Obs	Opp.	HH Obs	Opp.	HH Obs	Opp.	HH Obs
Touching sterile goods									
Making clean bed									
Contact with notes, telephone, computer									
Medication round									
Other									
<b>Low Risk Tally Total</b>									
Medium Risk									
Stripping a non-soiled bed									
Patient contact (hand shake)									
Manipulating medical devices in immediate patient environment									
Helping to move patient in/out of bed									
Cleaning beds, furniture									
Observations (TPR & BP)									
Setting up & removing IVI, giving injections									
Donning and removing gloves									
Bed bath, washing patient									
Other									
<b>Medium Risk Tally Total</b>									
High Risk									
Dealing with bodily secretions (urine, faeces, blood) eg catheter bags									
Suctioning, tracheostomy care									
Wound dressings									
Phlebotomy, cannulation									
Between procedures on same patient									
Attending MRO patient									
Other									
<b>High Risk Tally Total</b>									

- 4 HCW types
- Hand hygiene methods: NA
- Gloves: NA
- HH indications: before & after
  - Low-risk
  - Medium risk
  - High-risk

# Queensland: hCAT™ Hand Hygiene Audit Tool

Centre for Healthcare Related Infection Surveillance and Prevention

hCAT™ HAND HYGIENE AUDIT TOOL							
Health Service District: DVD					Date:		
Hospital:				Start Time:		Finish Time:	
Ward/Unit/Department:					Observer:		
Scene No	Hand Hygiene Opportunity	Pre-activity Hand Hygiene		Post-activity Hand Hygiene		Compliant	Comments
		Routine	Alcohol	Routine	Alcohol		
1	9		✓		✓	✓	Short duration patient contact – touch patient hand
2	10		✓		✓	✓	Contact with inanimate object - infusion pump
3	9		✓		✓	✓	Short duration patient contact – vital signs
	9					X	After touching curtain no pre prior to patient contact, no post leaving the cubicle
4	5		✓		✓	✓	Invasive procedure as blood sugar level test – skin integrity breach – no device <i>in situ</i>
5							Did not see pre – two choices 1. is you ask HCW if pre was undertaken 2. do not score pre or post If ask – it is a opportunity 7 because contact with blood and bodily fluids.
6	7		✓	✓		✓	Contact with blood tissue
7	7		✓		✓	✓	Potential contact with bodily fluids – IDC drainage bag
	10		✓		✓	✓	Post 7 becomes pre 10 – inanimate object –chart
8							Did not see pre – two choices 1. is you ask HCW if pre was undertaken 2. do not score If ask and answer is yes pre = ✓ if answer is no pre = X
	10		✓		✓	✓	Contact with chart
9	10		✓		✓	✓	Contact with inanimate objects

- 4 HCW types
- Hand hygiene methods: 2
- Gloves: NA
- 10 HH indications
  - Before & after

# 1. Standardisation

- Consistency & credibility ~ potentially undermined by variability
- Migratory staff ~ avoid confusion & frustration
- Benchmarking ~ compare different hospitals

## 2. Efficiency

- Constrained resources
- Minimise duplication

**Caveat:**

- Duplication is not always a bad thing
- Practice-based evidence vs. evidence-based practice

# 3. Implementation

- 'Guidelines do not implement themselves'
- A national initiative can help:
  - Resources and materials
  - Awareness raising
  - Executive/hospital leadership involvement
  - Exchange of ideas & innovations
  - Support framework
  - Solidarity

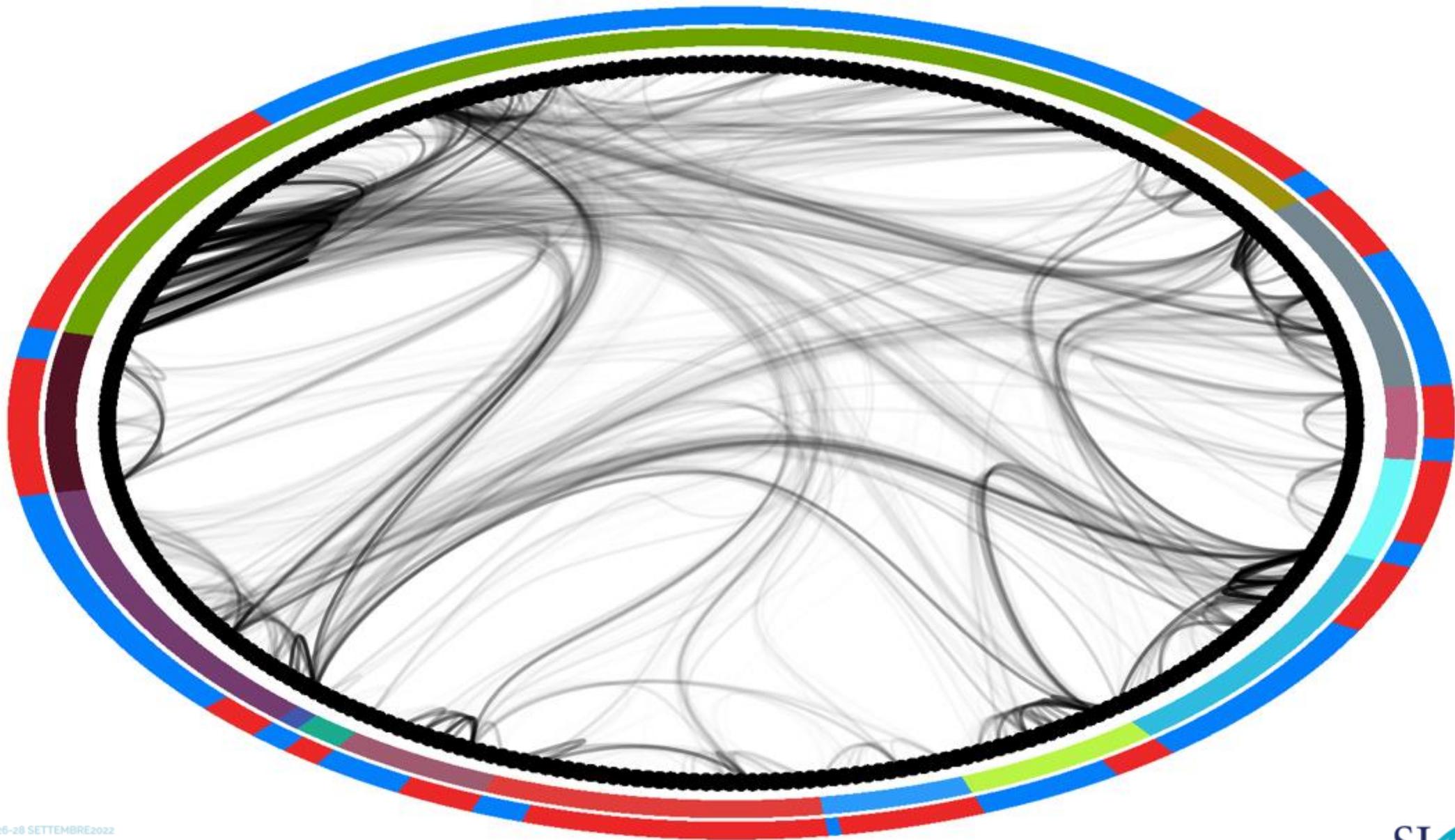
*No man is an island,  
Entire of itself,  
Every man is a piece of the continent,  
A part of the main*

John Donne  
(1572-1631)



# Patient movement networks

- Hospitals are a focus for the amplification and spread of AMR
- Hospital-based AMR infection prevention strategies have customarily been implemented independently within individual hospitals
- Shared patient populations as ‘bridges’ between hospitals via which AMR can spread
- Effective AMR surveillance and containment actions must consider hospital networks defined by shared patient populations



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- **Successes**

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# Hand hygiene

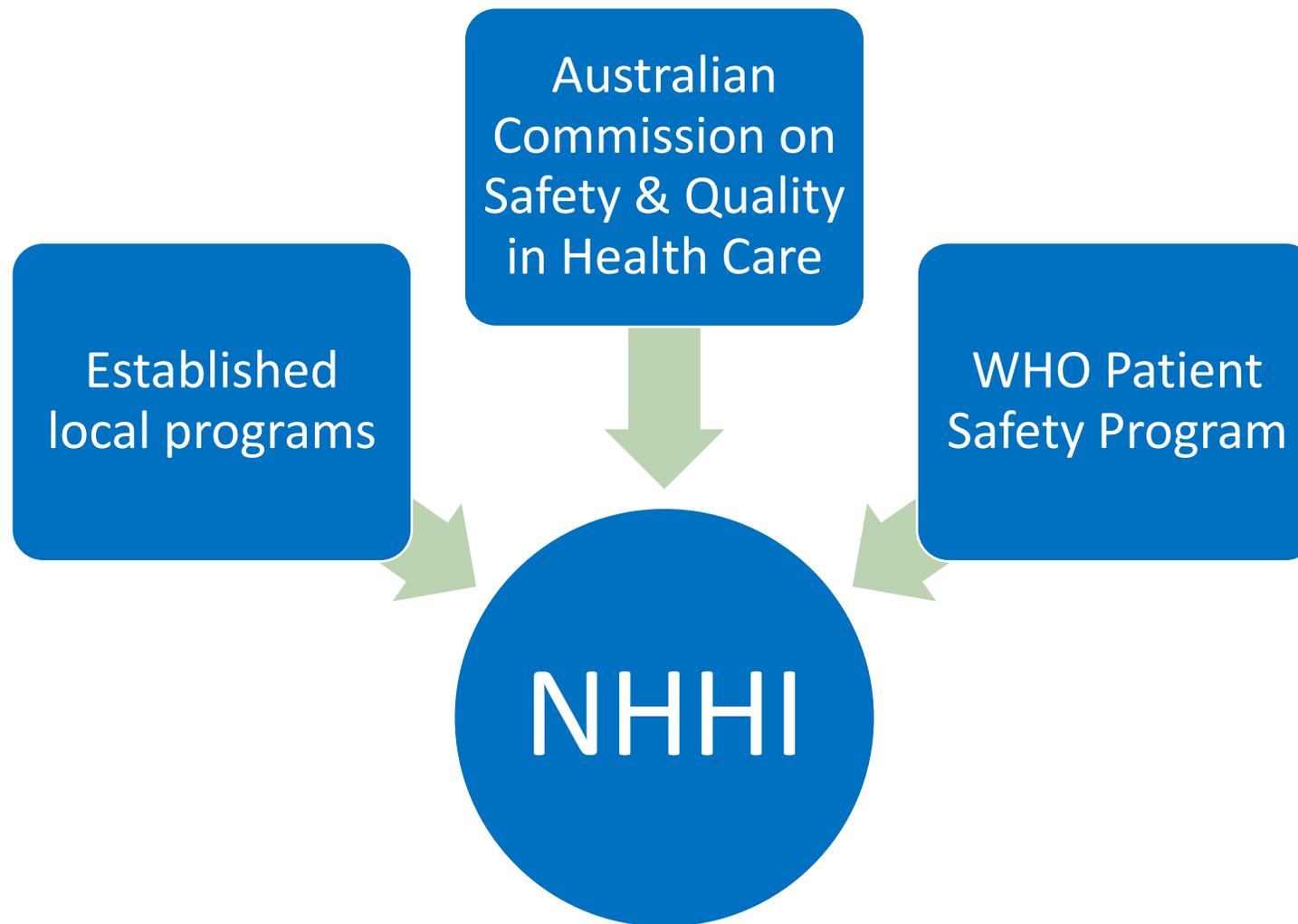
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## Effects of the Australian National Hand Hygiene Initiative after 8 years on infection control practices, health-care worker education, and clinical outcomes: a longitudinal study



