Federal Ministry
of Health

Good Infection Control is Cost-Effective

Nicholas Graves

QUT

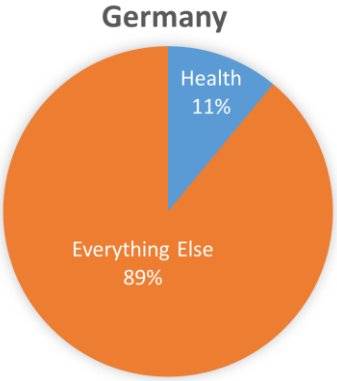
AusHSI

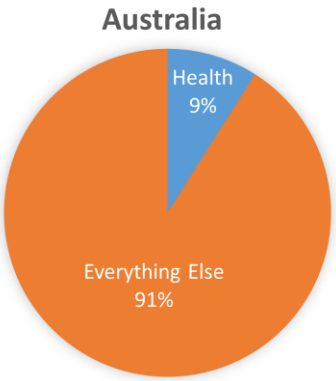
Bringing health innovation to life

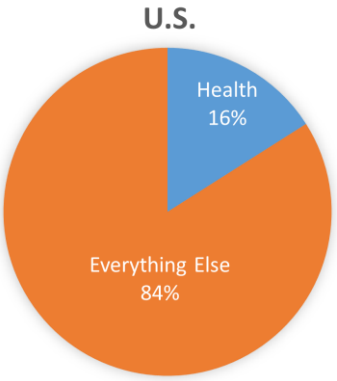
Some Economics

Some Evidence

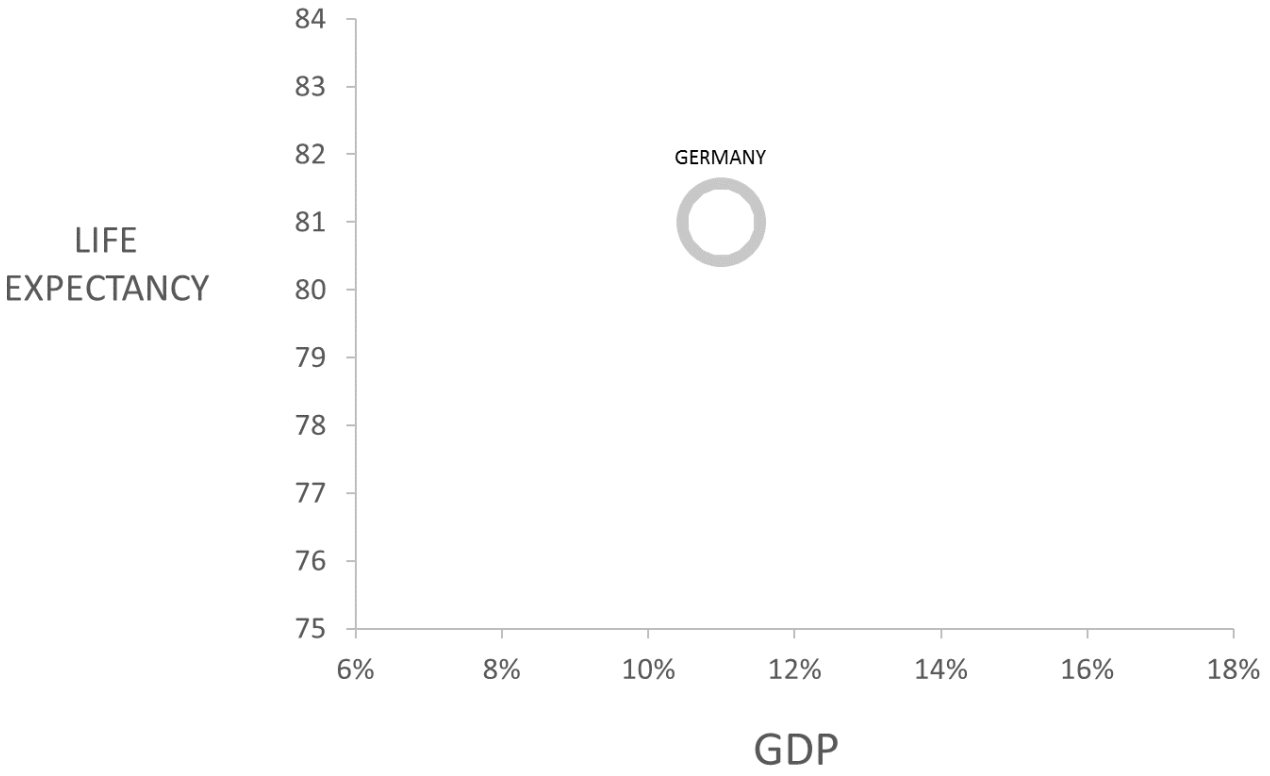
Resources for Health Care are Scarce







And Must Be used Wisely


LIFE EXPECTANCY
84
83
82
81
80
79
78
77
76
75
GERMANY
6%
8%
10%
12%
14%
16%
18%
GDP

Elliot Fisher

"1/3 of medical spending is for services that do not improve health"

