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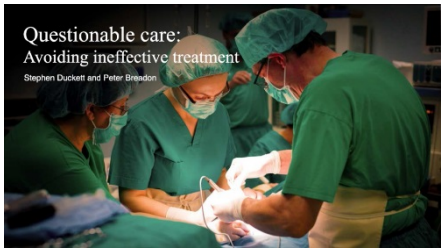

Waste Not: Want Not

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Presentation to
WA Clinical Senate
March 2018

Primum Non Nocere

1. Do the patient no (net) harm
2. Do the staff no harm
3. Do the environment not too much harm
4. Minimise the harm to the budget

Smith, Cedric M. (2005), 'Origin and Uses of Primum Non Nocere - Above All, Do No Harm!', *The Journal of Clinical Pharmacology, 45 (4), 371-77.*

Institute of Medicine Components of quality

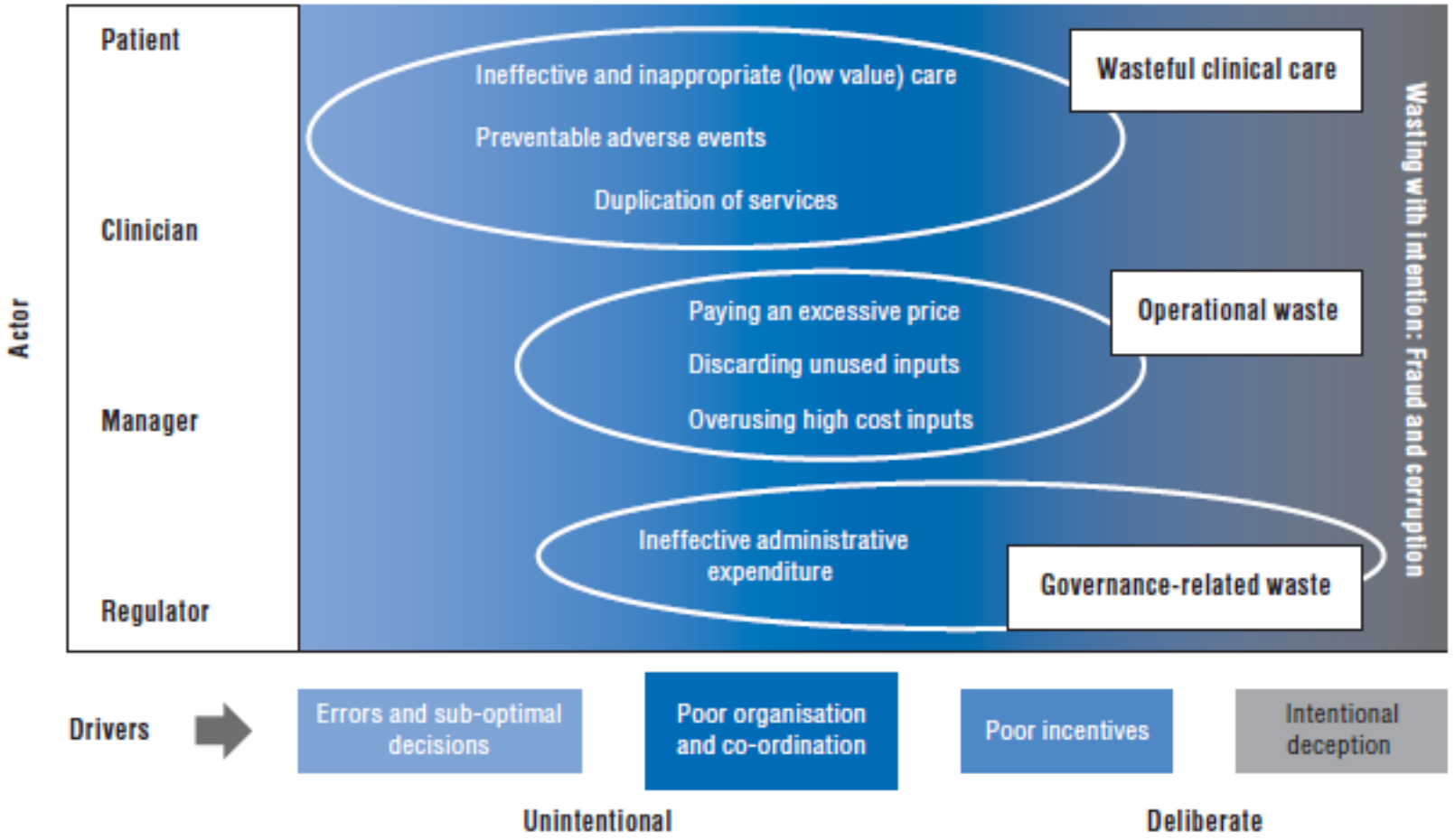
In an efficient health care system, resources are used to get the best value for the money spent. The opposite of efficiency is waste, the use of resources without benefit to the patients a system is intended to help. There are at least two ways to improve efficiency:

1. reduce quality waste, and
2. reduce administrative or production costs.

Institute of Medicine (2001), *Crossing the quality chasm. A new health system for the 21st century* (Washington, DC,: National Academy Press).