*M Lindsay Grayson, Andrew J Stewardson, Philip L Russo, Kate E Ryan, Karen L Olsen, Sally M Havers, Susan Greig, Marilyn Cruickshank, on behalf of Hand Hygiene Australia and the National Hand Hygiene Initiative*

# National Hand Hygiene Initiative



# NHHI Objectives

**A national hand hygiene culture-change program that will:**

- ↑ hand hygiene compliance
- ↓ healthcare associated infections *S. aureus* diseases
- Establish an education & credentialing system to improve knowledge about hand hygiene and infection control
- Make hand hygiene and infection prevention 'core business' for all healthcare institutions and the wider Australian community

# Key Components

## 1. System change

- Alcohol-based handrub at the point of care

# Key Components

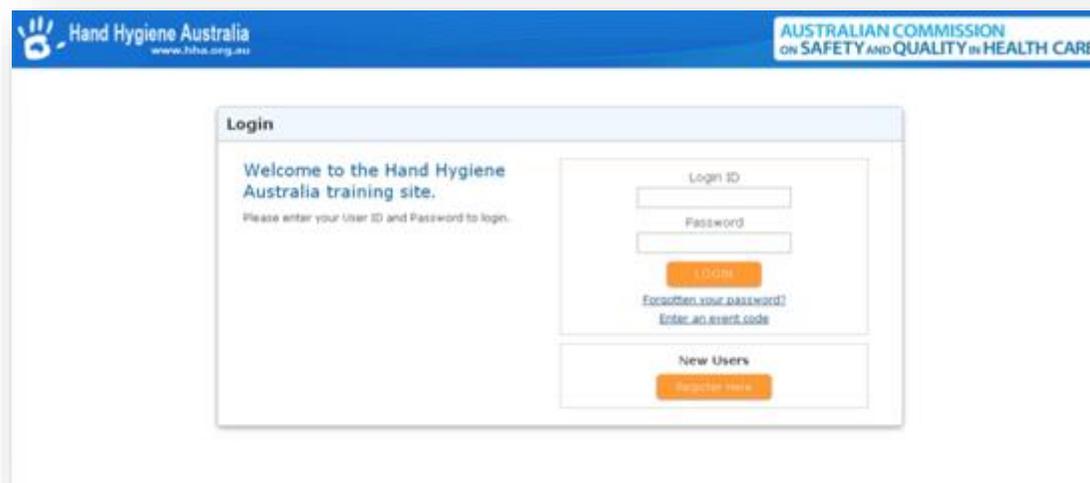
## **1. System change**

- Alcohol-based handrub at the point of care

## **2. Healthcare worker education**

- Healthcare associated infections & hand hygiene
- Educational materials
- Profession-specific eLearning modules

# Healthcare worker education



## Online learning modules

- Hand hygiene: healthcare worker professions, students
- Hand hygiene auditors
- Infection Control Orientation

## Learning management system

- 1,615 organisations registered, including 48 educational institutions
- 500 – 1,500 module completions per day

# Healthcare worker education

The screenshot displays the HHA Training web application interface. At the top left, the logo for Hand Hygiene Australia (www.hha.org.au) is visible, along with the text "HHA Training". On the top right, there are links for "Help" and the user name "Andrew Stewardson".

The main interface is divided into several sections:

- Search Section:** Includes a search input field with the placeholder "Enter Search Text ...", a "Search" button, and options for "Advanced" and "Browse Catalogue".
- Task List:** A section titled "Task List: Stewardson Andrew" with a "Sort By..." dropdown menu.
- Calendar:** A calendar for April 2015. The date 20th is highlighted in blue. The calendar grid shows days of the week (Su, Mo, Tu, We, Th, Fr, Sa) and dates from 1 to 30.
- Notifications:** A section titled "Notifications" with an "Actions" dropdown menu. It displays the message "No current Notifications".
- Navigation Menu:** A vertical sidebar on the right containing four icons: a home icon, an achievements icon, a top drawer icon, and a history icon.

# Key Components

## **1. System change**

- Alcohol-based handrub at the point of care

## **2. Healthcare worker education**

- Healthcare associated infections & hand hygiene
- Educational materials
- Profession-specific eLearning modules

## **3. Hand hygiene audit and performance feedback**

- WHO '5 Moments' for Hand Hygiene
- Train-the-trainer approach
- Central database & web-application with mobile device interface

## Mobile device

8:35 pm 82%

hhcapp.hha.org.au/mc

[Done](#) Moments [Save All](#)

HCW: DR Act: Rub [➤](#)

M: 1. Befc Glv: [-](#)

HCW: N Act: Missec [➤](#)

M: 2. Befc Glv: [-](#)

HCW: Act: [➤](#)

M: Glv: [-](#)

HCW: Act: [➤](#)

M: Glv: [-](#)

## Desktop computer

Go To AGAR English (Australia) Andrew Stewardson Logout

Home Reports Imports Exports Audits Organisations Regions Org. Groups Users

Dashboard > Audit List > Audit > Audit Sessions > Session Details

### local audit 3 2016 - Edit Session

Sessions  
Details

HCW Type	Moment #	Action	Gloves	Source
N: Nurse/Midwife	2. Before Procedure	3. Missed	1. On	<a href="#">save</a>
Nurse/Midwife	1. Before Touching A Patient	Rub	N/A	<a href="#">edit</a>

Session Details

Organisation: Austin Hospital

Audit: local audit 3 2016

Auditor: Stewardson, Andrew

Department: 7 North

Session Number:

Start Date: 16/10/2016

Start Time: 00:10

End Date: 16/10/2016

End Time: 00:20

Created By: Andrew Stewardson

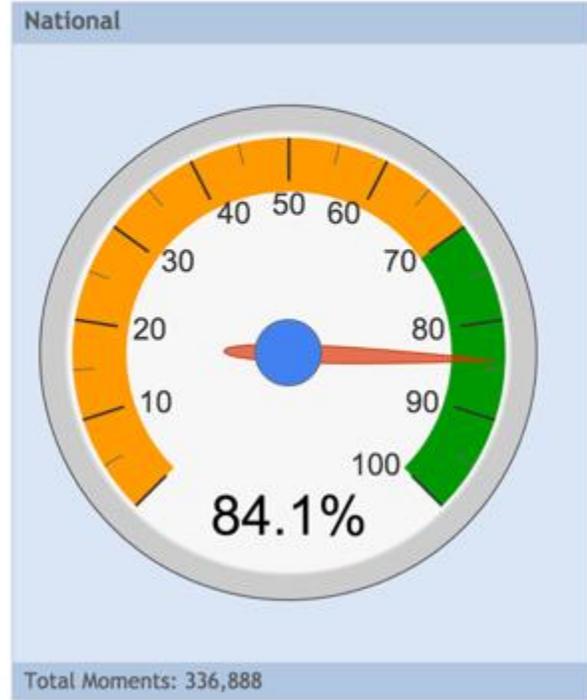
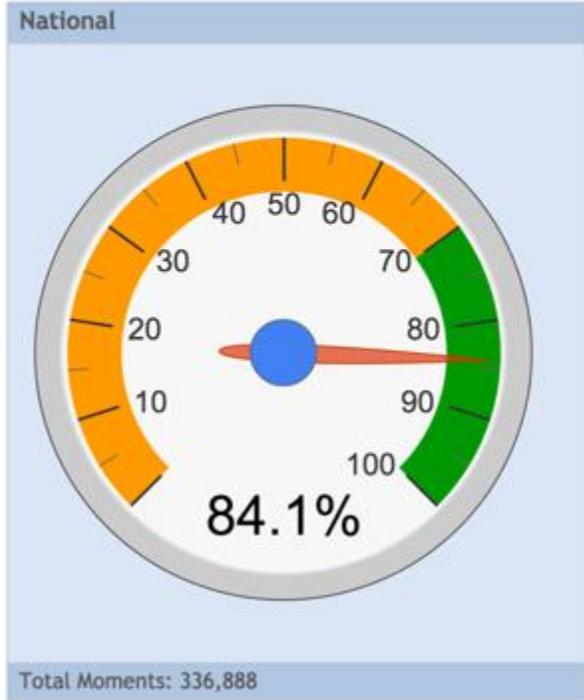
Create Date: 17/10/2016, 12:39:13 AM

Last Modified By: Andrew Stewardson



Dashboard - Andrew Stewardson

Audit Period: NHHI Audit Three 2016





Step 1: Select Content

Period Type:  Entity Type:

Step 2: Set Filters

Timeframe

Start Audit Period:  End Audit Period:

Organisational

Sector:  Organisation Types:   
 State / Territory:  Community health service  
 Dental/oral health clinic  
 General practice  
 Jurisdiction:  Peer Clusters:   
 Women's and children's hosp  
 Early parenting centres  
 Drug and alcohol hospitals  
 Region Group:  Hospital Peer Groups:   
 Women's hospitals  
 Other women's and children's  
 Region:   
 Organisation:   
 Department:

Clinical

Department Types:   
 Ambulatory Care  
 Critical Care Unit  
 Dental  
 HCW Type:   
 Medical Practitioner  
 Personal Care Staff  
 Allied Health Care Worker  
 Moments:   
 Before Procedure  
 After a Procedure or Body Fl  
 After Touching a Patient  
 Use Local HCW Types ?