Atul Gawande

"Millions of Americans get tests, drugs and operations that won't make them better, may cause harm and cost billions"

Anupam Jena

Original Investigation | LESS IS MORE

Mortality and Treatment Patterns Among Patients Hospitalized With Acute Cardiovascular Conditions During Dates of National Cardiology Meetings

Anupam B. Jena, MD, PhD; Vinay Prasad, MD; Dana P. Goldman, PhD; John Romley, PhD

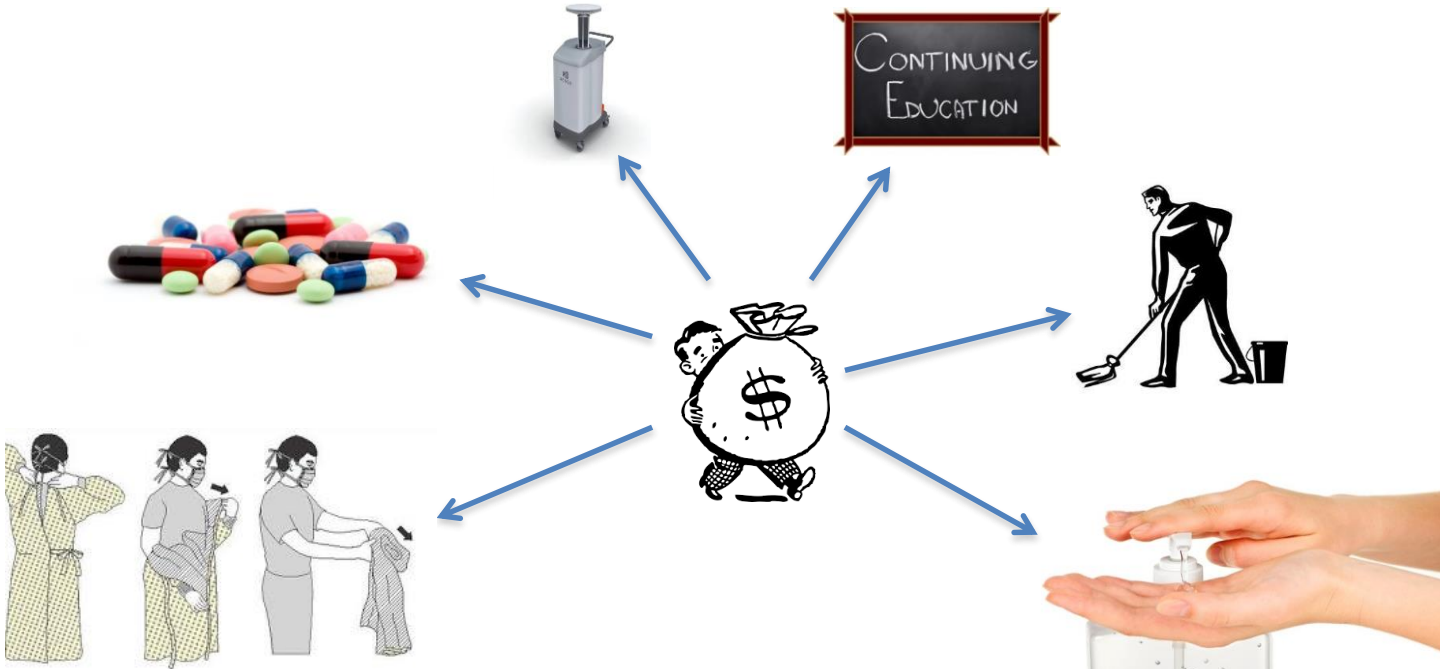
"When cardiologists left the hospital patients outcomes improved"