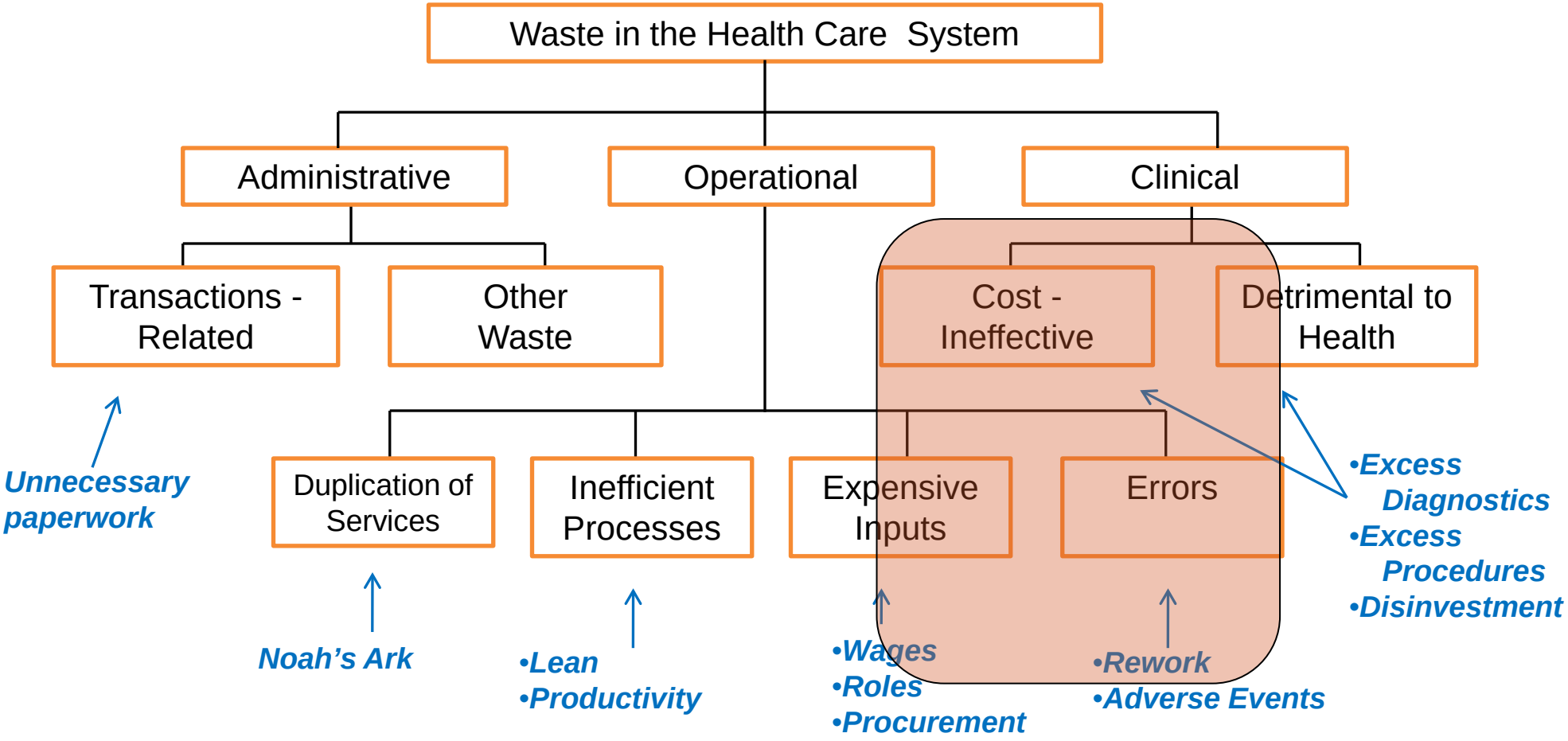
Waste framework - 1

Figure 1.1. **Three categories of waste mapped to actors involved and drivers**



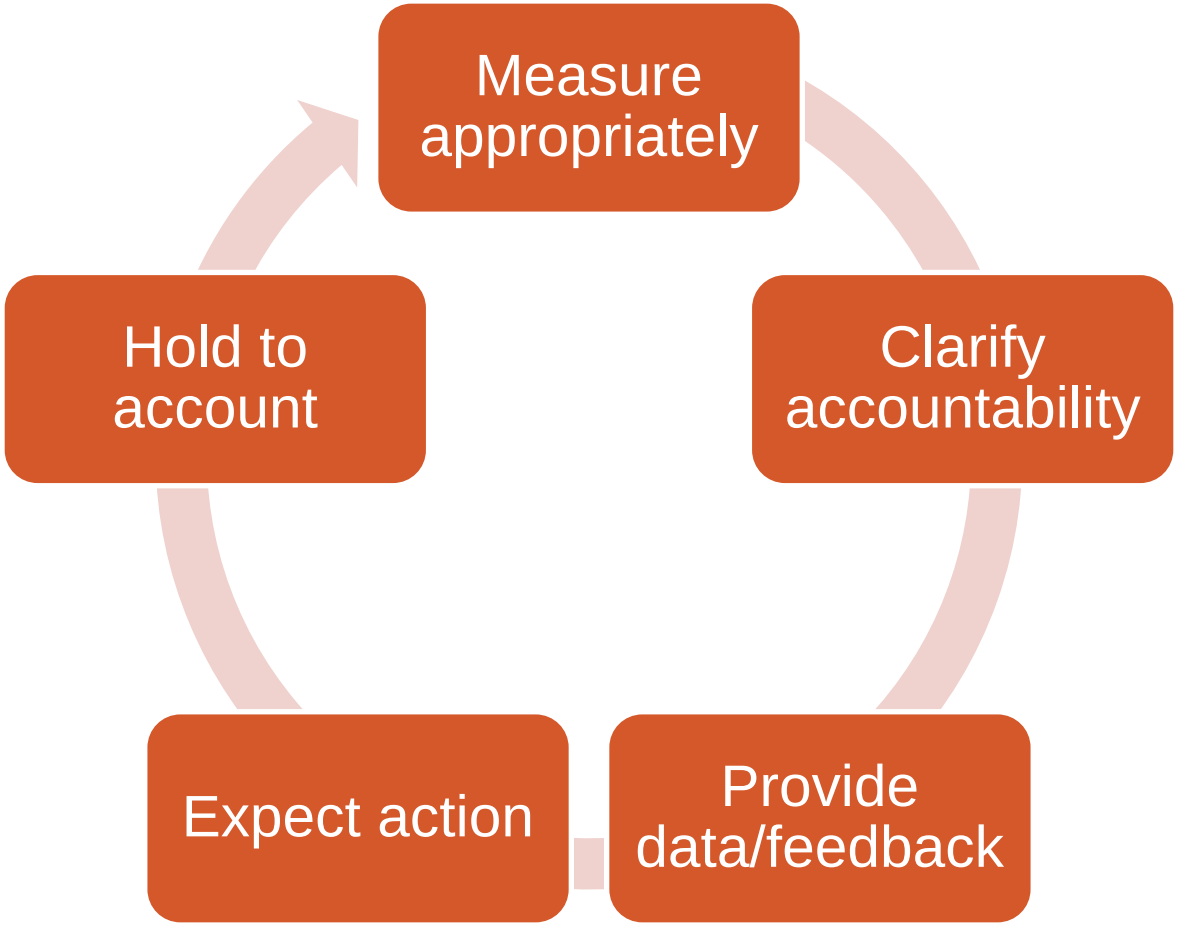
Source: Organisation for Economic Cooperation and Development (2017), *Tackling wasteful spending on health (Paris: OECD).*

Waste framework - 2



Source: Bentley, T., et al. (2008). "Waste in the U.S. Health Care System: A Conceptual Framework." *Milbank Quarterly* 86(4): 629-659

Waste *action* framework



We need to improve the data we have (but we can use it in the meantime)

Accurate

- Complete elementary data cleaning before release
- Link and analyse admissions (and readmissions) for the same patient
- Invest in regular, independent and published audits of the quality of routine data

Relevant

- Add diagnostic results to the data sets over time
- Link state collections of routine data regularly with PBS and Medicare data (every six months) and death registrations (every month)

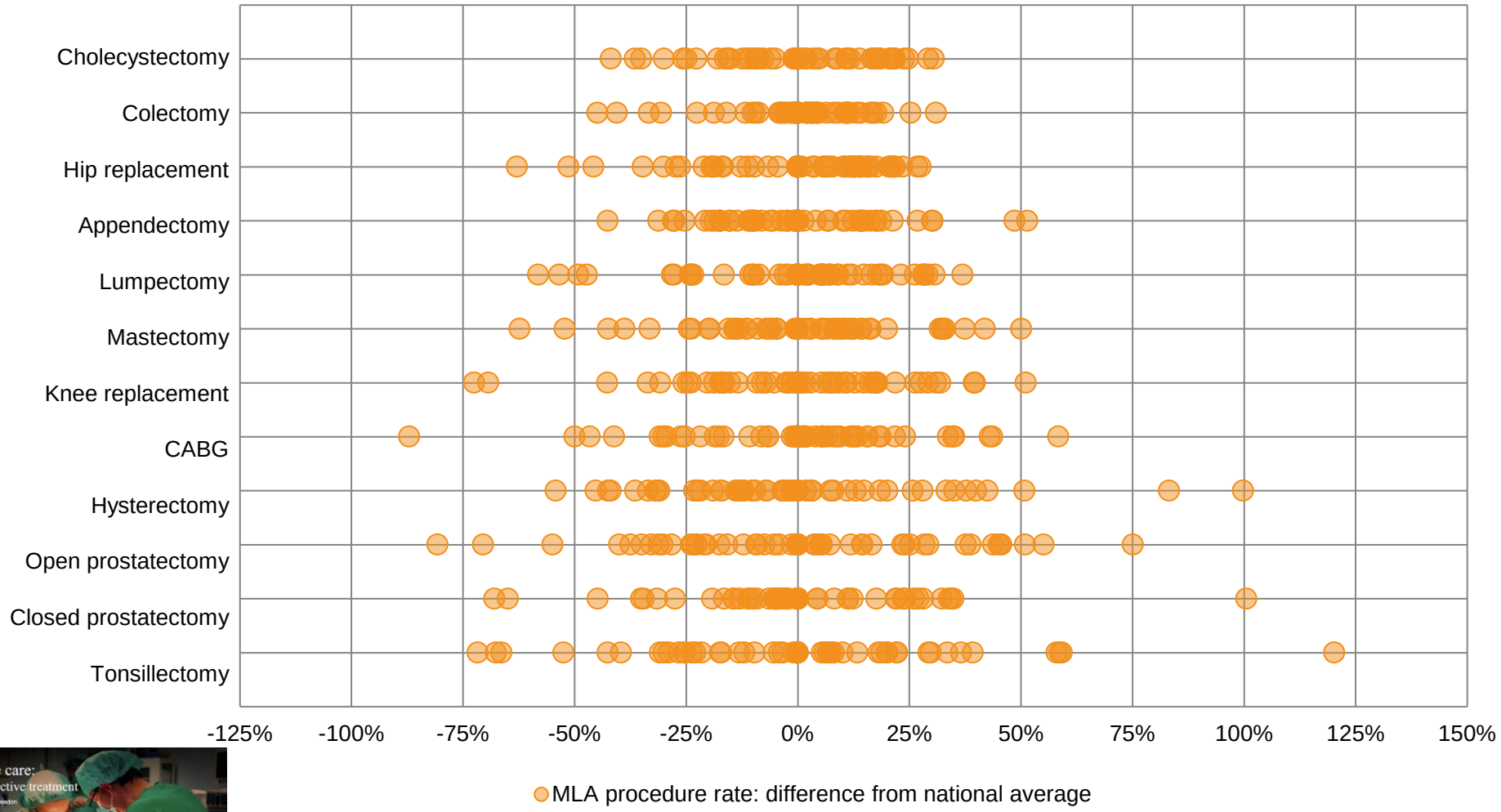
Accessible

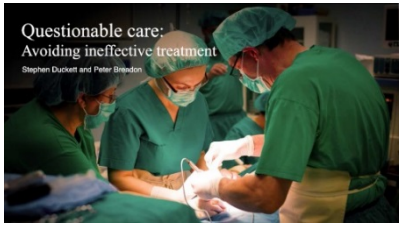
- Publish reports on complications in both public and private hospitals

Understandable

- Create and include in the data set grouping variables, such as CHADx, HACs and DRGs
- Use data aids to enhance the transparency of reporting for consumers and health professionals