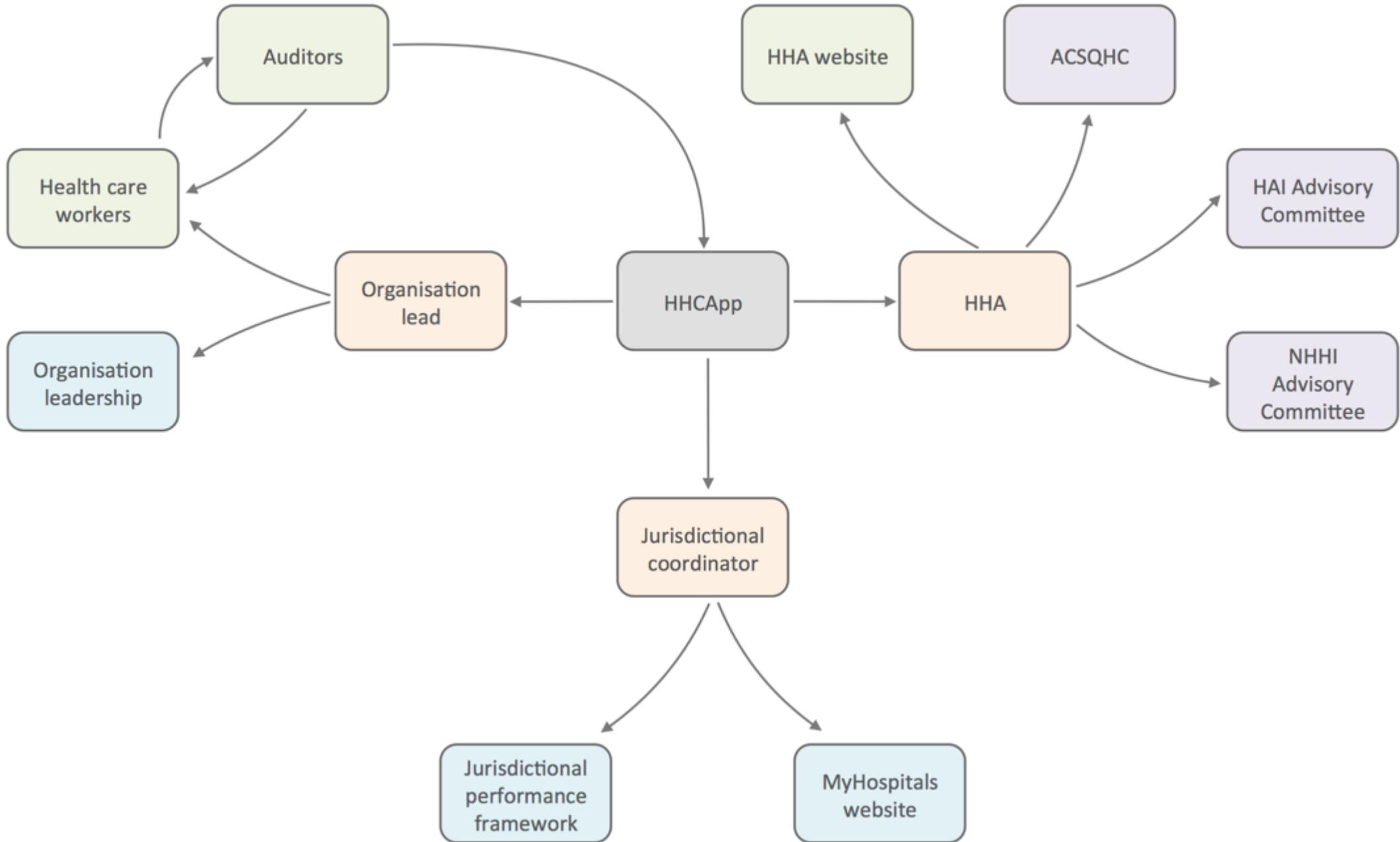
Step 3: Stratification & Display Options

Organisational

- Sector
- State / Territory
- Hospital Peer Group
- Jurisdiction
- Organisation
- Region Group
- Organisation Type
- Region
- Peer Cluster

Clinical

- Department Type
- Department Name
- Hand Hygiene Method
- Healthcare Worker Group
- Moment
- Glove Use



# Hand Hygiene in Australia

## 2009: Hand Hygiene Australia

- Contracted by ACSQHC
- Implement the National Hand Hygiene Initiative
- Building on local programs & adapting WHO tools

## 2012: Public reporting

- MyHospital.gov.au
- Interim national benchmark: 70%

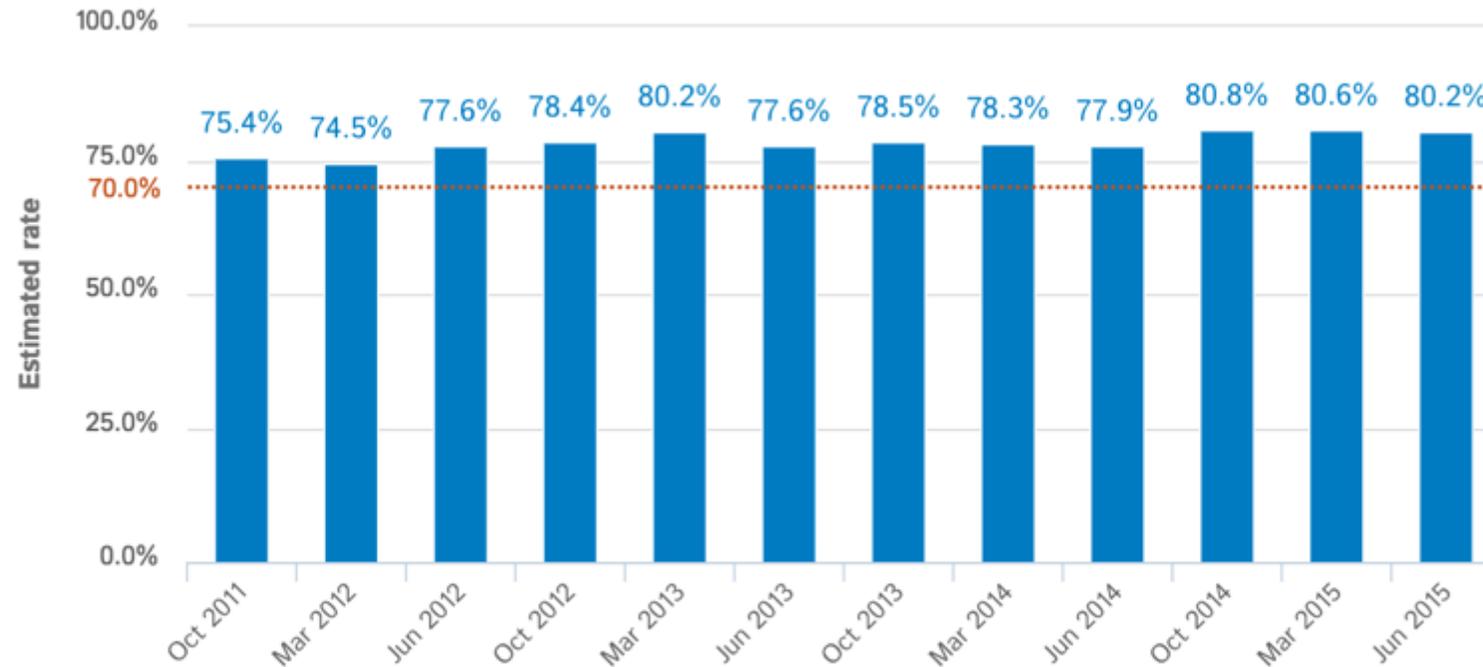
## 2013: National Safety & Quality Health Service Standards

- Standard 3 – Preventing & Controlling Healthcare Associated Infections
- “3.5 Developing, implementing and auditing a hand hygiene program consistent with the current NHHI”