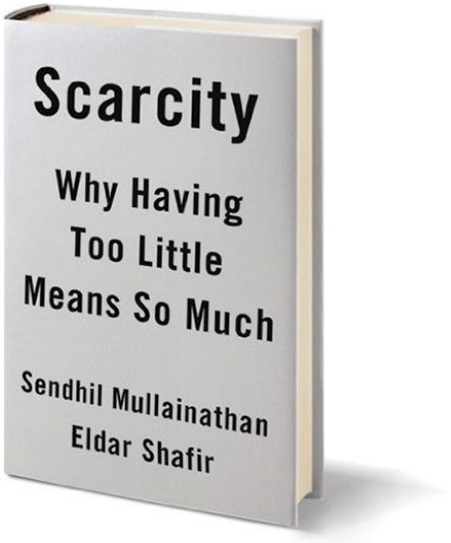
Resources for Health Care are Scarce

Highest value services

Lowest possible costs

Identical challenge for prevention and control of infectious diseases





Not a Cinderella service

Budgets are meagre and precious

Currently under-funded

Emerging threats

Some Economics

Some Evidence

Research

Open Access

Cost effectiveness of antimicrobial catheters in the intensive care unit: addressing uncertainty in the decision

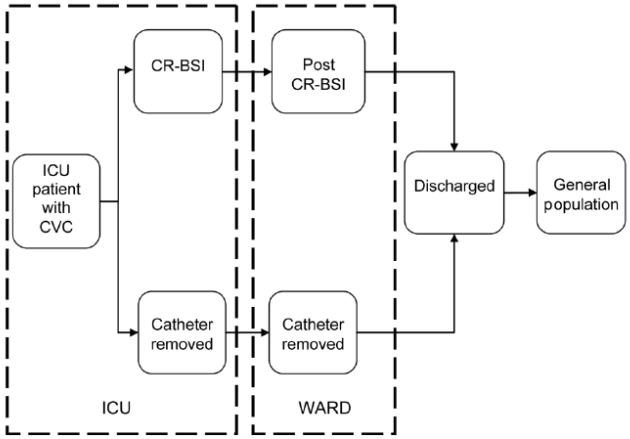
Kate A Halton[1,2], David A Cook[3], Michael Whitby[4], David L Paterson[1,5] and Nicholas Graves[1,2]

Silver Platinum Carbon

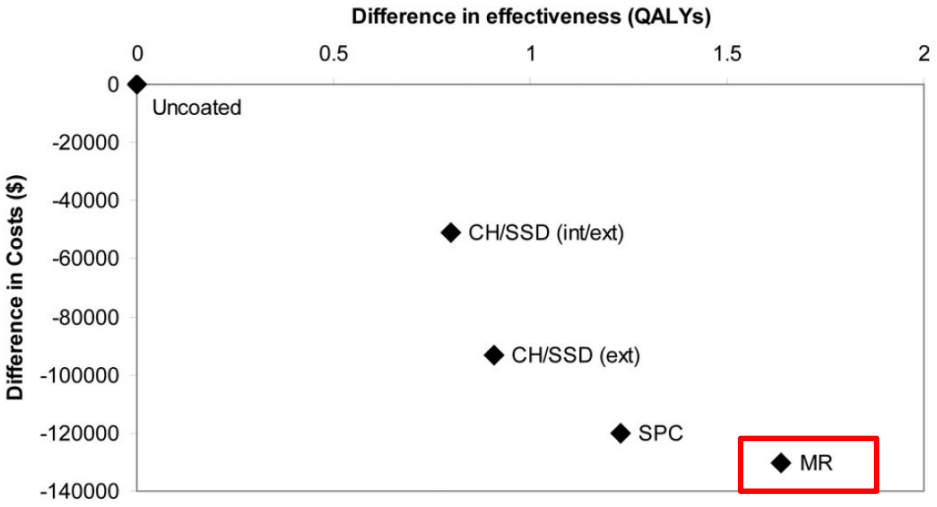
CH/SSD (external)

CH-SSD (internal)

Minocycline and Rifampicin



Markov model used for the evaluation.



