

## Acting on improving hospital safety

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# Safer care saves money

## How big is the problem?

- Complications cost the health system money
  - Costs of individual adverse events
  - Costs of adverse events in aggregate
  - Complications cost hospitals money
- There are big savings in safer care
- Complication rates vary significantly

## What to do about financial incentives?

- Financial incentives: lots of activity, little evidence they work
- Australia's messy incentives
- The business case for quality
- Best practice incentives
- Can financial incentives work?

## What about governance aka accreditation?

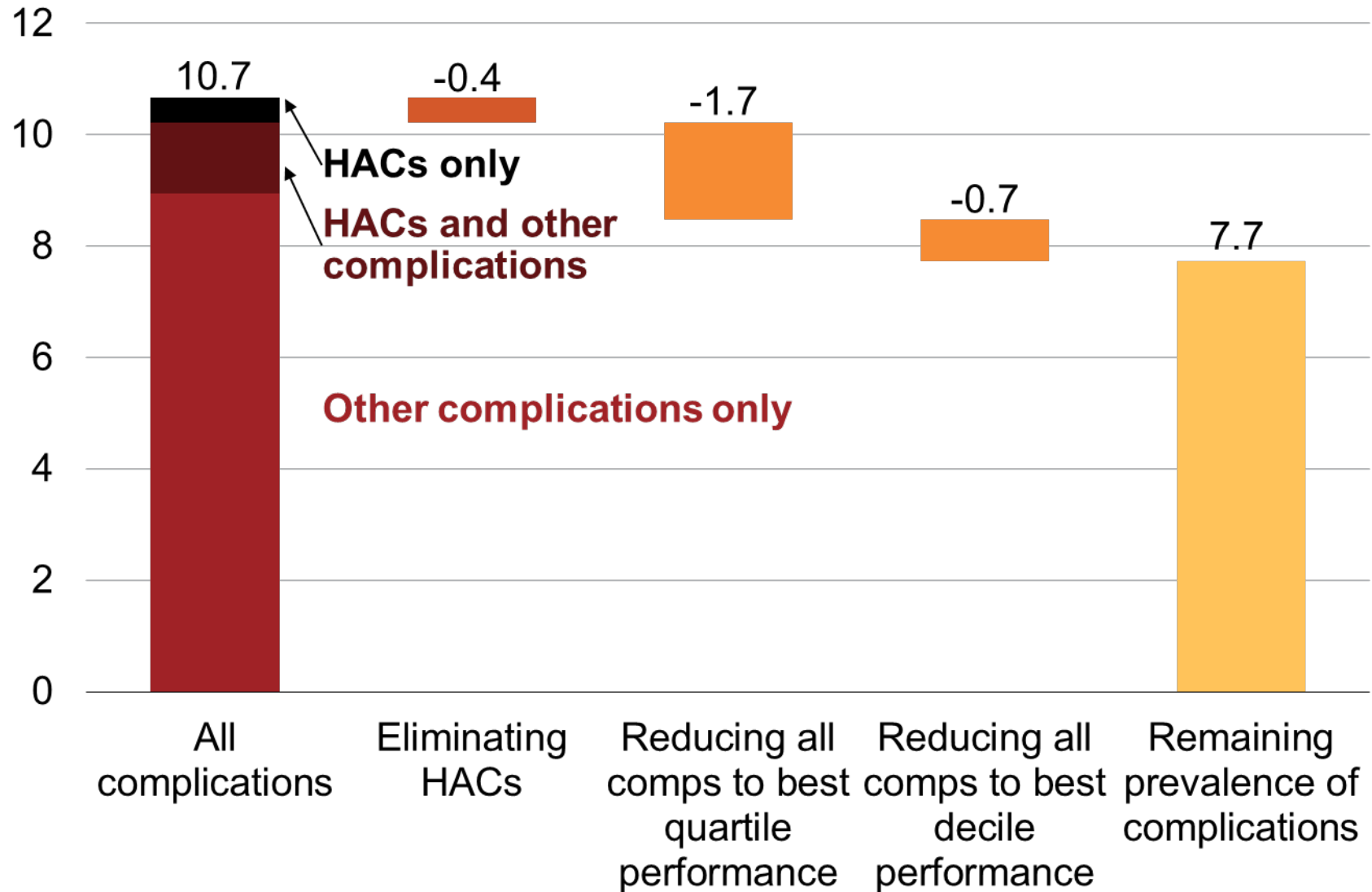
- Accreditation is a major part of hospital regulation in Australia
- The effectiveness of the current hospital accreditation system is uncertain
- What might a new approach to accreditation look like?