# Public reporting

## Austin Hospital [Heidelberg]

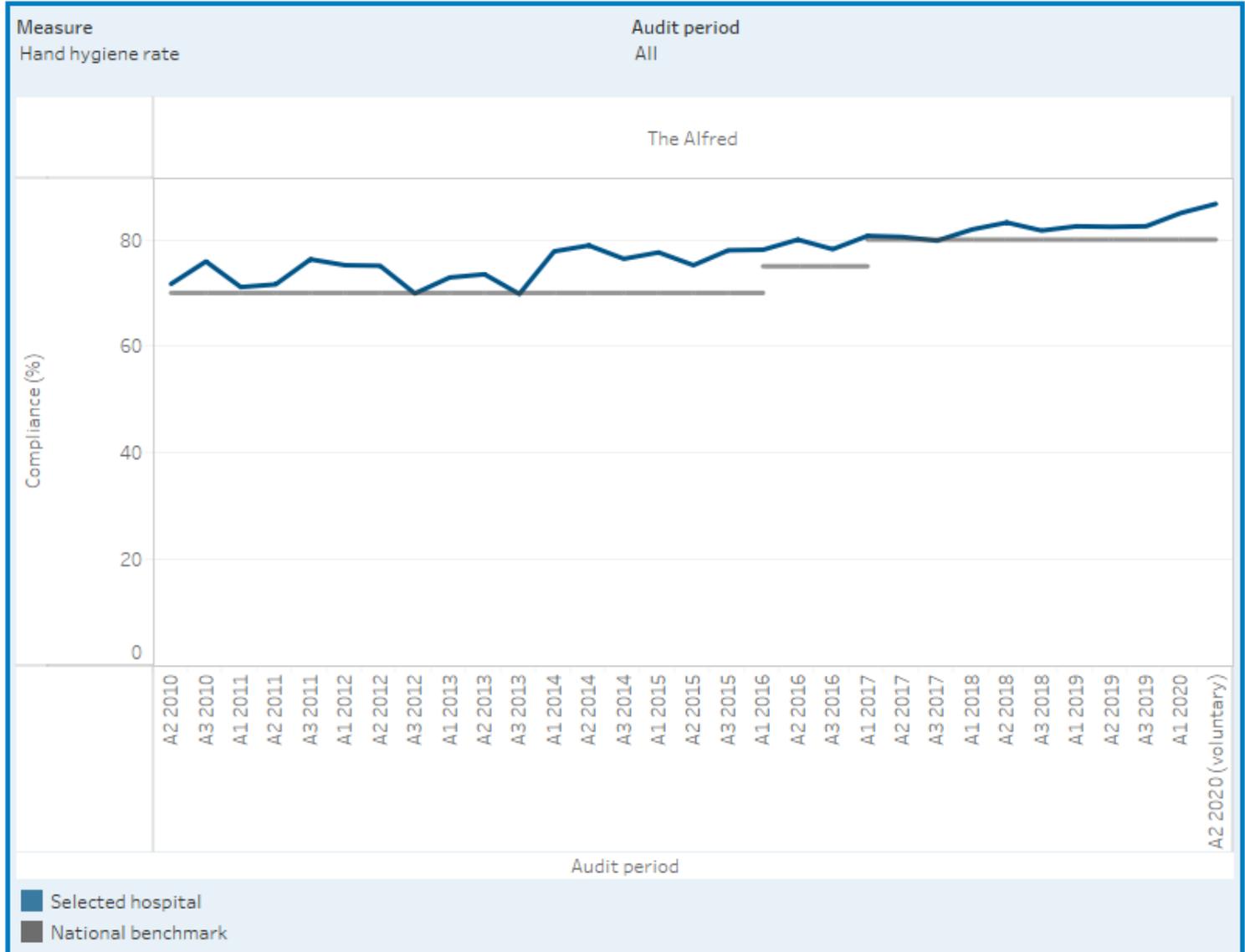
Major metropolitan hospital with an emergency department



..... National benchmark

In Audit Period 1, ending March 2014 to Audit Period 2, ending June 2015 data are included from [Royal Talbot Rehabilitation Centre \[Kew\]](#)

# Public reporting



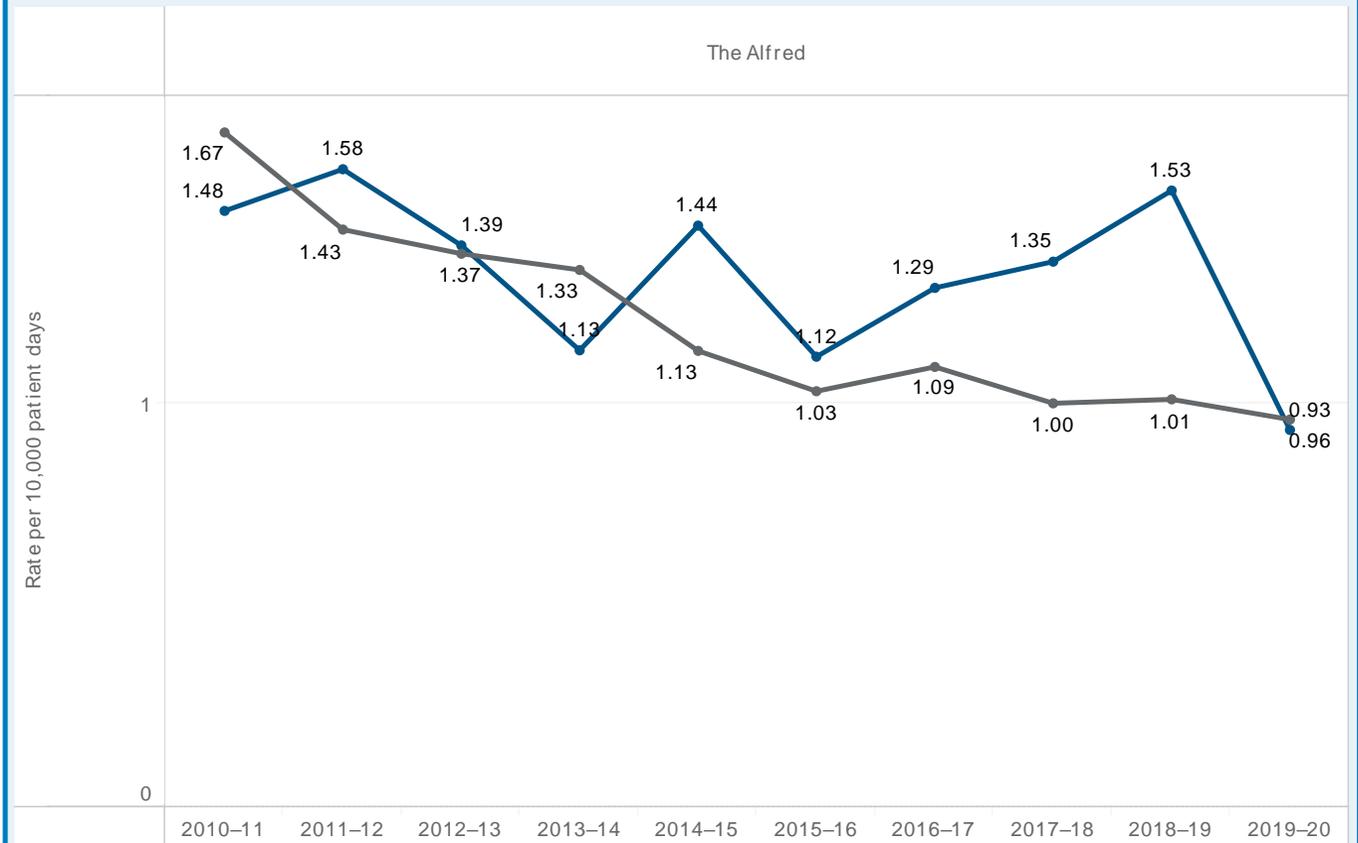
# Public reporting

Measure

Rate of healthcare-associated Staphylococcus aureus bloodstream...