For next 1000 catheters placed

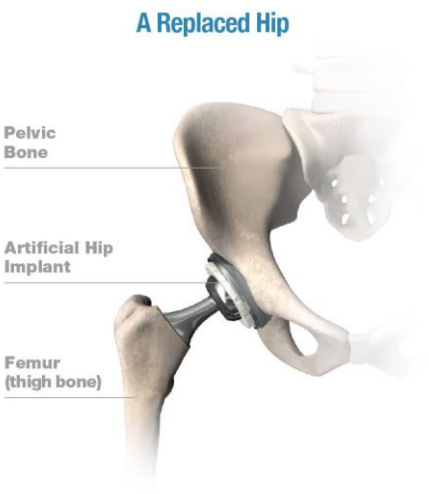
15 infections prevented

32.8 ICU bed days released

$130,289 saved

1.64 QALYS gained

Missing important information on antimicrobial resistance

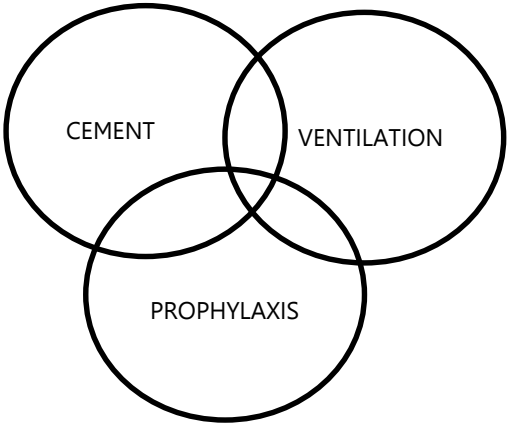


Compare the costs and health benefits of strategies that reduce risk of deep infection following total hip arthroplasty in NHS hospitals

BMJ Open

Control strategies to prevent total hip replacement-related infections: a systematic review and mixed treatment comparison

Henry Zheng,[1] Adrian G Barnett,[1] Katharina Merollini,[1] Alex Sutton,[2] Nicola Cooper,[2] Tony Berendt,[3] Jennie Wilson,[4] Nicholas Graves[1]



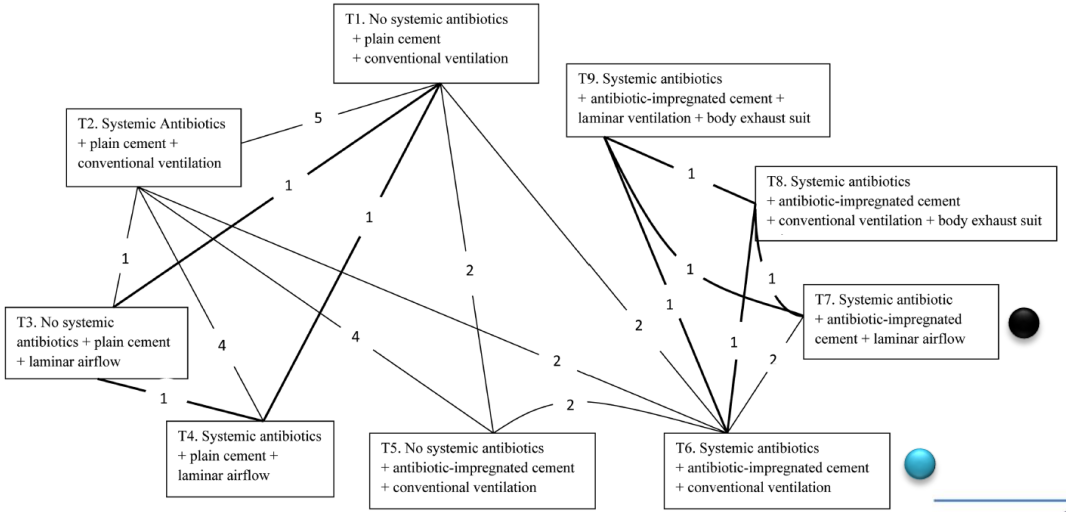
736 studies found and 12 met inclusion criteria

123,788 cases of THR

Mean pt. age between 64 and 74

Follow up periods less one year to eight years

A Network of Evidence



	odds ratio	95% credible interval
T1	referent	
T2	0.31	0.12–0.65
T3	0.26	0.03–0.95
T4	0.25	0.06–0.66
T5	0.38	0.09–1.12
T6	0.13	0.03–0.35
T7	0.27	0.03–0.93
T8	0.52	0.03–2.12
T9	0.74	0.05–2.69
T7 vs. T6	1.96	0.52–5.37