# 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%

A higher rate means that the 'All/any complications' measure can be used in smaller hospitals

# What should be our ambition?



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

<b>CHADx+</b>	<b>Description</b>	<b>Number of episodes with this CHADx+</b>	<b>Average incremental cost per episode</b>
1.13	Complications of transplants	1,017	\$26,500
1.01*	Invasive ventilatory support	8,429	\$26,000
4.19	Hospital-acquired abscesses	599	\$20,500
3.04*	Thrombectomy	1,653	\$20,500
4.20	Other hospital-acquired infections	9,080	\$14,500
4.03	Sepsis due to Staph	1,507	\$14,000
3.01*	Wound repair	402	\$12,000
4.02	Sepsis due to Strep	796	\$10,500

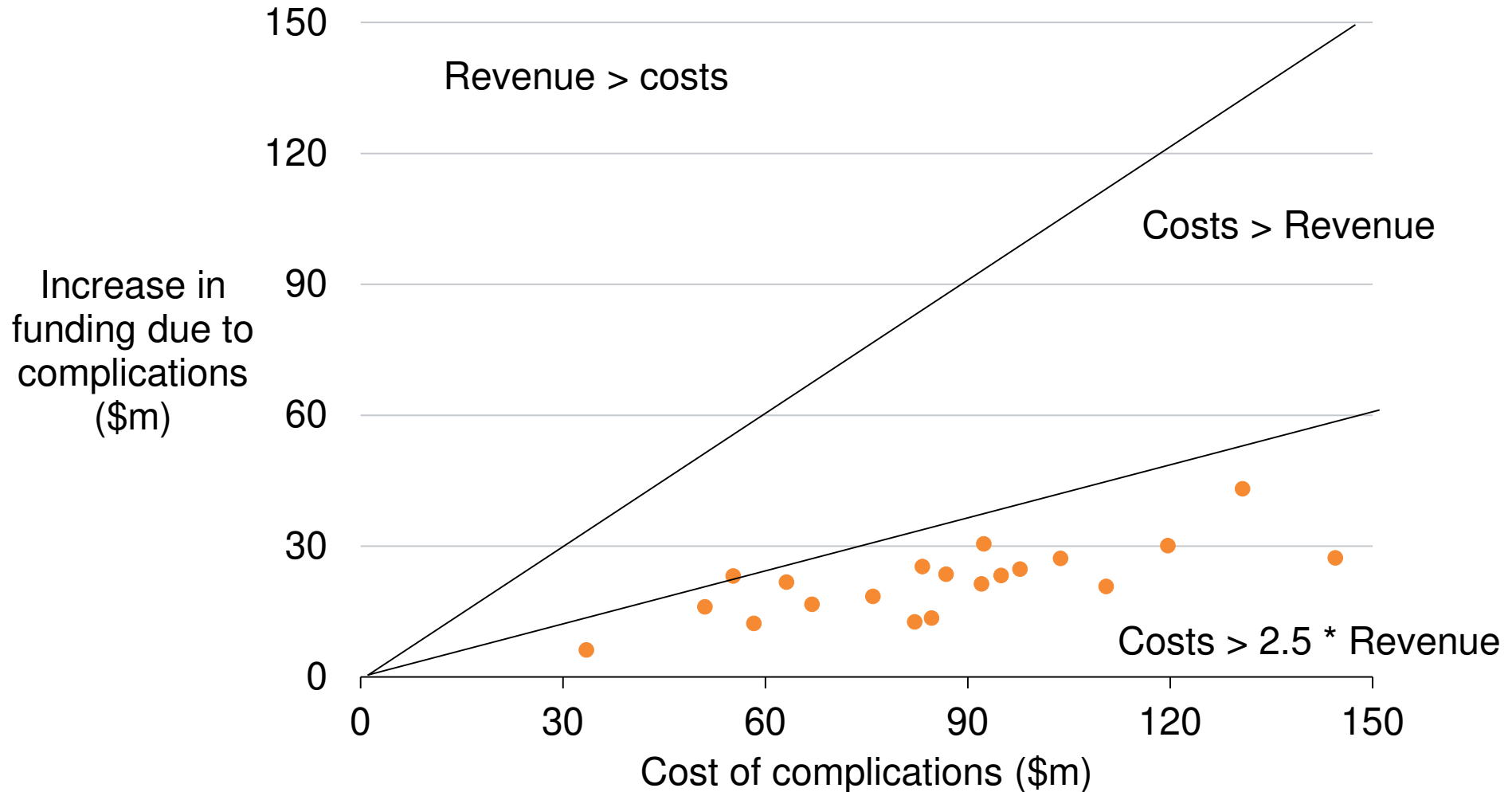
## The total costs of Major CHADx+ classes

1	Post-procedural complications	\$451m	11	Early pregnancy complications	~\$0m
2	Adverse drug events	\$172m	12	Labour, delivery and postpartum complications	\$59m
3	Accidental injuries	\$155m	13	Perinatal complications	\$31m
4	Specific infections	\$948m	14	Haematological disorders	\$176m
5	Cardiovascular complications	\$490m	15	Metabolic disorders	\$445m
6	Respiratory complications	\$210m	16	Nervous system complications	\$50m
7	Gastrointestinal complications	\$368m	17	Other complications	\$395m
8	Skin conditions	\$293m		<b>Total</b>	<b>\$4.6b</b>
9	Genitourinary complications	\$168m			
10	Hospital-acquired psychiatric states	\$191m			

Notes: 2014-15, acute care.