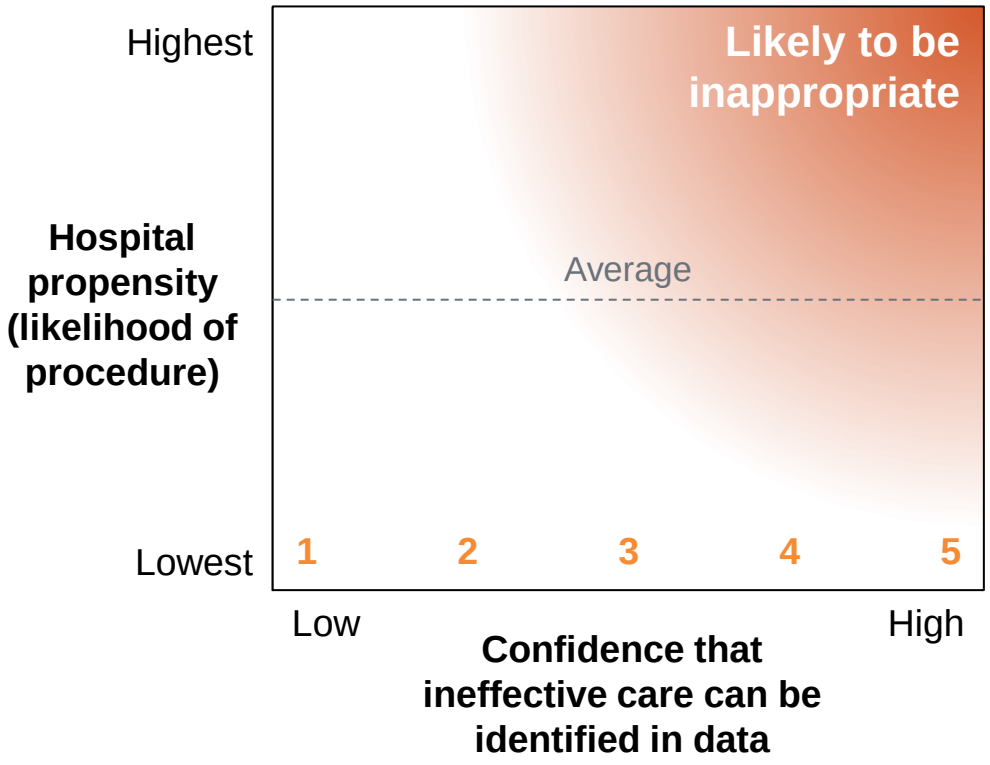
Most variation analyses look at geographic variation and find large disparities …





Source: Grattan Institute analysis, 2010-11 data

We combine variation and clinical effectiveness to identify troubling patterns of care



1 Procedures w/o diagnosis codes

2 Procedures w. diagnosis codes

3 Do-not-do routinely (some patients)

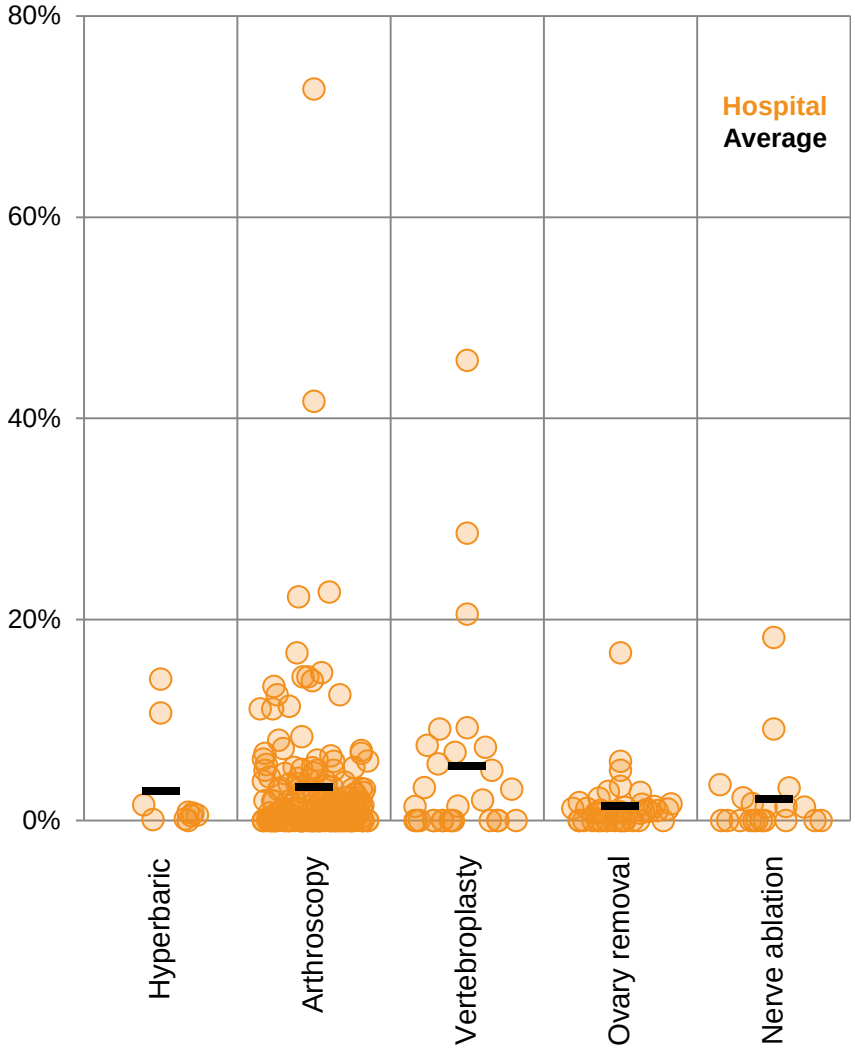
4 Do-not-do (some patients)

5 Do-not-do (all patients)

- **Unit of analysis is hospitals** (not patient geography)
- **Compare hospitals that do the procedure and treat the diagnostic group** (not all hospitals)
- **Compare procedure rates among patients with relevant diagnosis** (not all admissions)

There are outliers with troubling patterns of care

Proportion of relevant patients getting do-not-do procedure



Proportion of relevant patients getting do-not-do routlinely procedure

Some of our choices

- How much ‘benefit of doubt’ to give?
  - Is a ‘Do Not Do’ a ‘Never Do’?
- Who should initiate investigation for potentially inappropriate care?
- Is it OK for private hospital to be the focus (vs surgeon)
- When should private insurers be able to deny payment?
  - When ACSQHC makes a determination?
  - When clinical review makes a determination?
  - When hospital fails to respond to external review?

What hospitals might do:

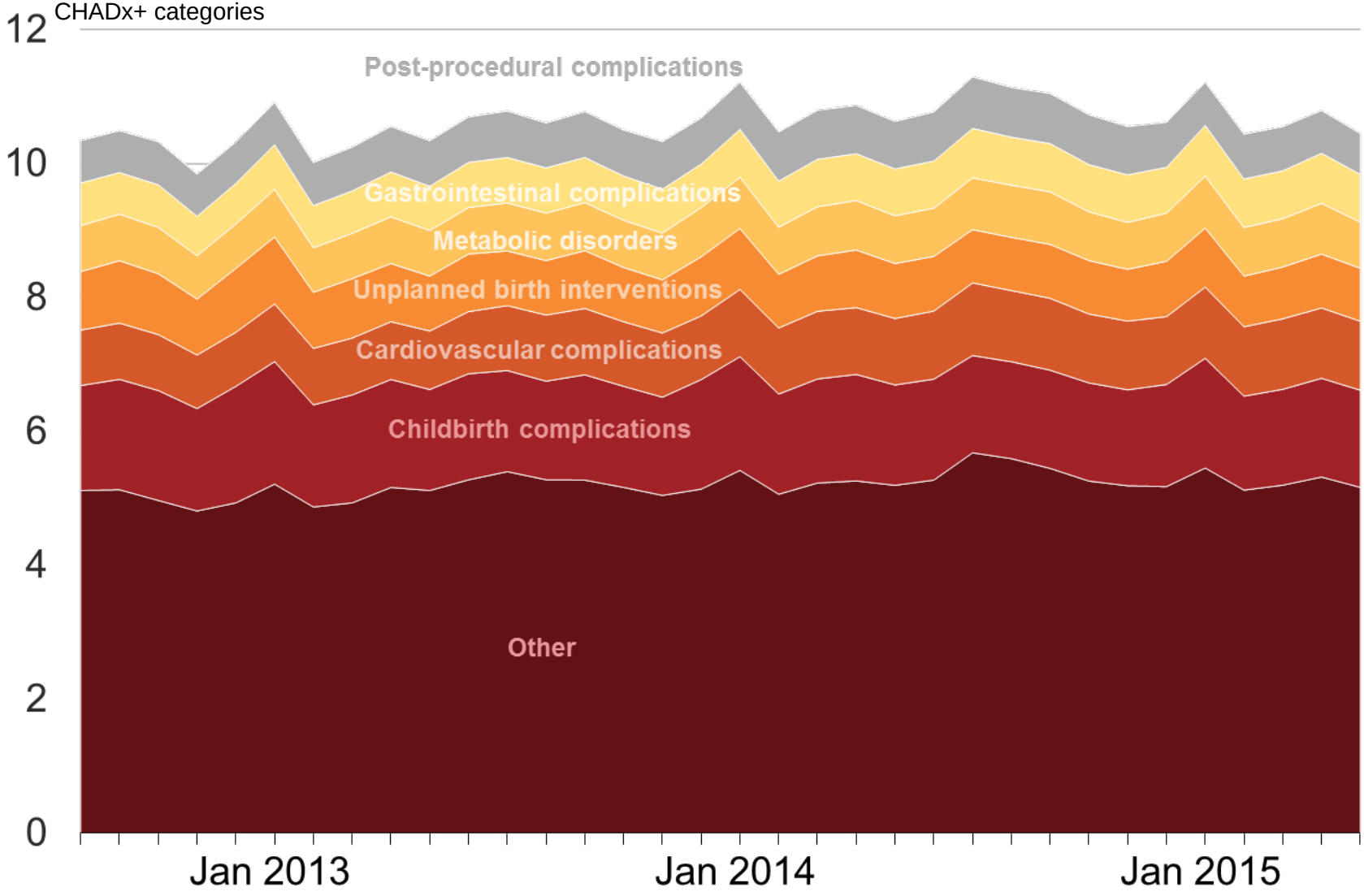
- Table the Grattan report (or like) for discussion with the relevant clinical governance group:
  - Do they think any of the DNDs or DNDRs are an issue in your hospital?
  - There are other issues we didn't look at which are prominent in the public debate (e.g. diagnostic test use). Are they relevant?