Category

All staphylococcus aureus



■ Value  
■ Peer value

# Hand Hygiene in Australia

## 2009: Hand Hygiene Australia

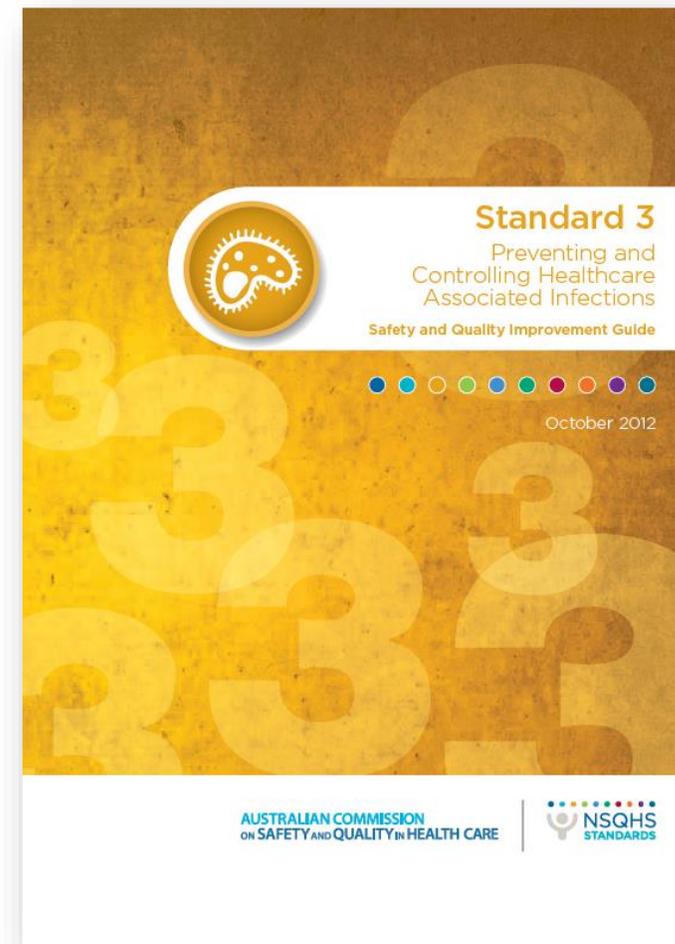
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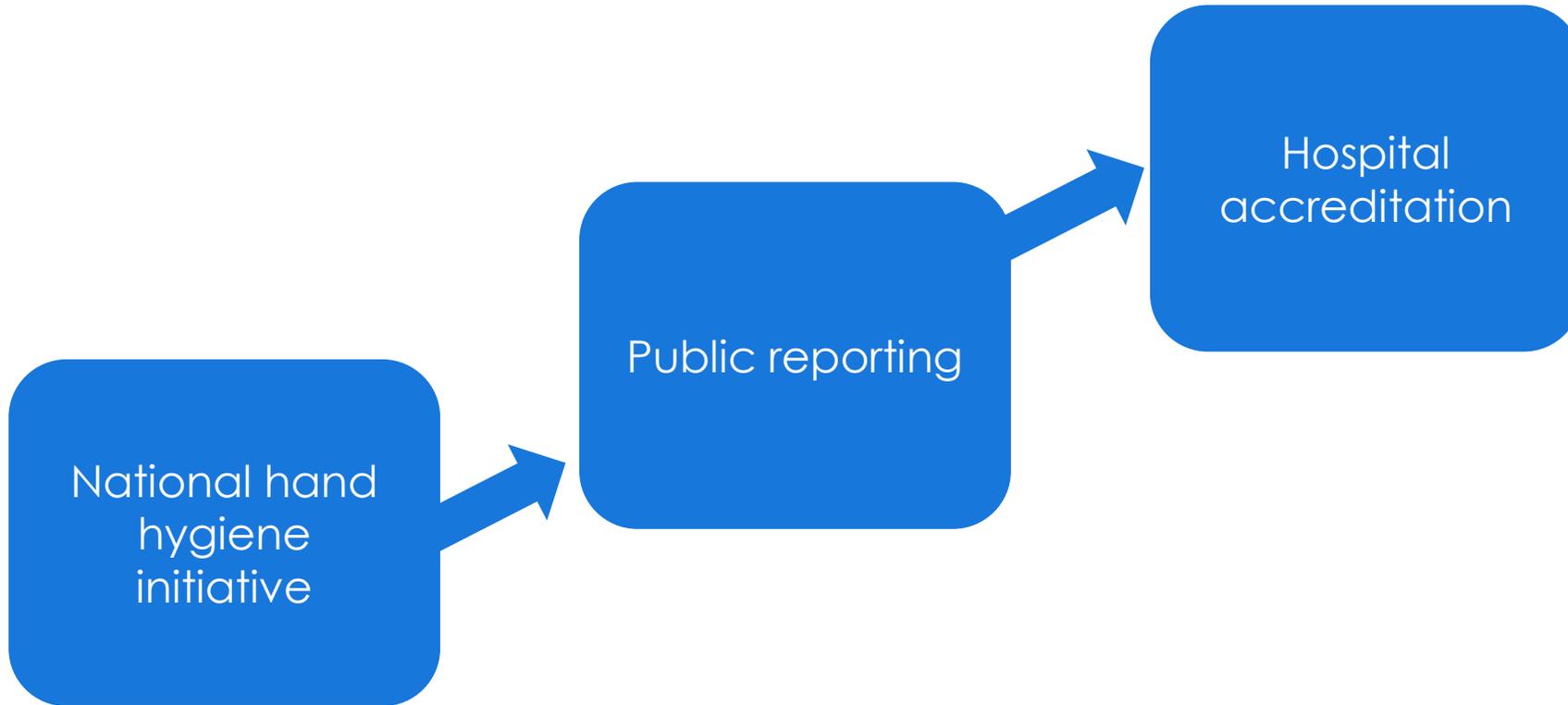
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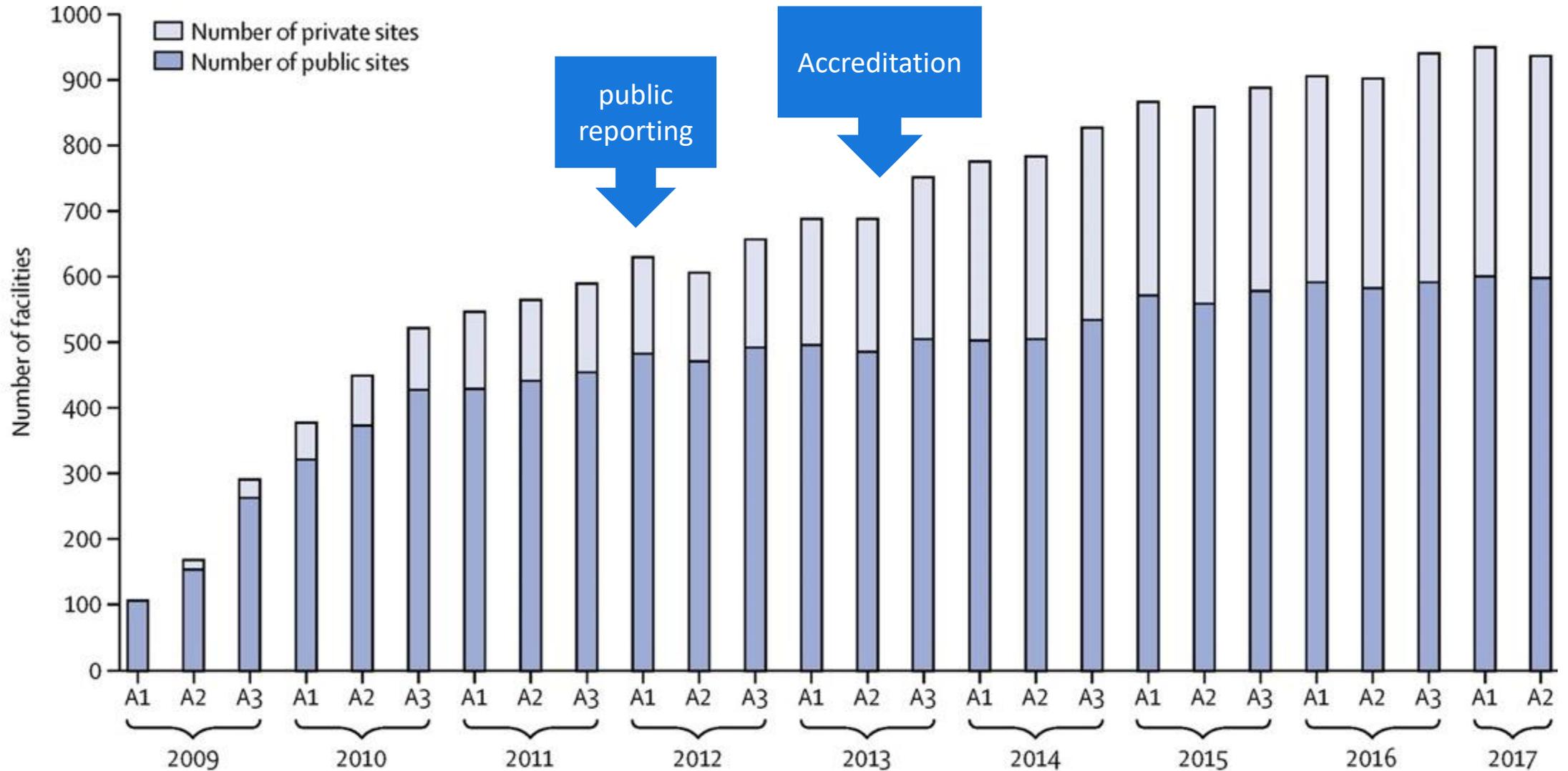




- ABHR
- Education
- Auditing & feedback

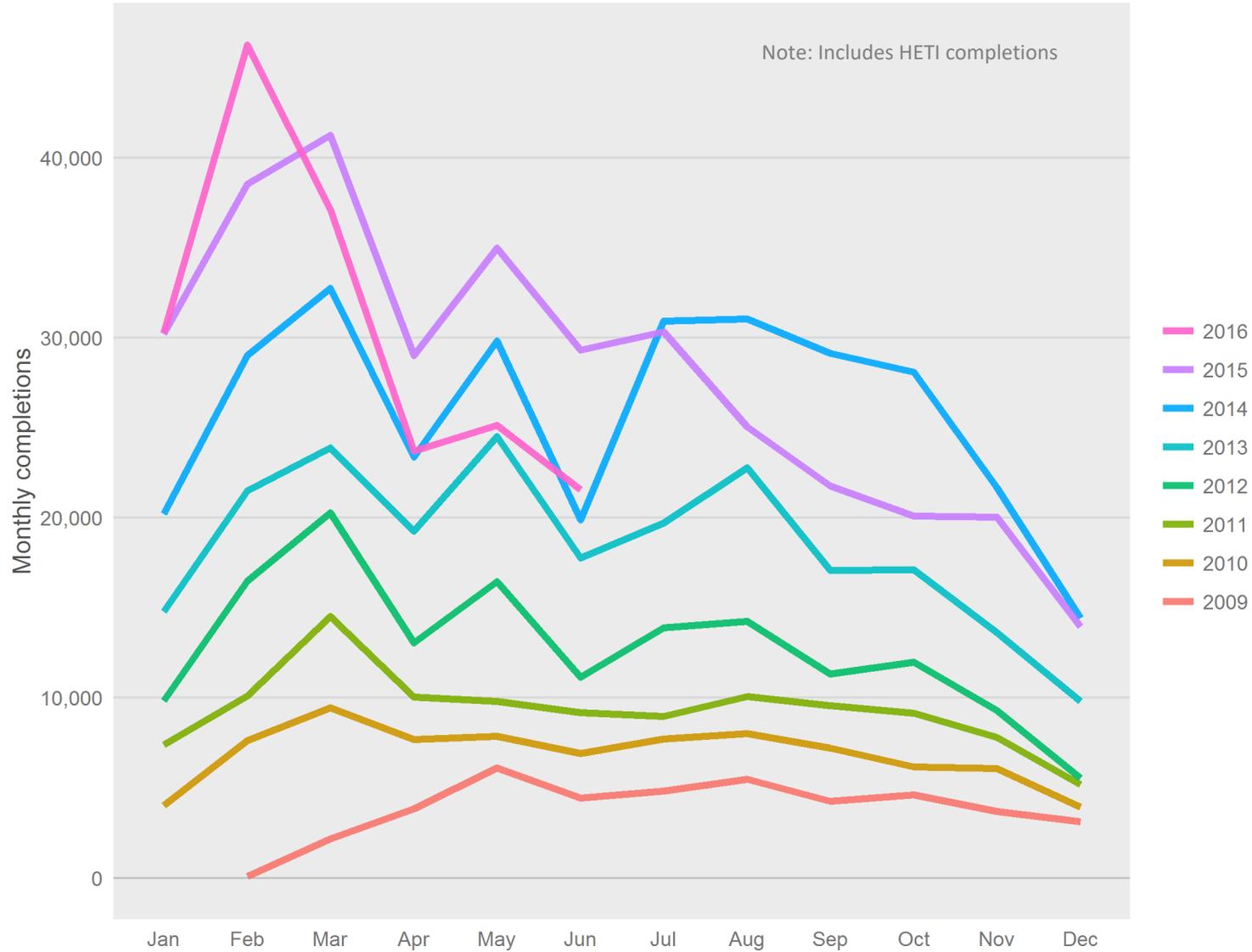
# Participating Organisations

Period 1, 2009 – Period 2, 2017



Number of private sites	2	14	28	56	77	93	117	122	135	147	134	163	191	202	248	273	277	293	295	300	312	316	319	348	350	339
Number of public sites	103	154	262	321	372	428	429	442	454	482	471	493	496	485	504	503	505	535	572	560	578	590	583	592	601	598