# Complications cost hospitals more than the revenue they receive from those complications

Largest 20 public hospitals, 2014-15



Source: Grattan analysis of 2014-15 NHCDC

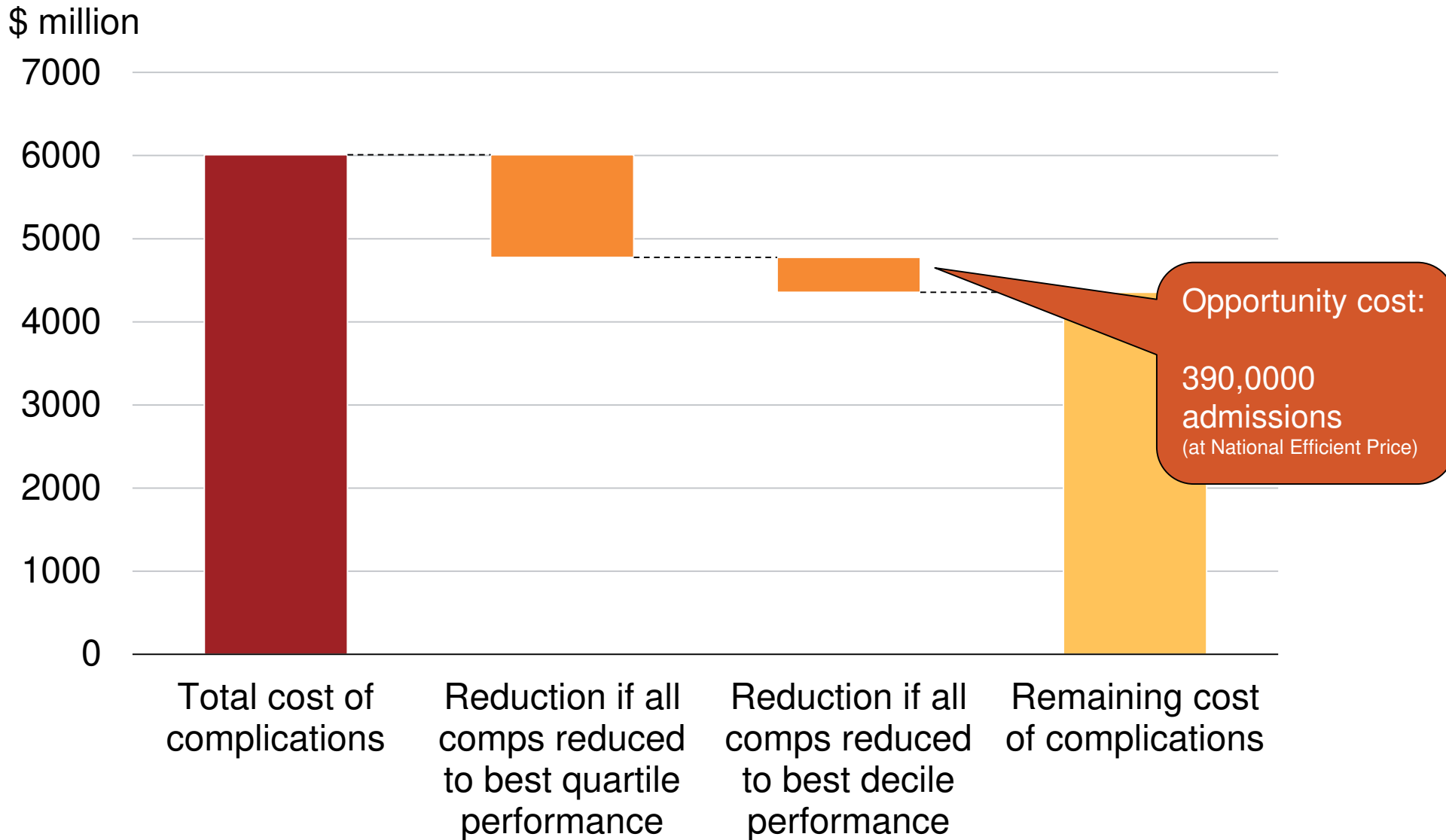
# What we need to do

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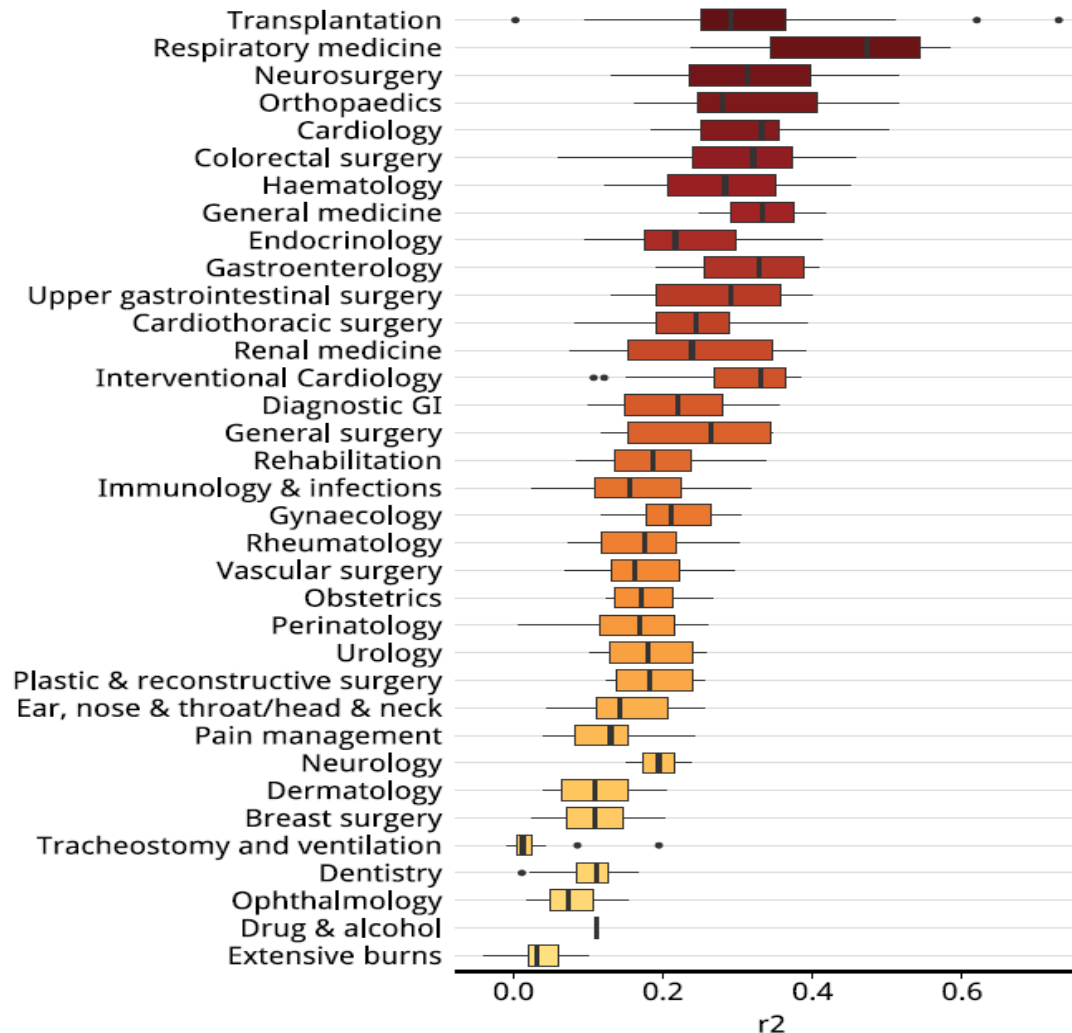
- Set an ambition
  - And one which starts from where each hospital is