- How robust are your clinical governance processes?
  - Is appropriateness of care being systematically monitored?
  - What are the accountability mechanisms for clinical choices?

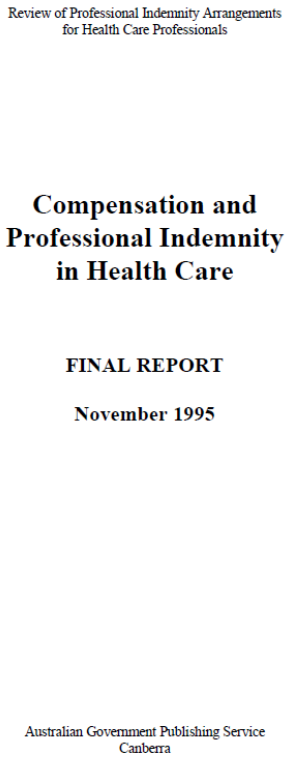
- NB: I don't think there are big savings for hospitals here
- NB: I do think this will be an increasing clinical governance issue

The safety of hospital care is not improving over time

Prevalence of at least one complication categorised by common major CHADx+ categories



The long and winding road …..


Review of Professional Indemnity Arrangements
for Health Care Professionals

Compensation and Professional Indemnity in Health Care

FINAL REPORT

November 1995

Australian Government Publishing Service
Canberra


Implementing safety and quality enhancement in health care

National actions to support quality and safety improvement in Australian health care

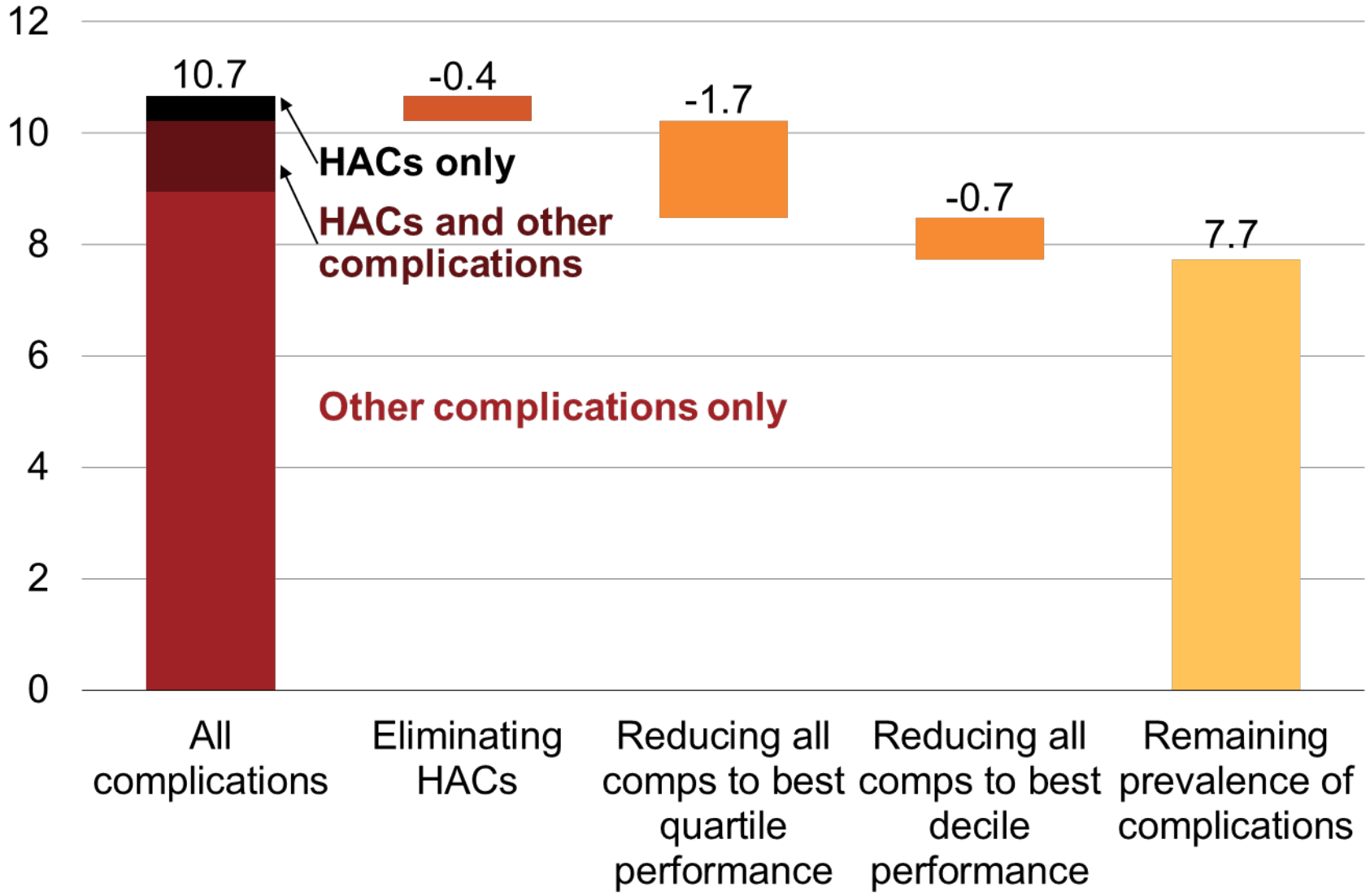
Final Report to Health Ministers from
the National Expert Advisory Group on
Safety and Quality in Australian Health Care

July 1999

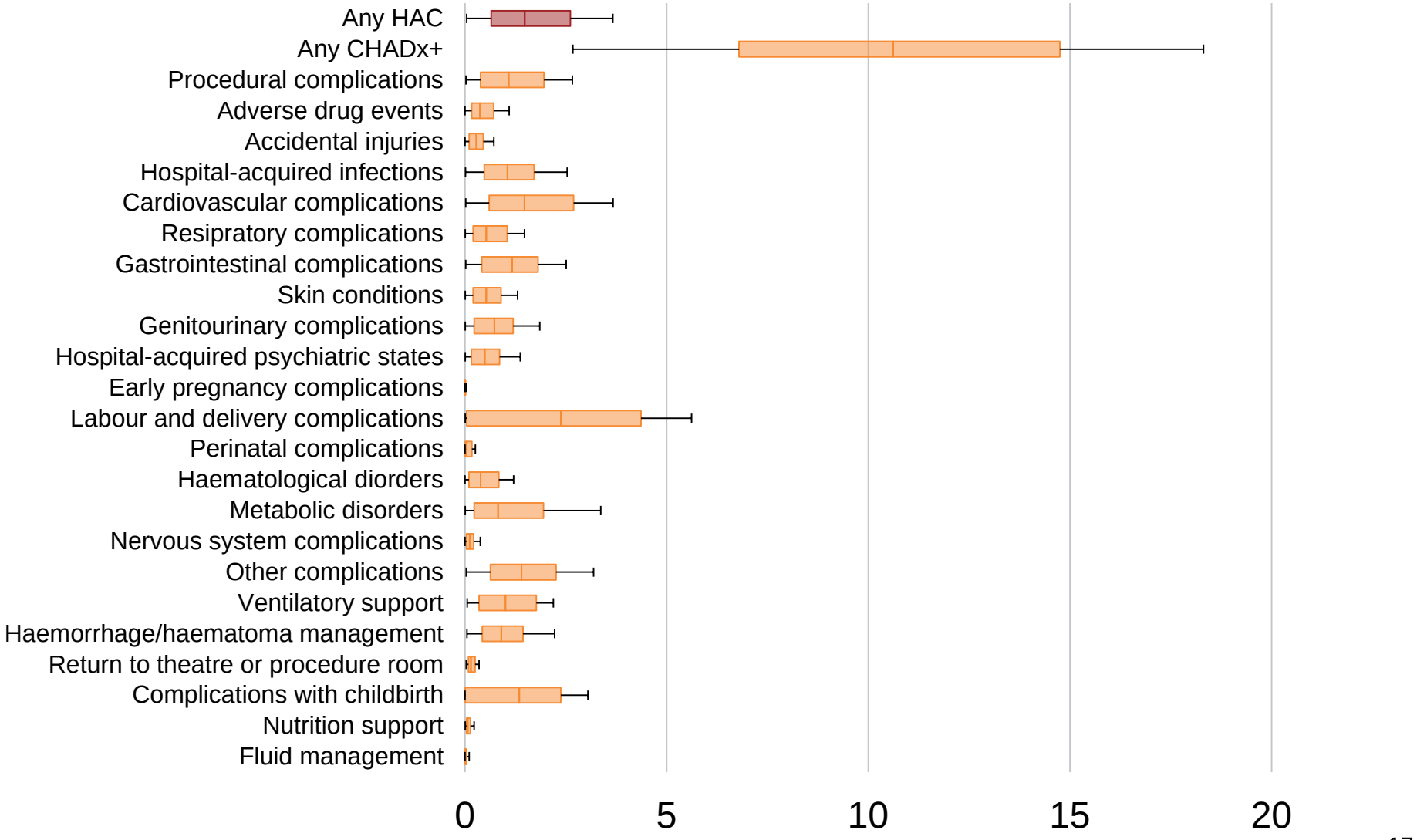
Different ambitions

	All admissions	Same day admissions	Multiday admissions
Sentinel events	0.0012%	Not published	Not published
Designated 'Hospital Acquired Complications' (HACs)	2%	0.001%	5%
All complications	11%	3%	27%