National Institute for Health Research

For a 1000 primary hips that get infected

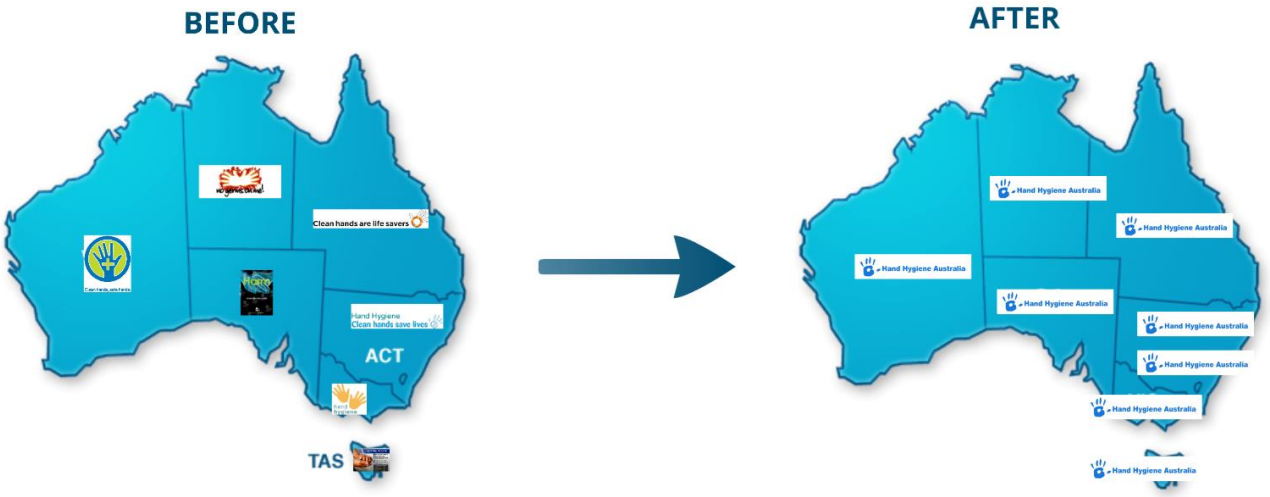
Choosing T7 over T6

12 fewer QALYs and **£1,007,000** extra cost

Laminar Airflow is costly & harmful

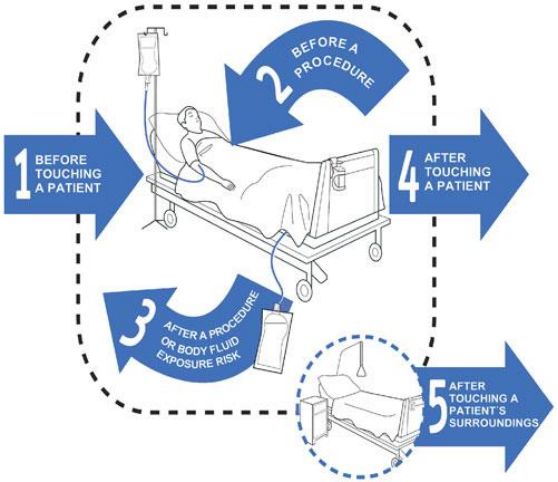
Very difficult to change services

The Australian National Hand Hygiene Initiative



2009 = 63.5%

2014 = 80.3%



Common Definitions & Audit

Training & Accreditation

Good information & support

Strong Clinical Leadership

Federal Endorsement

PLOS ONE

RESEARCH ARTICLE

Cost-Effectiveness of a National Initiative to Improve Hand Hygiene Compliance Using the Outcome of Healthcare Associated *Staphylococcus aureus* Bacteraemia

Nicholas Graves[1]*, Katie Page[1], Elizabeth Martin[1], David Brain[1], Lisa Hall[1], Megan Campbell[1], Naomi Fulop[2], Nerina Jimmeison[3], Katherine White[1], David Paterson[4], Adrian G. Barnett[1]

1 Institute of Health & Biomedical Innovation, Queensland University of Technology, Brisbane, Queensland, Australia, 2 Department of Applied Health Research, University College London, London, United Kingdom, 3 School of Management, Queensland University of Technology, Brisbane, Australia, 4 Centre for Clinical Research, University of Queensland, Brisbane, Queensland, Australia

State/Territory	Hospitals	Beds	Admissions	Starting rates (10,000 bed days)	Reduction in Rates (%)
QLD	9	5,366	246,699	1.48	0.17
ACT	1	619	31,841	2.91	0.28
NSW	15	7,739	404,869	2.6	0.11
SA	5	2,065	122,435	2.08	0.08
TAS	3	1,007	41,850	0.9	0
WA	5	2,167	122,025	1.96	0
VIC	11	5,184	305,270		
NT	1	335	19,667		
Total	50	24,482	1,294,656		

PLOS ONE

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State/Territory	Cases of SAB prevented	Total Costs	Health Benefits in Life Years Gained	Cost per life year gained
QLD	27.48	$355,344	39.53	$8,988

Policy makers did not like this study

Summary

Use Scarce Resources Wisely

Good infection control is cost-effective

Strive for rational decision making

information is often missing

change is difficult to achieve

*policy makers are **not** only motivated by evidence*

Thank you for listening