- Give information to hospitals and clinicians so they know where they stand
- Publish information about relative performance



# Reducing complication rates could lead to savings of \$1.6 billion each year



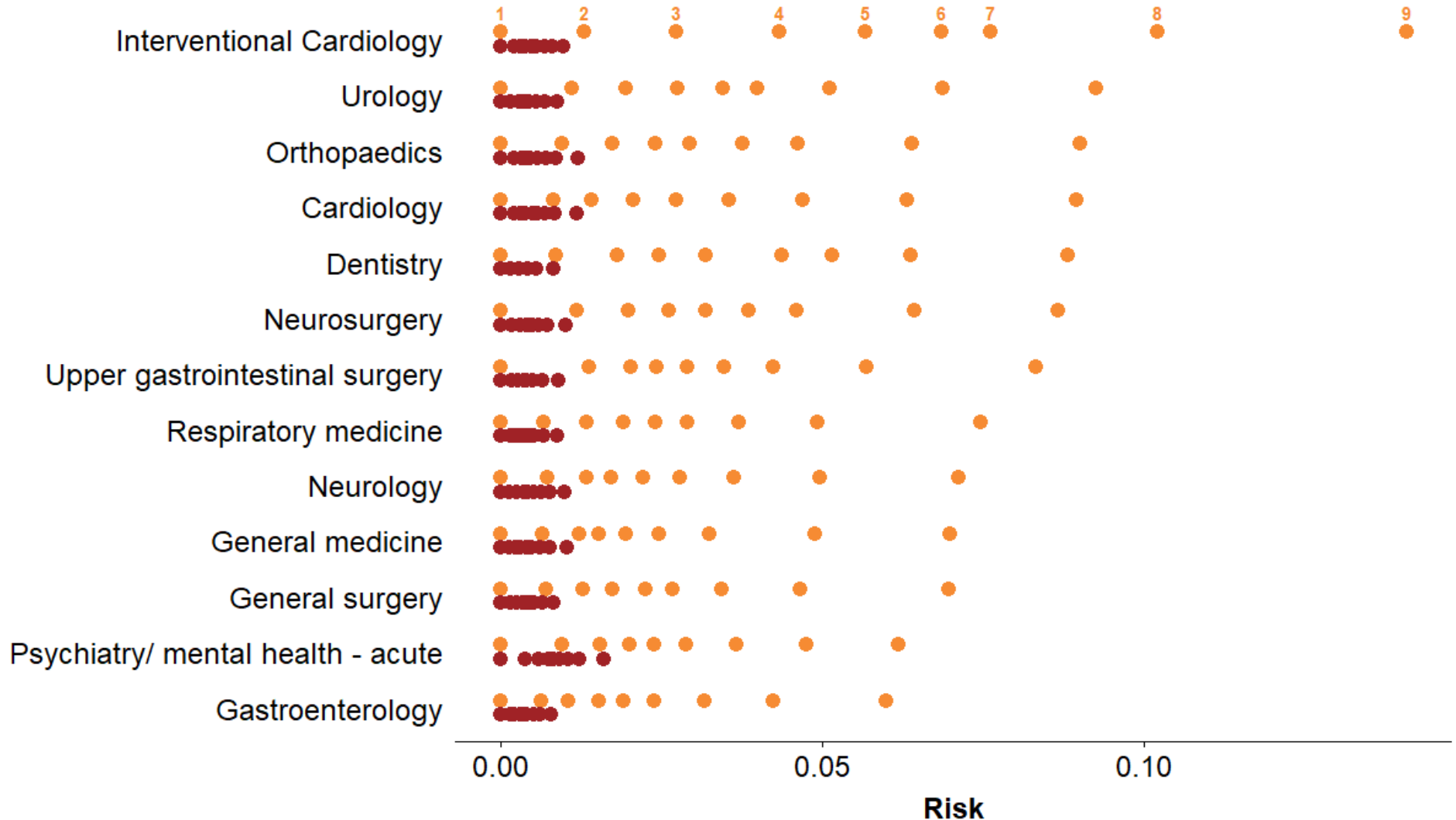
# A hospital's complication rate in one specialty does not predict its complication rate in others