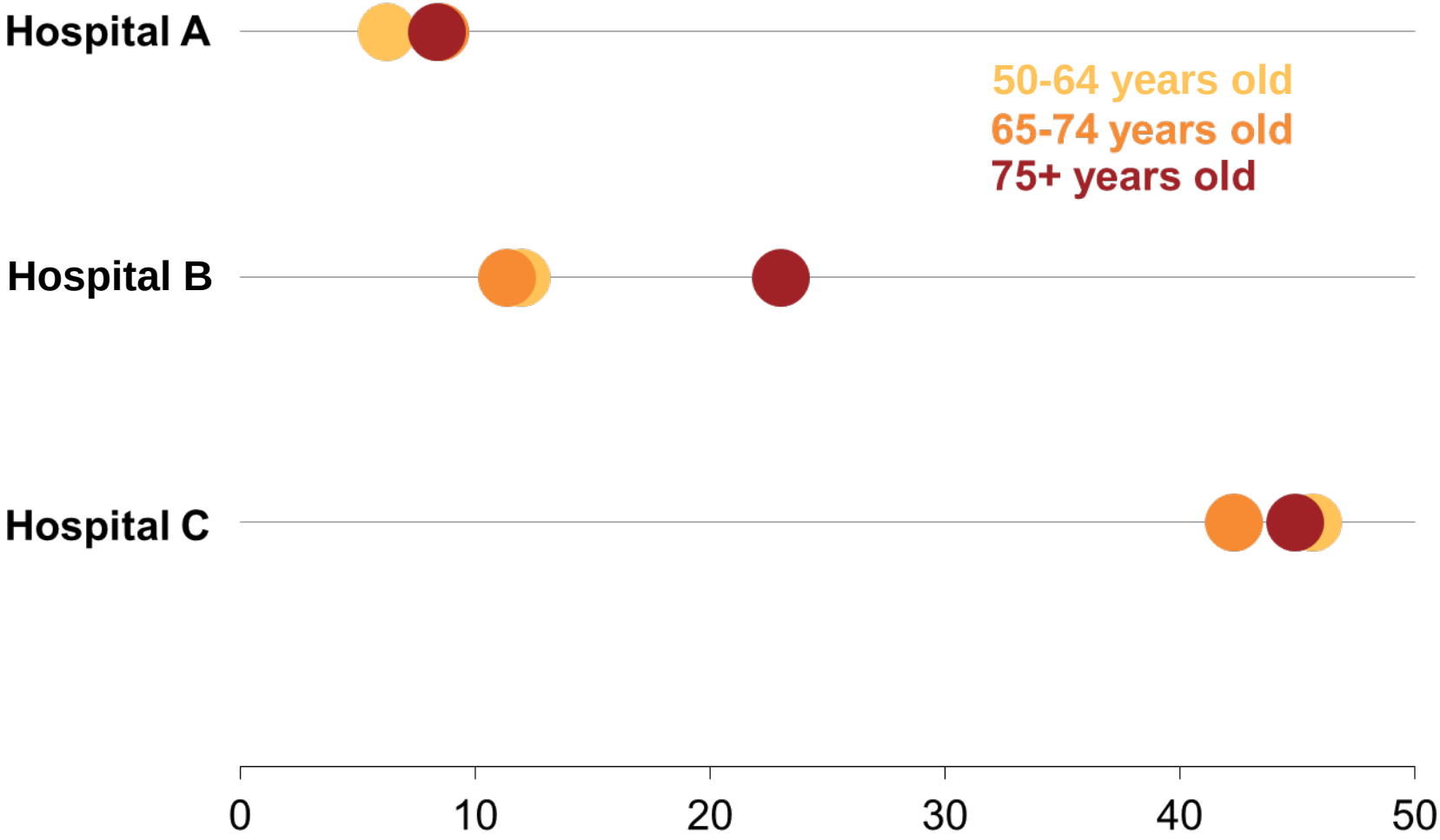
What should be our ambition?