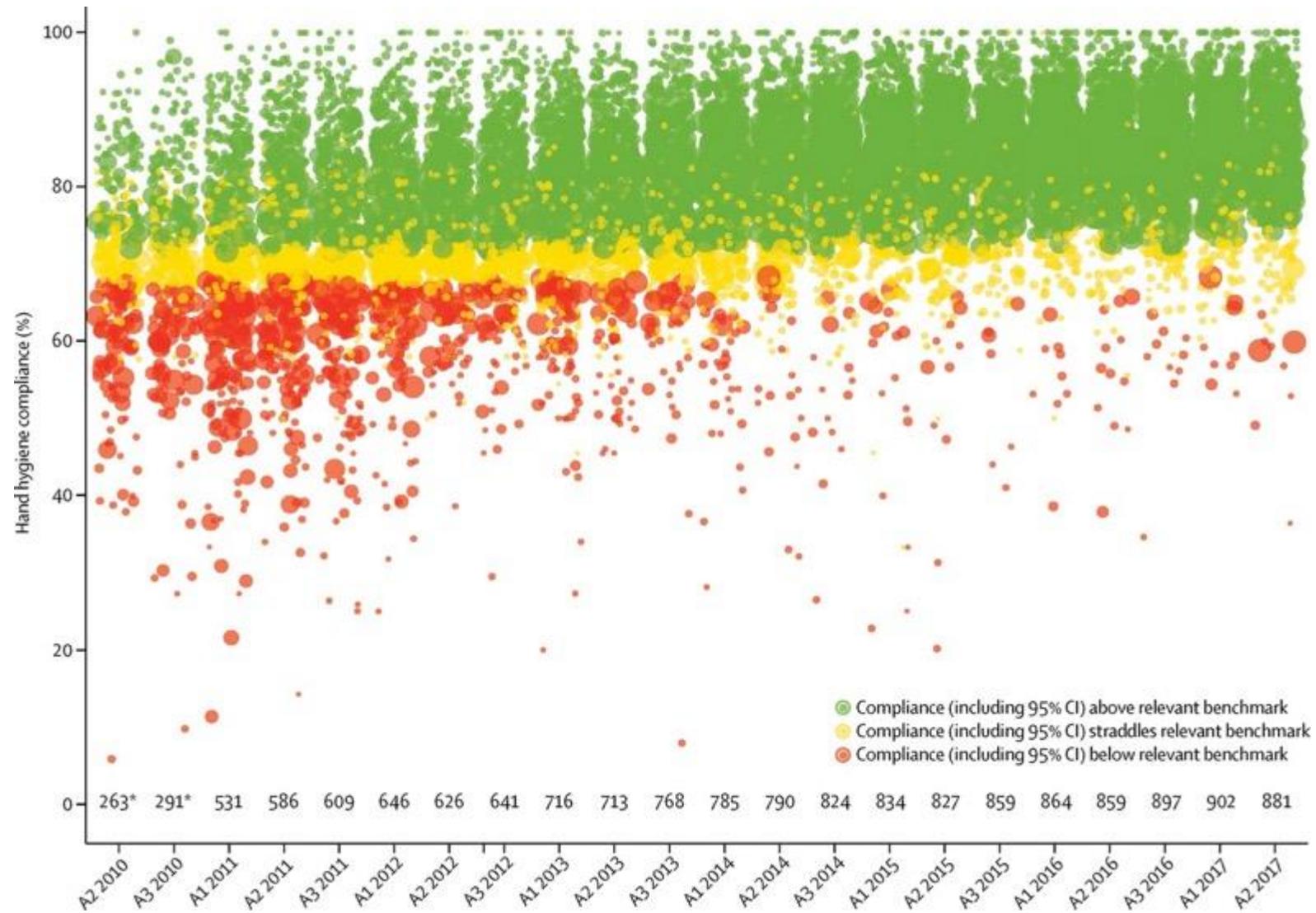
# Healthcare Worker Hand Hygiene Online Learning Package 'Completions'



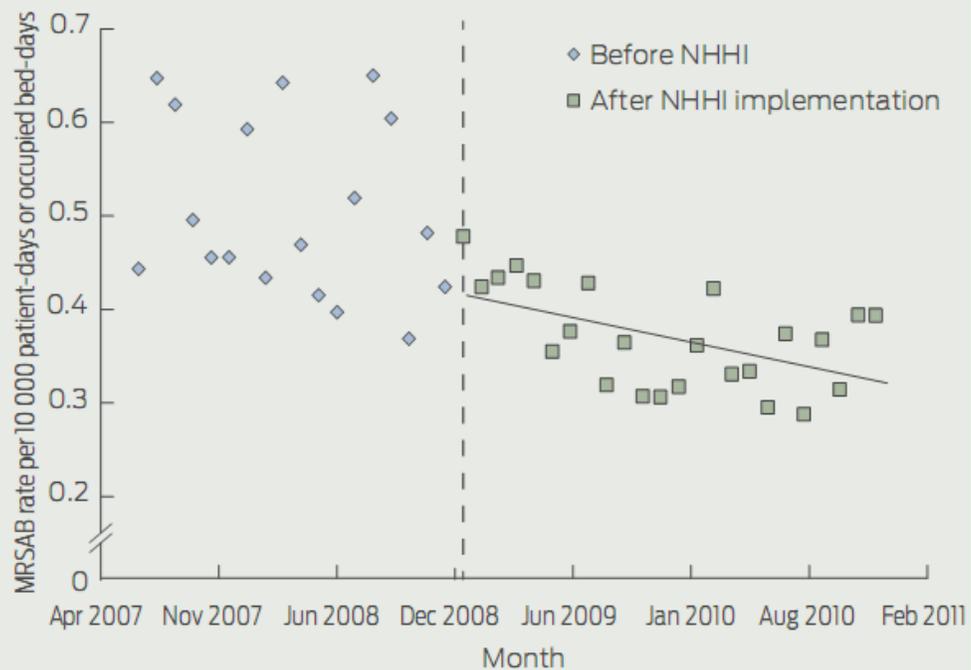


# Hand Hygiene Performance: Hospitals

Benchmark = 70%



#### 4 National monthly incidence rates of methicillin-resistant *Staphylococcus aureus* bacteraemia (MRSAB), July 2007 – December 2010\*



\* Dashed line indicates National Hand Hygiene Initiative (NHHI) implementation. MRSAB rates were statistically stable before implementation ( $P = 0.366$ ) but significantly declined after ( $P = 0.008$ ). ◆

# Quarterly incidence of **hospital-onset** *S. aureus* bacteremia

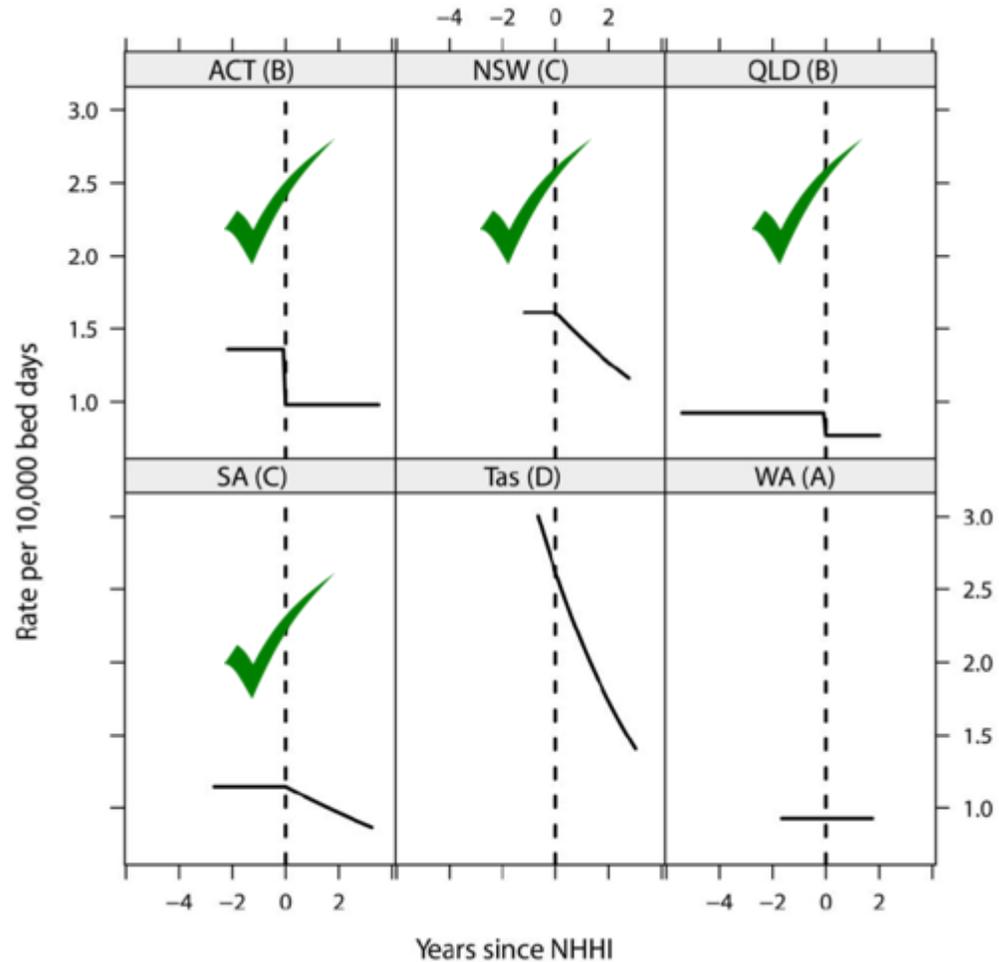
132 hospitals in ACT, SA, TAS and WA, 2002 to 30 June 2013

There are **several potential explanations** for the reduction in HO-SAB described in our study. Australian states and territories have had a long history of implementing **statewide infection prevention and control initiatives**. At a national level, the work undertaken by the **Australian Commission on Safety and Quality in Health Care** (an independent statutory authority) in the area of HAI prevention is notable [27].