Box plots represent the range of correlation coefficients (half observations in box) for hospital level comparisons of given specialty rate with each other specialty

# The risk of complications varies significantly among hospitals

Risk minus minimum risk, by intra-specialty hospital deciles **CHADx and CHAPx** and **costly CHADx+**



# Need to make sure all policies/ incentives are aligned



# Safer care saves money

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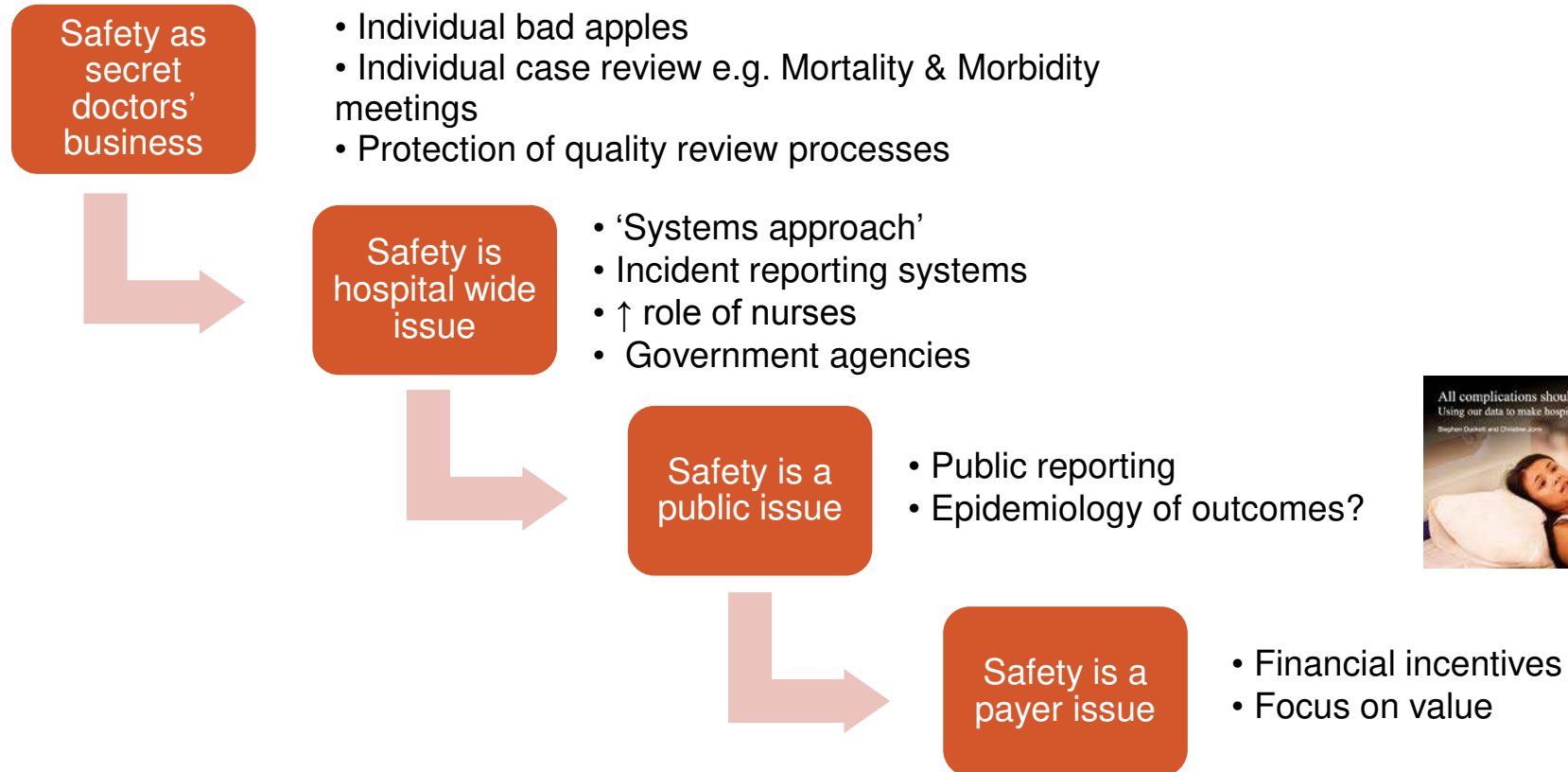
## What to do about financial incentives?