There is considerable variability in rates of complications across hospitals

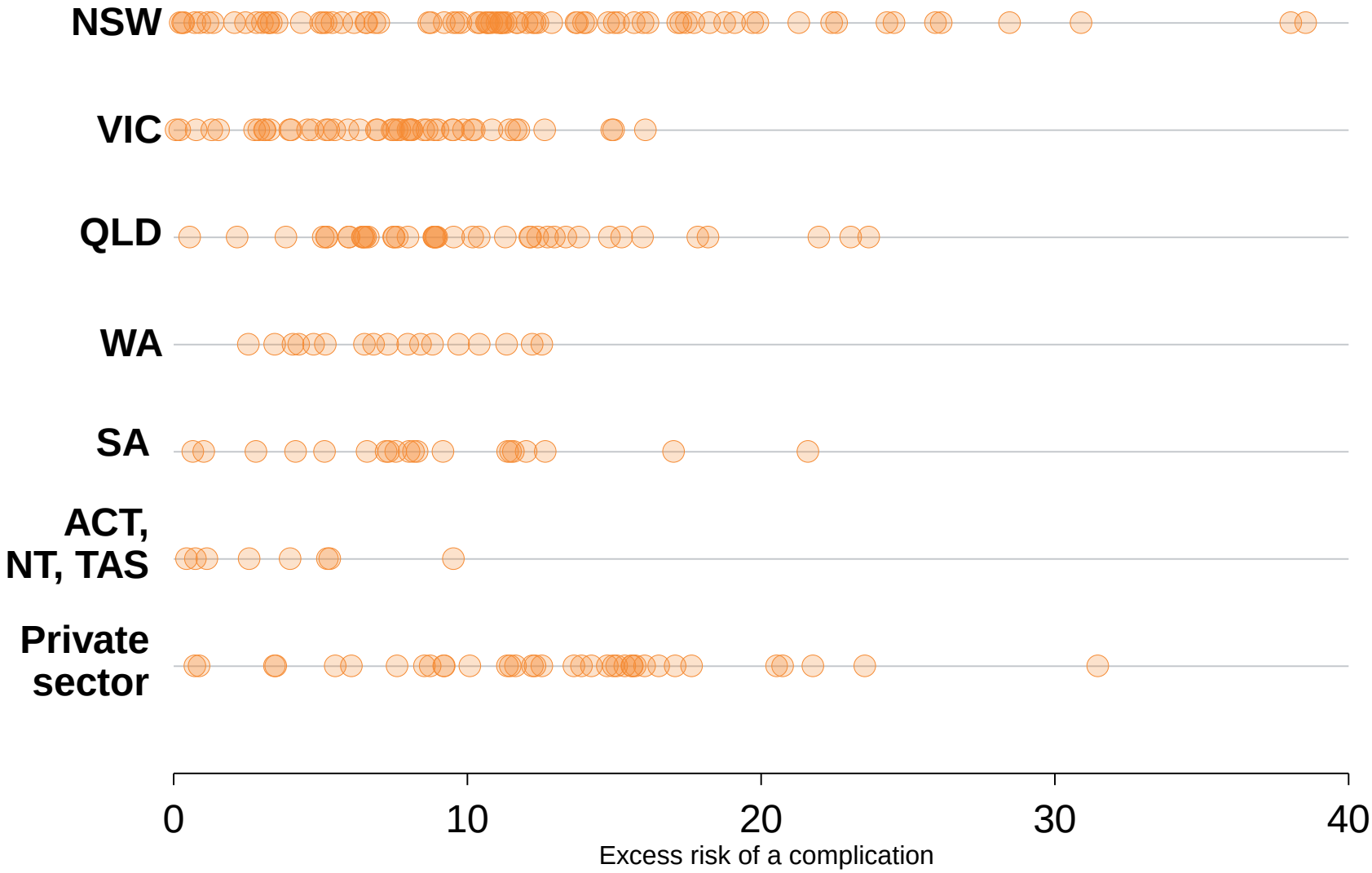


And some hospitals are better than others for some patients

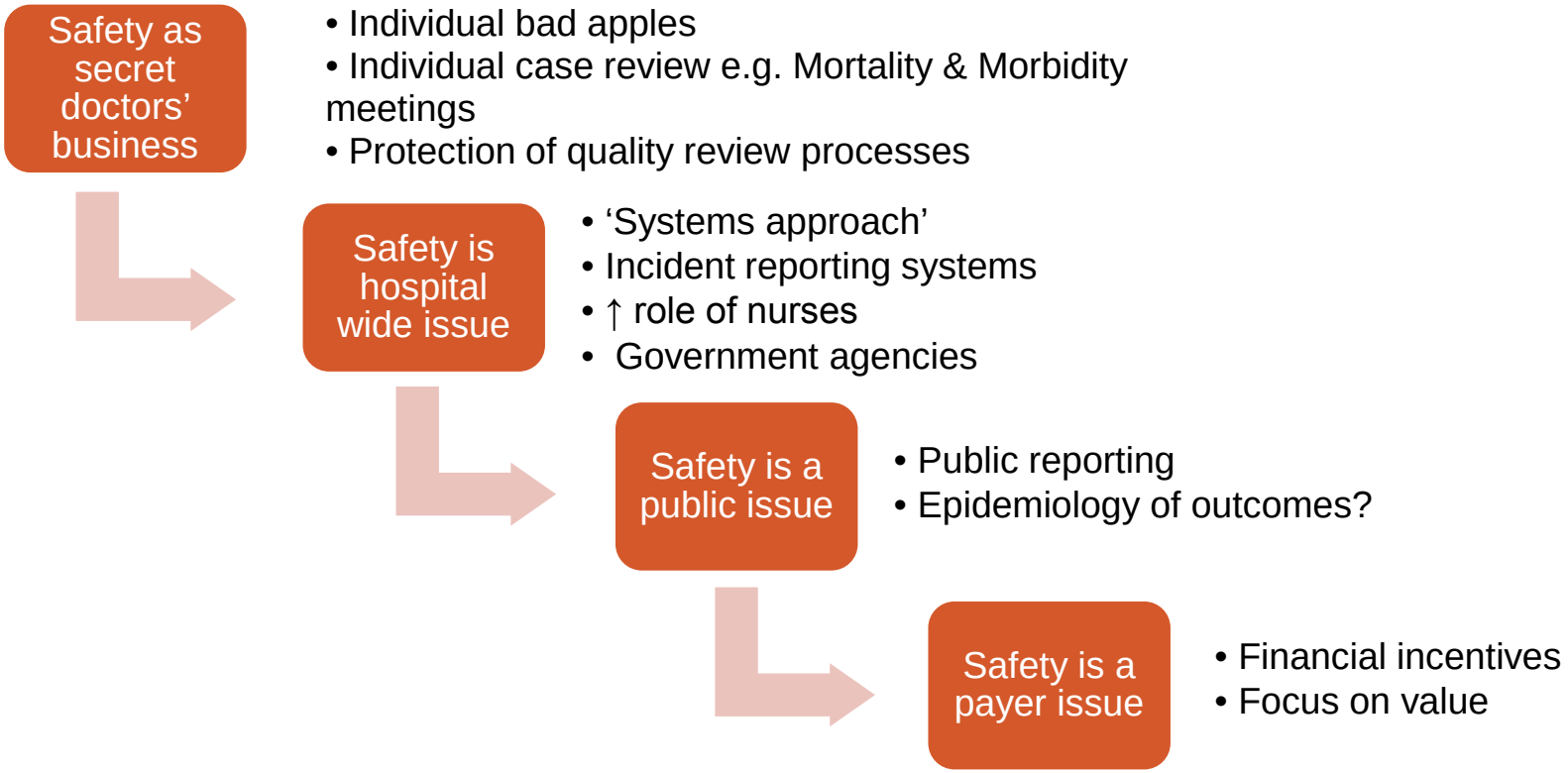


Performance varies within states, and within sectors

Excess risk of a complication for all multiday admissions by hospital (excluding obstetric admissions)

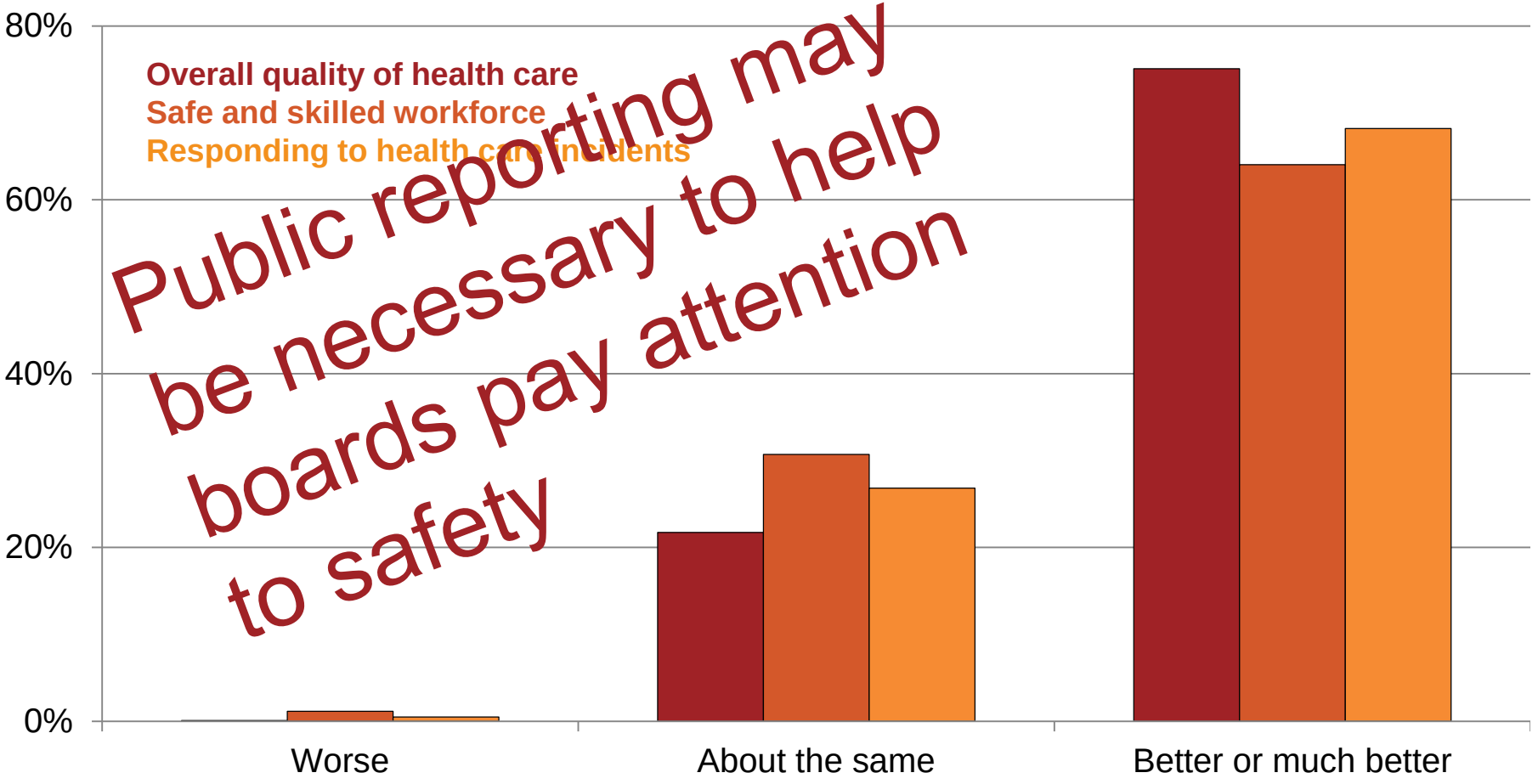


The evolution of safety thinking



Lake Wobegone effect

Proportion of board members Victorian LHNs, views on own network relative to average Victorian network



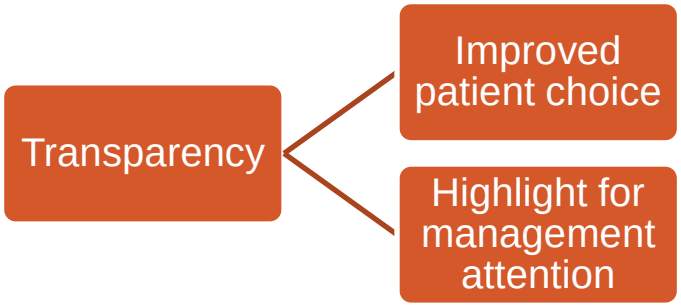
Notes: n = 233, 70% response rate, 96% of networks included

Source: Bismark, M. et al (2013). "The role of boards in clinical governance: activities and attitudes among members of public health service boards in Victoria." *Australian Health Review* 37(5): 682-687

Transparency for whom?

- Professionals:
  - Necessary but not sufficient
  - Not enough (in Victoria at least)
  - Will be increasingly expected e.g. as part of revalidation
- Boards and management
  - Necessary but not sufficient
  - Not enough (in Victoria at least)

Transparency for whom?