The Commission has led several major HAI prevention initiatives:

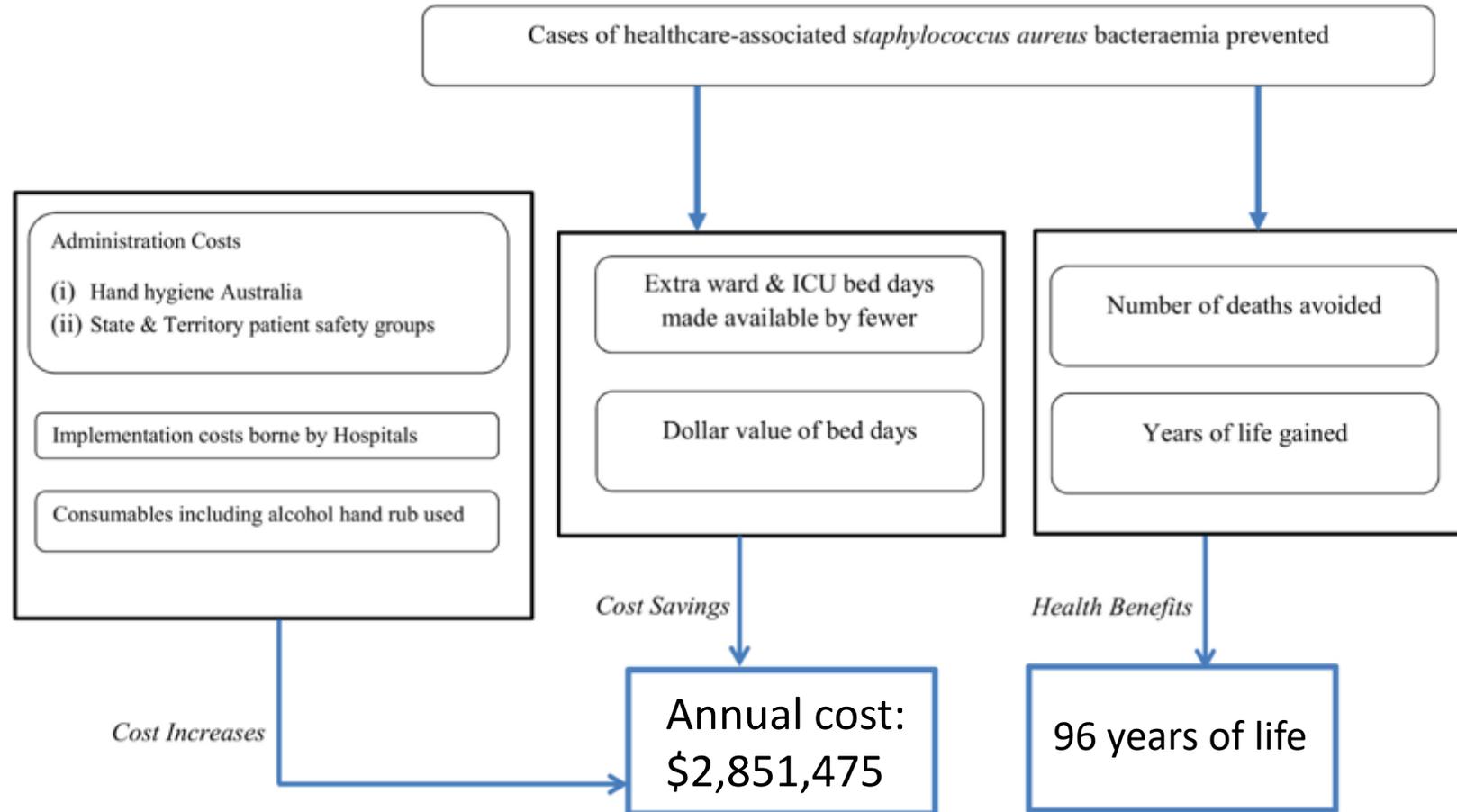
- national **surveillance programs** for HAIs
- national **evidence-based guidelines**
- training and support for **improved clinician capacity** in IPC
- **national hand hygiene initiative**
- **new accreditation standards**.

# Mean change in healthcare-associated *Staphylococcus aureus* BSI 38 hospitals in 6 states

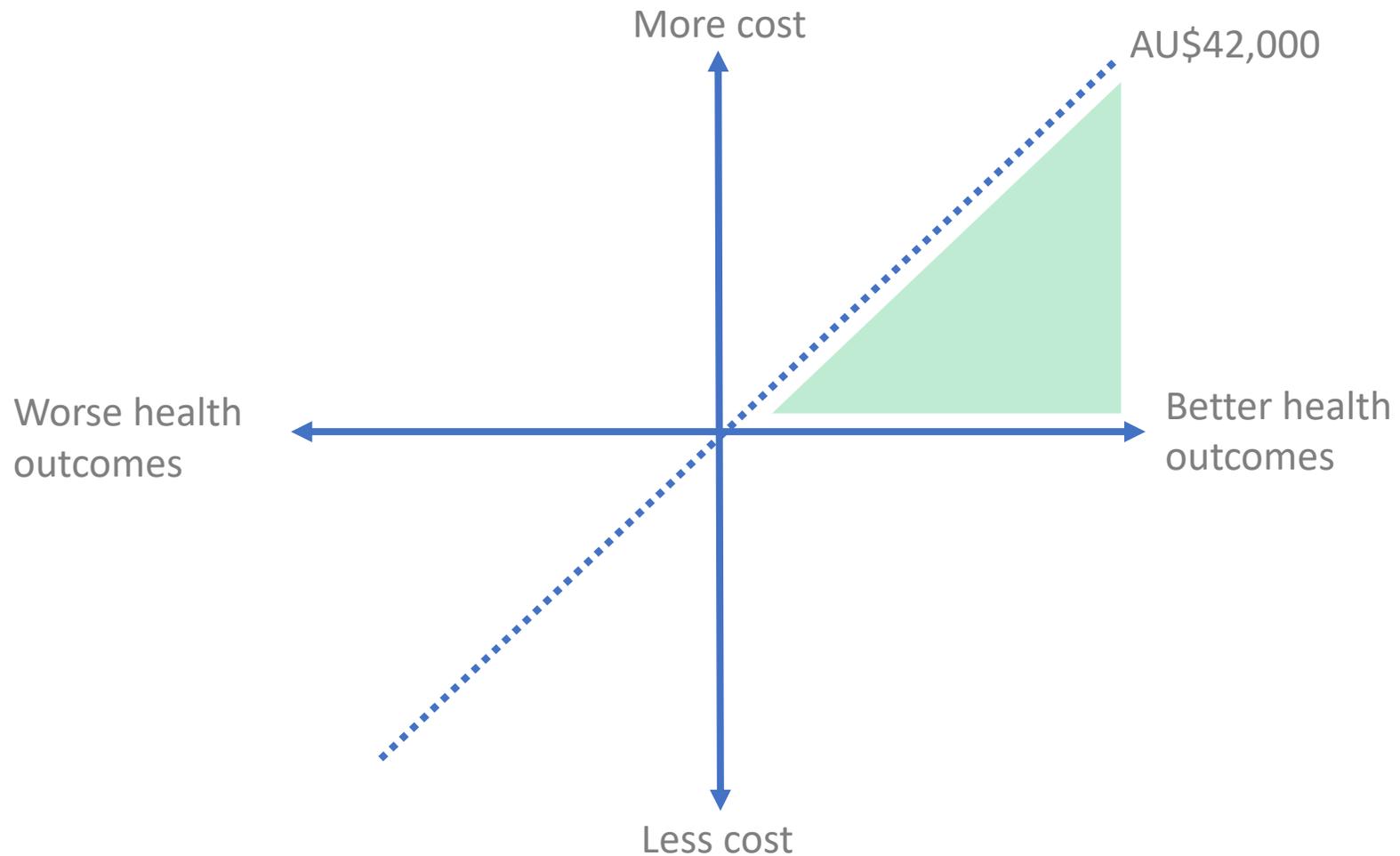


Reduction in infection rates  
in 4 of the 6 states studied

Cost-effectiveness of a national initiative to improve hand hygiene compliance using the outcome of healthcare associated *Staphylococcus aureus* bacteraemia.



'...the programme was cost effective with a cost per life year gained of [AU]\$29,700'





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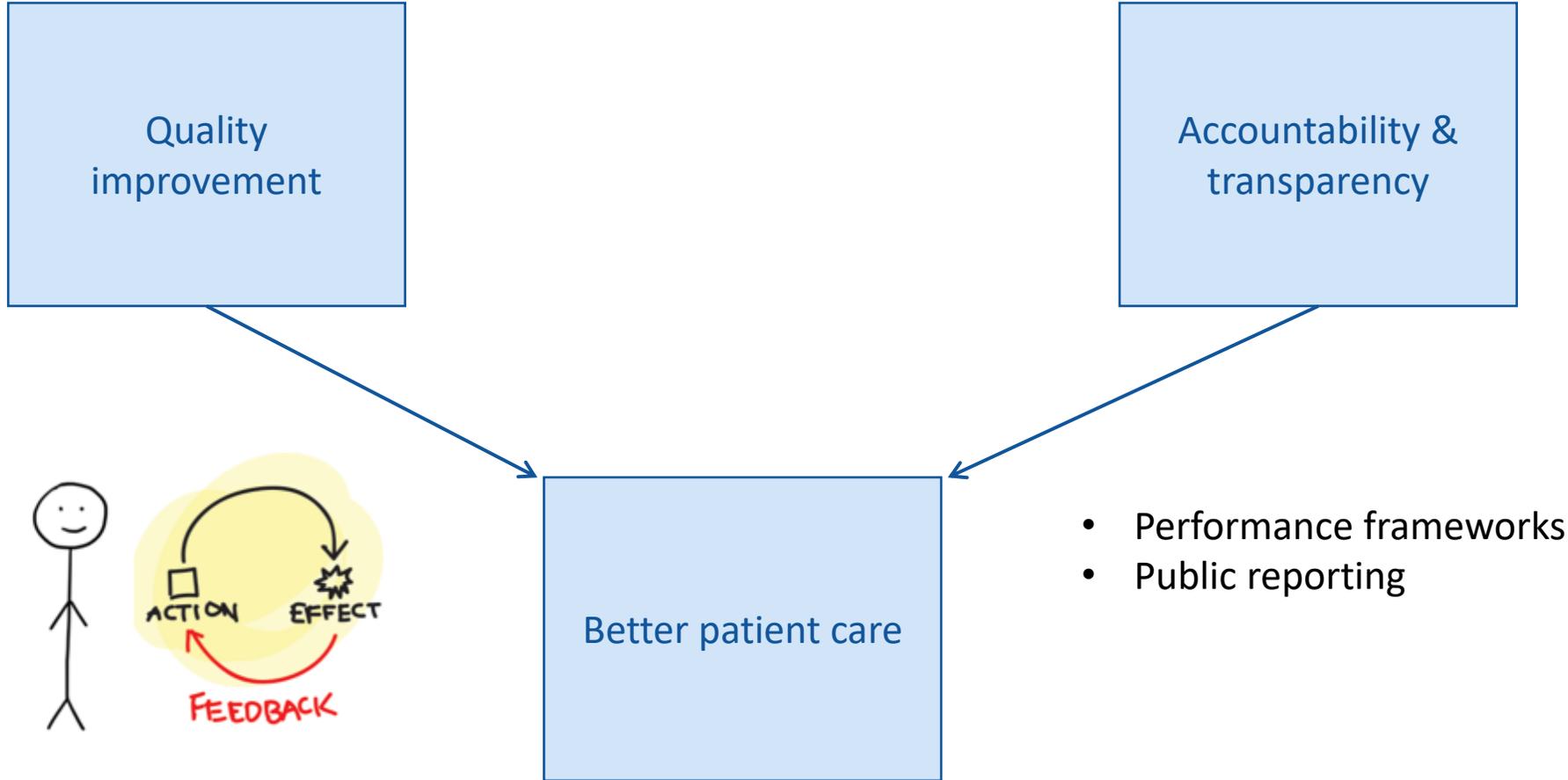
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- **Challenges**
- Lessons learnt