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# The evolution of safety thinking



# P4P is here, weak evidence notwithstanding

Table 3. Strength of the Evidence

Outcome Type	Study Design	Study Limitations	Consistency	Strength of Evidence	Summary of Findings
<b>Ambulatory</b>					
Process	1 RCT 7 ITS studies 23 controlled before-after studies 13 uncontrolled before-after studies	Medium	Inconsistent	Low	Much of the evidence for positive effects comes from the QOF program. Little evidence of long-term effects; biggest improvements seen in areas with poor baseline performance.
Health	8 controlled before-after studies 2 uncontrolled before-after studies	High	Inconsistent	Insufficient	Most of the controlled studies have significant selection bias, and the 2 uncontrolled studies do not provide sufficient information to draw conclusions.
Utilization	11 controlled before-after studies 1 uncontrolled before-after study	Medium	Inconsistent	Low	Stronger study designs showed no effect.
Intermediate	2 RCTs 2 ITS studies 1 controlled before-after study 7 uncontrolled before-after studies	Medium	Inconsistent	Low	No consistently large effects; stronger observational studies showed no effect; 2 trials produced conflicting results.
<b>Hospital</b>					
Process	4 controlled before-after studies 4 uncontrolled before-after studies	High	Inconsistent	Low	Stronger study designs showed little to no effect.
Health	53 controlled before-after studies	Medium	Inconsistent	Low	The strongest studies showed no effect.
Utilization	1 ITS study	Medium	-	Low	1 national U.S. study showed a significant reduction in readmissions after introduction of a hospital-level financial penalty program.
Intermediate	1 controlled before-after study	High	-	Insufficient	1 study with short-term follow-up assessing patient experience.

ITS = interrupted time series; QOF = Quality and Outcomes Framework; RCT = randomized, controlled trial.

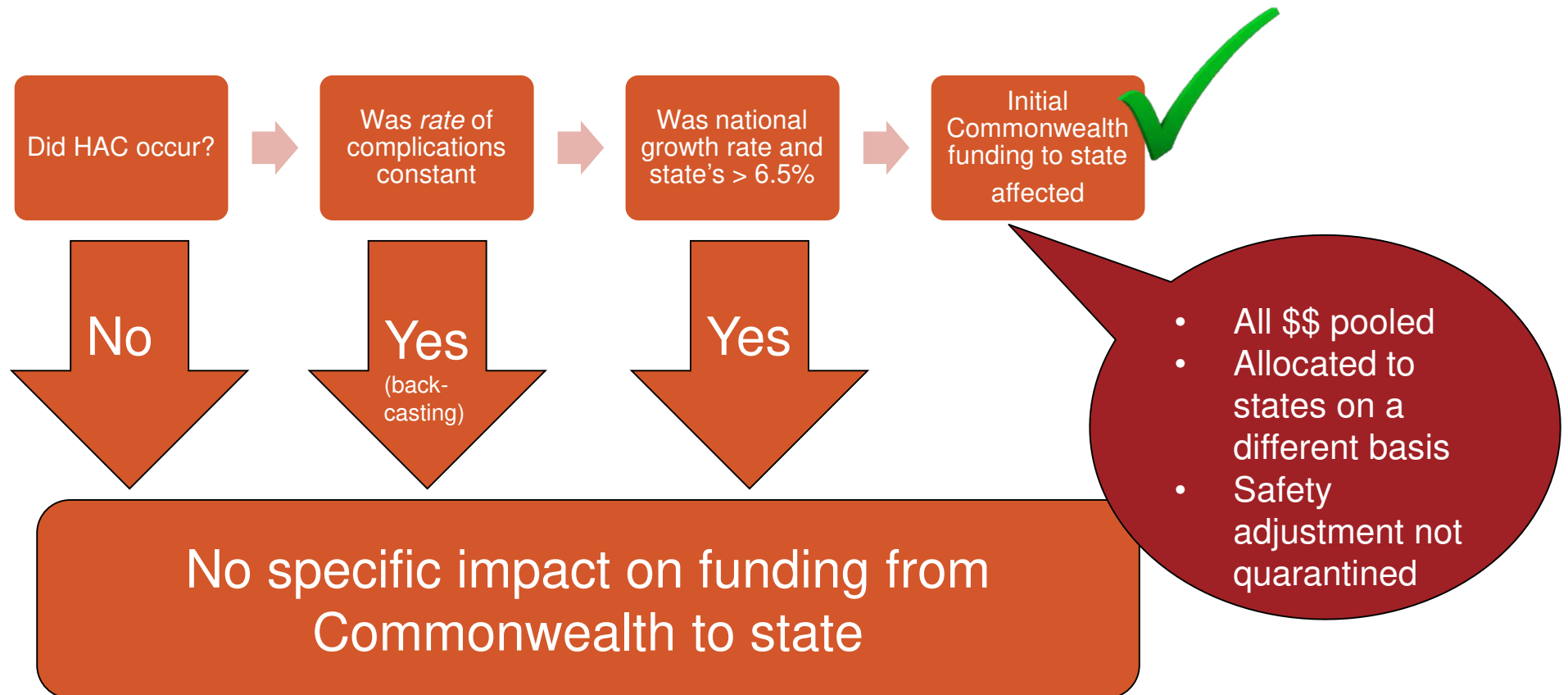
## The National (apparent) approach

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- Sentinel events → \$0 for episode
- Designated complications → adjusted payment
- differs where risk is low (full adjustment), medium or high (partial adjustment)