- Professionals:
  - Necessary but not sufficient
  - Not enough (in Victoria at least)
- Boards and management
  - Necessary but not sufficient
  - Not enough (in Victoria at least)
- Public

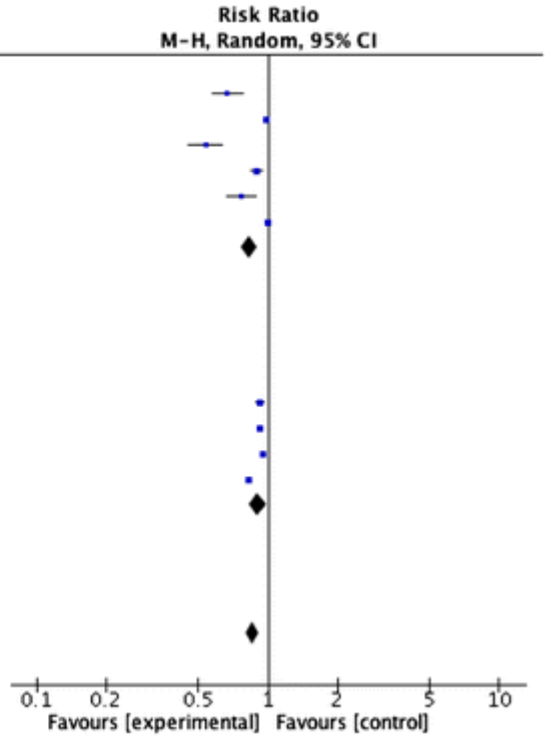
Public reporting is more likely to be associated with changes in health care provider behaviours than with selection of health services providers by patients or families.

Totten, A. M., et al. (2012) 'Closing the quality gap: revisiting the state of the science (vol. 5: public reporting as a quality improvement strategy)', *Evidence Reports/Technology Assessments(208.5),*

- vs GP

Public reporting works

Study or Subgroup	Experimental Events	Experimental Total	Control Events	Control Total	Weight	Risk Ratio M-H, Random, 95% CI	Year
1.2.1 Included only patients with cardiovascular diseases							
Peterson 1998	325	8120	310	5170	7.4%	0.67 [0.57, 0.78]	1998
Dranove 2003	122453	376201	101342	307097	11.4%	0.99 [0.98, 0.99]	2003
Moscucci 2005	573	69048	175	11378	6.8%	0.54 [0.46, 0.64]	2005
Carey 2006	1861	87777	2032	85645	10.5%	0.89 [0.84, 0.95]	2006
Guru 2006	455	22730	330	12691	7.8%	0.77 [0.67, 0.89]	2006
Joynt 2012	9169	21935	3683	8810	11.2%	1.00 [0.97, 1.03]	2012
Subtotal (95% CI)		**585811**		**430791**	**55.0%**	**0.83 [0.77, 0.91]**	
Total events	134836		107872				
Heterogeneity: $Tau^2 = 0.01$; $Chi^2 = 97.05$, df = 5 ($P < 0.00001$); $I^2 = 95\%$							
Test for overall effect: $Z = 4.31$ ($P < 0.0001$)							
1.2.3 Included patients with a wide range of conditions							
Rosenthal 1997	4405	65431	2606	35692	10.9%	0.92 [0.88, 0.97]	1997
Clough 2002	12442	195656	45445	660508	11.3%	0.92 [0.91, 0.94]	2002
Jha 2012	17683	137287	143357	1069034	11.4%	0.96 [0.95, 0.97]	2012
Ryan 2012	85956	856216	179352	1474421	11.4%	0.83 [0.82, 0.83]	2012
Subtotal (95% CI)		**1254590**		**3239655**	**45.0%**	**0.91 [0.83, 0.99]**	
Total events	120486		370760				
Heterogeneity: $Tau^2 = 0.01$; $Chi^2 = 393.73$, df = 3 ($P < 0.00001$); $I^2 = 99\%$							
Test for overall effect: $Z = 2.12$ ($P = 0.03$)							
Total (95% CI)		**1840401**		**3670446**	**100.0%**	**0.86 [0.80, 0.92]**	
Total events	255322		478632				
Heterogeneity: $Tau^2 = 0.01$; $Chi^2 = 1318.12$, df = 9 ($P < 0.00001$); $I^2 = 99\%$							
Test for overall effect: $Z = 4.26$ ($P < 0.0001$)							
Test for subgroup differences: $Chi^2 = 1.76$, df = 1 ($P = 0.18$), $I^2 = 43.1\%$							



Campanella, P., ey al. (2016) 'The impact of Public Reporting on clinical outcomes: a systematic review and meta-analysis', *BMC Health Services Research, 16(296),*

CHADx+ classes with highest incremental cost per episode (Minimum 10 episodes)

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CHADx+	Description	Average incremental cost per episode	Number of episodes with this CHADx+
4.19	Hospital-acquired abscesses	$33,700	198
1.13	Complications of transplants	$31,300	490
4.03	Sepsis due to stasis	$24,000	519
3.01	Falls with fractured femur	$20,400	42
3.05	Injury due to assault	$20,000	166
8.02	Pressure injury Stages 3 & 4	$19,200	1,083
1.08	Disruption of wound	$18,300	2,034
10.06	Patient self harm	$15,200	868

These are dramatic, but rare

Notes: 2014-15, public hospitals, acute and newborn care, multiday episodes

The total costs of Major CHADx+ classes

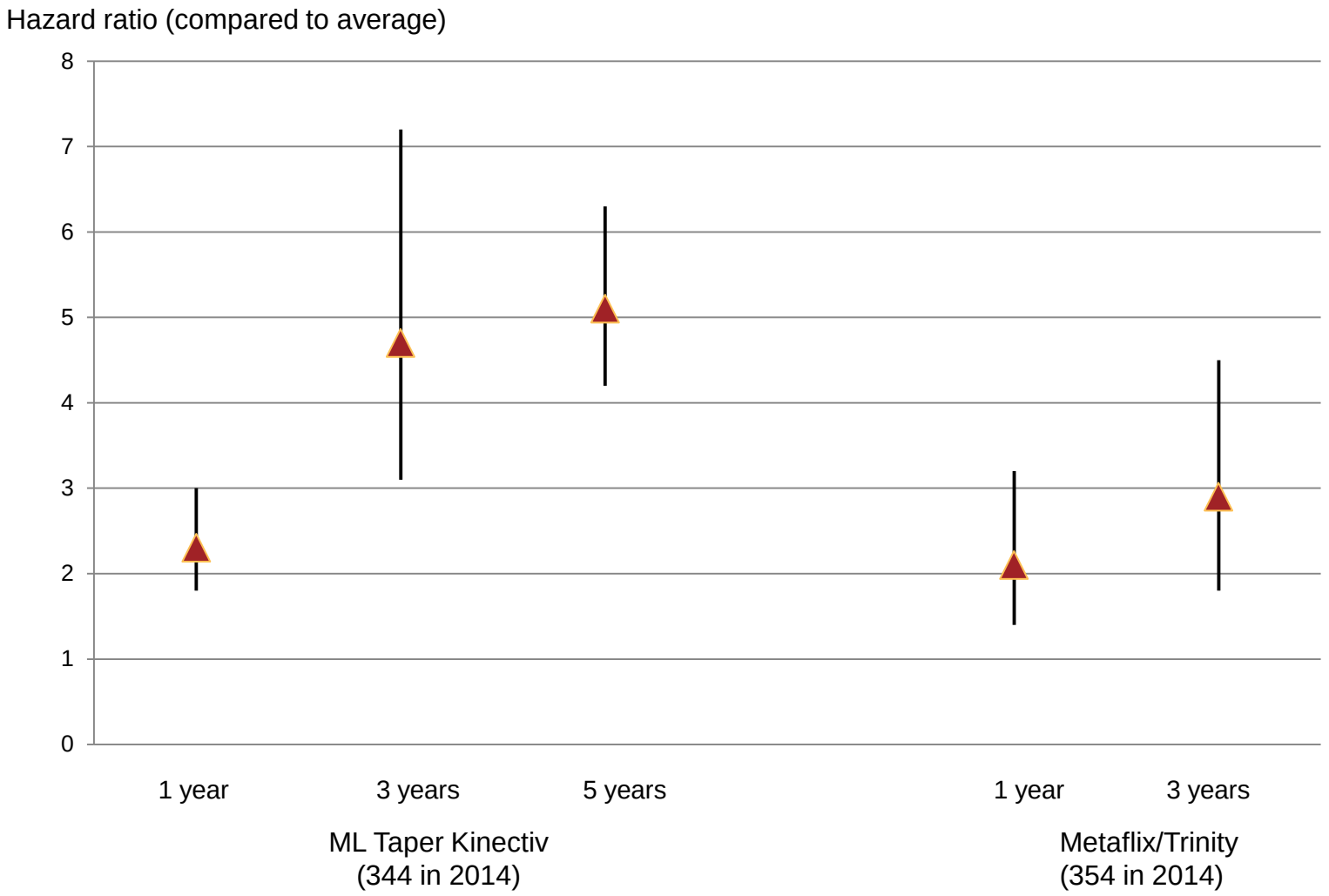
1	Post-procedural complications	$207m
2	Adverse drug events	$58m
3	Accidental injuries	$58m
4	Specific infections	$140m
5	Cardiovascular complications	$206m
6	Respiratory complications	$122m
7	Gastrointestinal complications	$105m
8	Skin conditions	$136m
9	Genitourinary complications	$59m
10	Hospital-acquired psychiatric states	$63m
11	Early pregnancy complications	-$2m
12	Labour, delivery and postpartum complications	$70m
13	Perinatal complications	$155m
14	Haematological disorders	$87m
15	Metabolic disorders	$118m
16	Nervous system complications	$37m
17	Other complications	$143m
	Total	$2.16b
	as a share of all costs	*13%*