# **1. Collection and use of data**

# Why collect data?



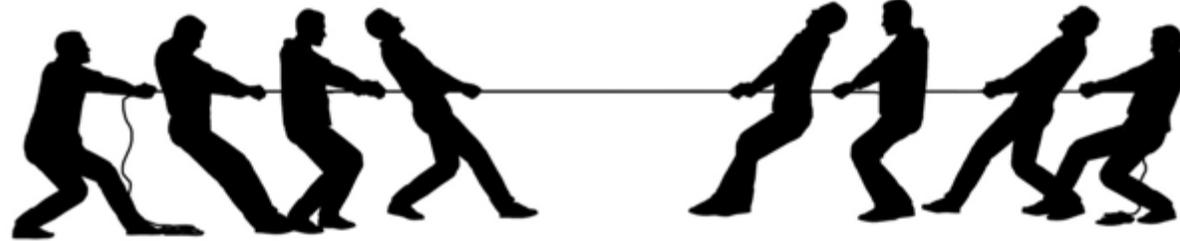
# Data use tension

	<b>Quality improvement</b>	<b>Accountability &amp; transparency</b>
<b>Aim of audit</b>	Behaviour/culture change	Unbiased data
<b>Ward selection</b>	Flexible	Standardised
<b>Poor performers</b>	Maximise auditing	Pressure to minimise
<b>Auditor</b>	Peers/ward-based	External/independent
<b>Education</b>	Yes!	+/-
<b>Performance feedback</b>	Yes!	+/-
<b>Reporting</b>	+/-	Yes!



## **2. Standardisation vs. Adaptation**

# Standardisation vs. Adaptation

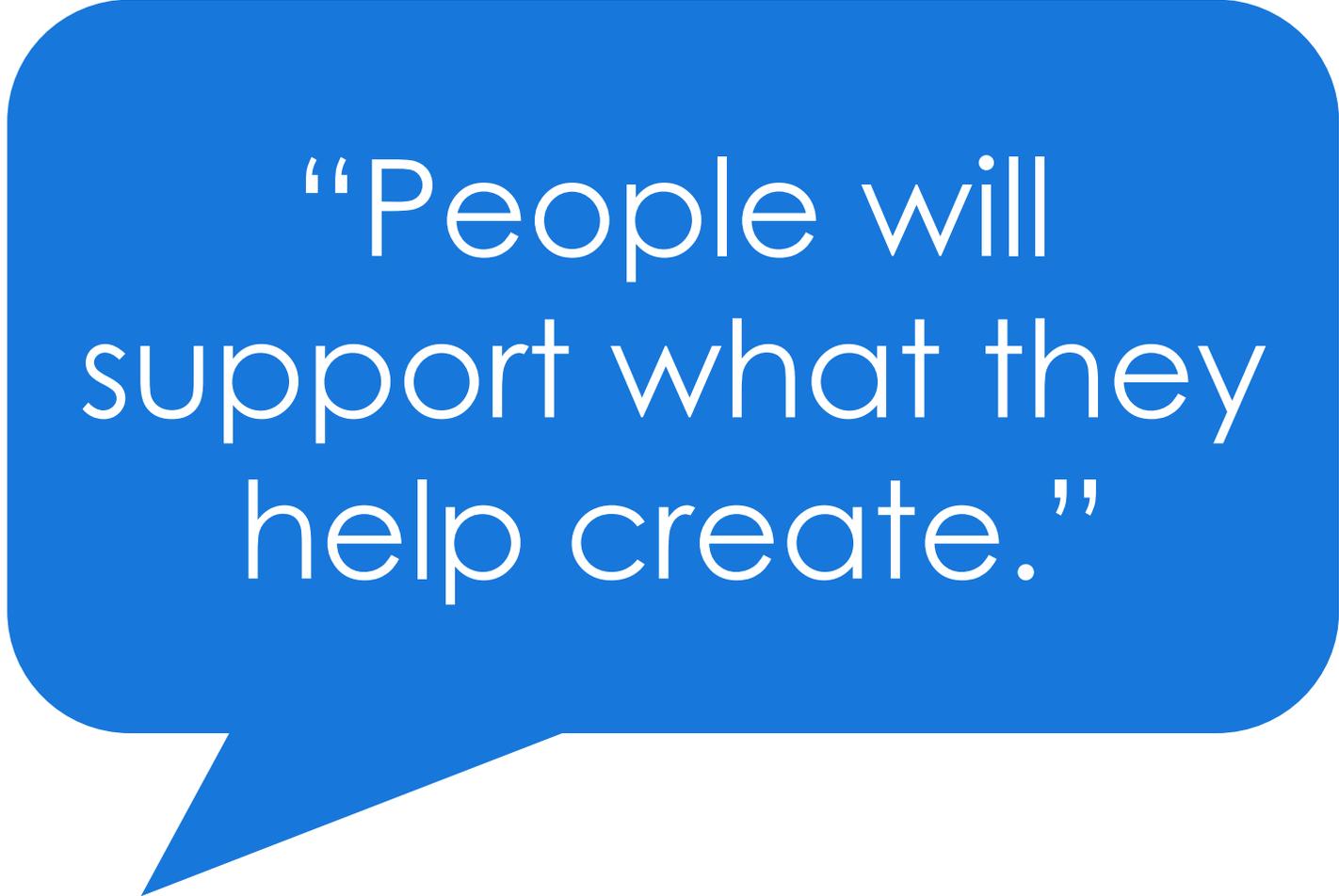


## **Standardisation**

- Consistent with evidence
- Standard approach

## **Adaptation**

- Fosters local ownership
- Encourages innovation



“People will support what they help create.”

# 3. Sustainability

- Behaviour change
  - Culture change vs. compliance
  
- Program
  - Role of the central 'project' team
  - Funding



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# 1. Getting started

- Acknowledge & benefit from pre-existing programs and expertise
  - Rarely starting from zero
- Clinical leadership
- Governance that includes all stakeholders
- Plan carefully – but then get started
  - Don't wait until it's perfect
- Start 'gently'

## 2. Evidence-based, validated tools

- Vital importance



- Audit tool



- Need a reason to move from local programs



# 3. Be clear about key components

The initiative



Here is exactly what you must do.

# 3. Be clear about key components

The initiative

Here's what you can do. Adapt as you like  
(The rest)

Here is what you  
must do.  
(Core components)

# 4. Apply implementation science

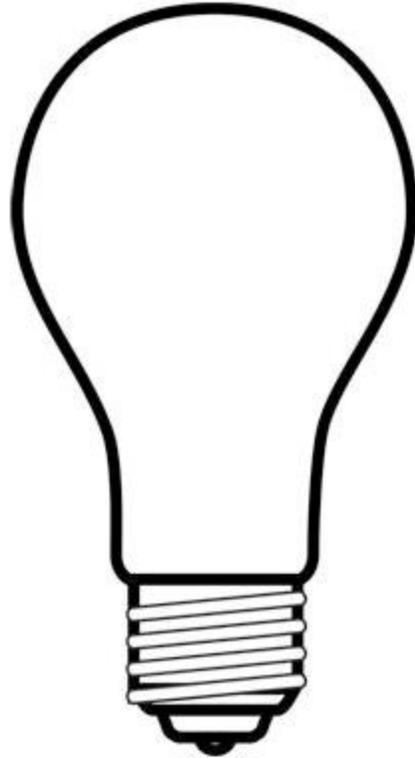


# 4. Apply implementation science

- Safety culture, teamwork & leadership involvement
- Structural organisational characteristics  
e.g. size, organisational complexity or financial status
- External factors  
e.g. financial or performance incentives or regulations
- Availability of implementation and management tools  
e.g. training resources or internal organisational incentives



# 5. Share good ideas



# 6. Program Evaluation

- Evaluation of a national infection control initiative
  - Effectiveness
  - Cost-effectiveness
- Plan from the start
  - In parallel with the initiative itself
  - Not retrospective
- Recognition that an initiative is a dynamic process
  - Source of guidance for the program
  - Assist with iterative program improvement

# Summary

- A regional approach to infection prevention is supported by:
  - Networks of shared patients
  - Implementation benefits
- Key contributors to this success include:
  - A standardised national approach
  - Central leadership from the ACSQHC
  - Collaboration between federal and jurisdictional authorities
  - Adoption of WHO methodology
  - Incorporation into hospital accreditation

# Acknowledgements



Clinical Excellence @NSWCEC May 5  
We promote clean care #safeHANDS @HandHygieneAus @WHO