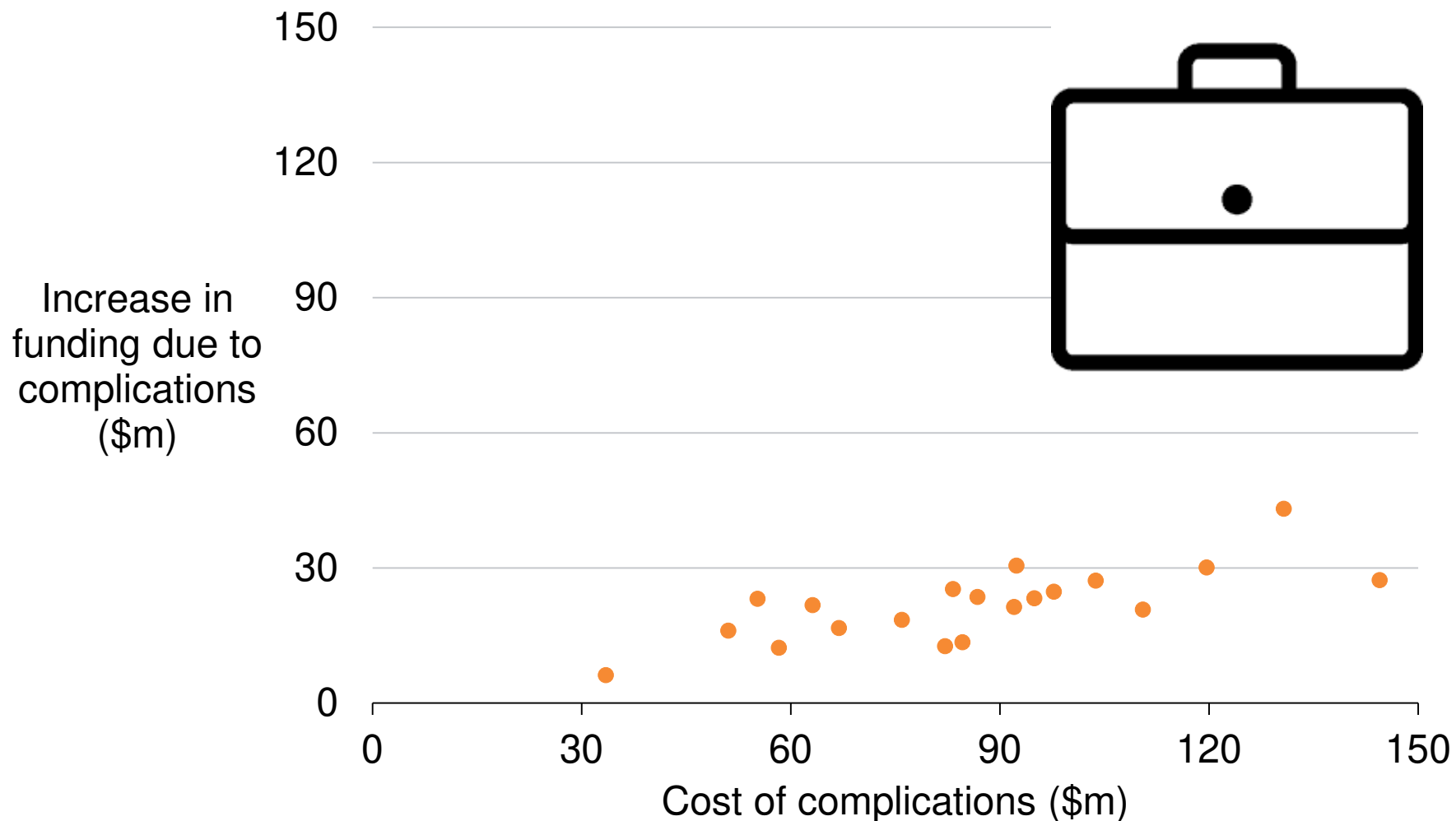


# The National (real) approach



# Complications cost hospitals more than the revenue they receive from those complications

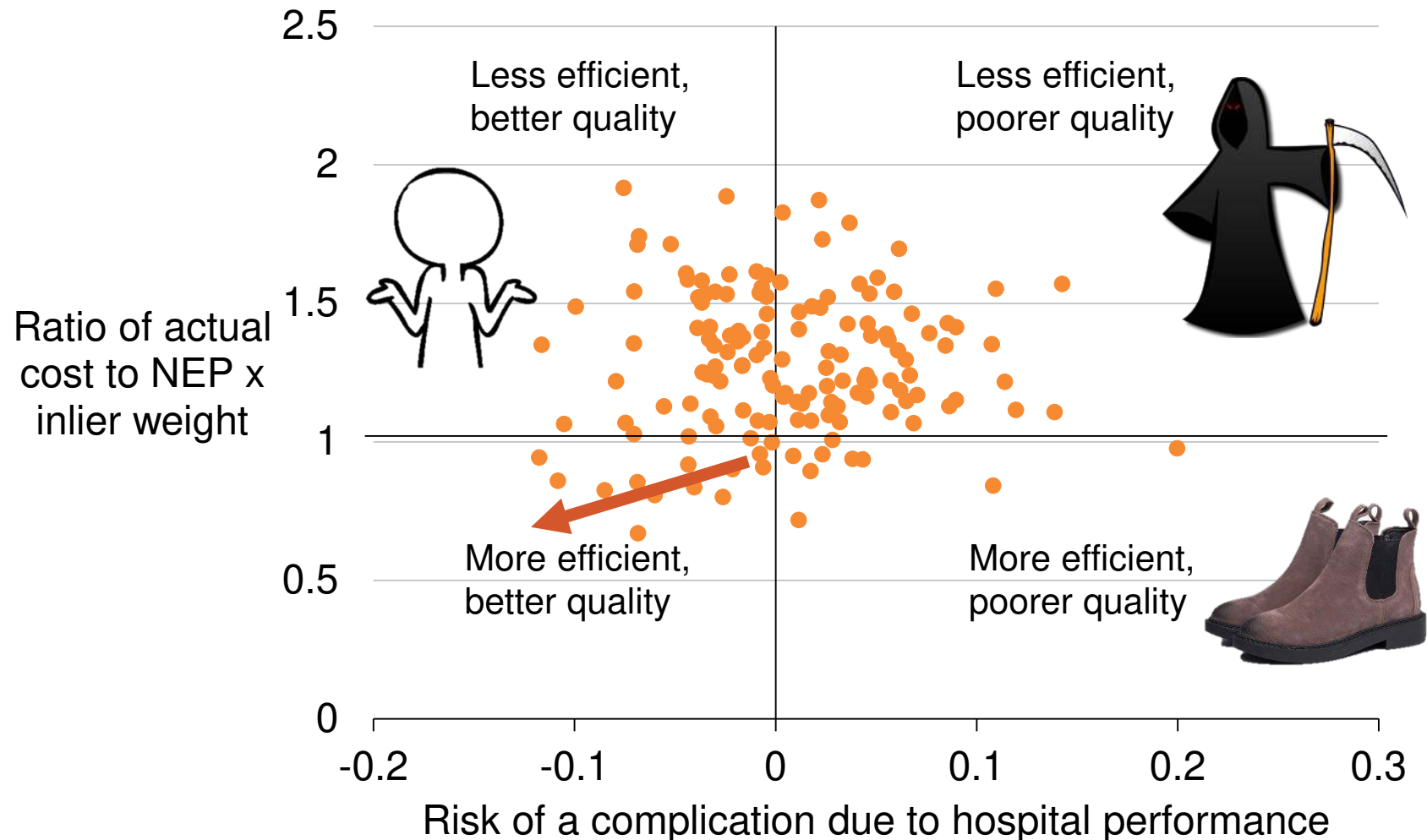
Largest 20 public hospitals, 2014-15



Source: Grattan analysis of 2014-15 NHCDC

# No relationship between cost efficiency and safety performance in medical cardiology

Multiday medical cardiology admissions, public hospitals, 2012-15



Notes: Hospitals with a cost efficiency ratio > 2 not shown  
Source: Grattan analysis of 2012-15 NHCDC and NHMD

## What are the pre-requisites?

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- Hospitals (and their clinicians) need to know where they stand
  - ‘Private reporting before public reporting’
  - And there needs to be adequate risk adjustment to do this
- Hospitals (and their clinicians) need to have the ability to understand what their problems are