These are frequent but less dramatic

Notes: 2014-15, public hospitals, acute and newborn care, multiday episodes

Some prostheses have higher revision rates than others

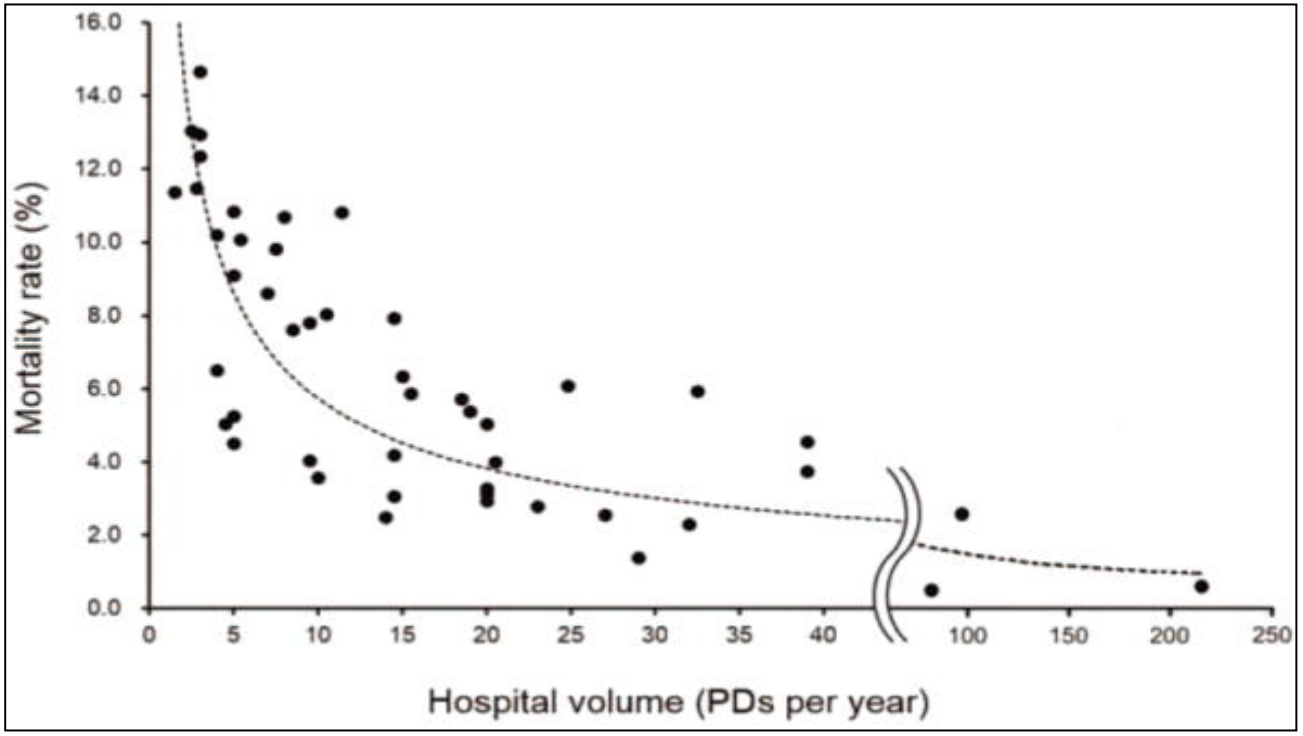
(Total Conventional Hip Prostheses)



Source: Australian Orthopaedic Association National Joint Replacement Registry. Annual Report. Adelaide:AOA; 2015

Issue of low volume

FIGURE 3 . Scatter plot of hospitals according to the median values of each included hospital group and postoperative mortality rates. PD indicates pancreaticoduodenectomy.



Effect of Hospital Volume on Surgical Outcomes After Pancreaticoduodenectomy: A Systematic Review and Meta-analysis.
Hata, Tatsuo; Motoi, Fuyuhiko; MD, PhD; Ishida, Masaharu; MD, PhD; Naitoh, Takeshi; MD, PhD; Katayose, Yu; MD, PhD; Egawa, Shinichi; MD, PhD; Unno, Michiaki; MD, PhD

Annals of Surgery. 263(4):664-672, April 2016.
DOI: 10.1097/SLA.0000000000001437

Using data to examine hospitals doing low volumes
(Pancreaticoduodenectomy example)

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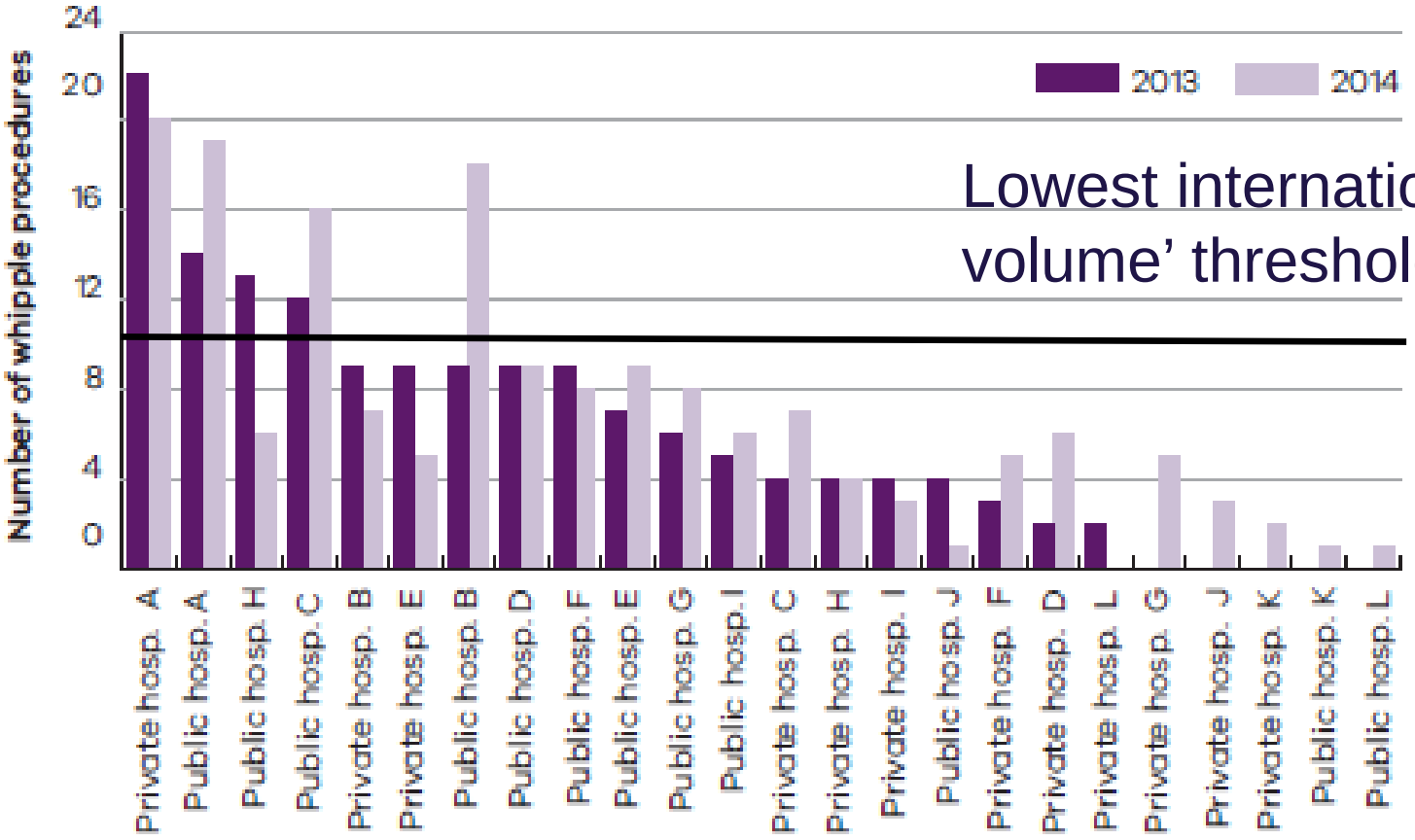
Figure 4: Many hospitals are performing very low volumes of whipple procedures



Lowest international 'high volume' threshold (10-54)

Of 20 hospitals < 10, 4 rural

Recommendations

- ‘Actionability’ of existing data collections needs to be improved
- Publish comparative data for public and private hospitals
- Give clinical teams the tools to use the data to improve their performance
- Get hospital accreditation to pay some attention to complications
- Put financial incentives on hospital management to pay attention to complication rates

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