  - Access to data
  - Front-end tools to make comparisons easy
  - Ability to drill down (to patient and clinician, maybe clinician de-identified)

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## Problems with accreditation (from literature)

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- Lack of evidence for overall value of accreditation in terms of improved patient outcomes.
- Standards lack a strong evidence base
- Surveyor differences
- Lack of engagement of medical staff
- Safety is not tested nor patient outcomes systematically measured
- No incentives for excellence
- Lack of accessibility of accreditation results

From: **Patient Mortality During Unannounced Accreditation Surveys at US Hospitals**

JAMA Intern Med. 2017;177(5):693-700. doi:10.1001/jamainternmed.2016.9685

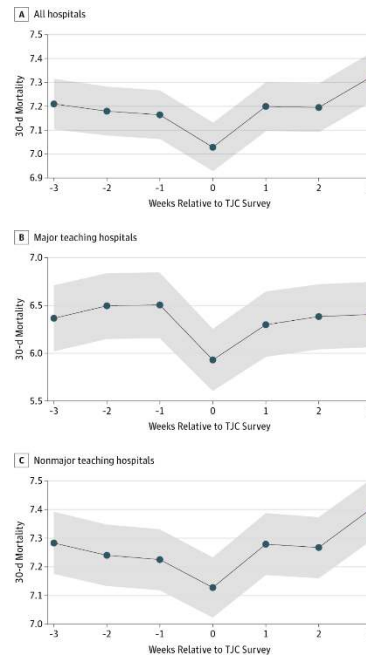
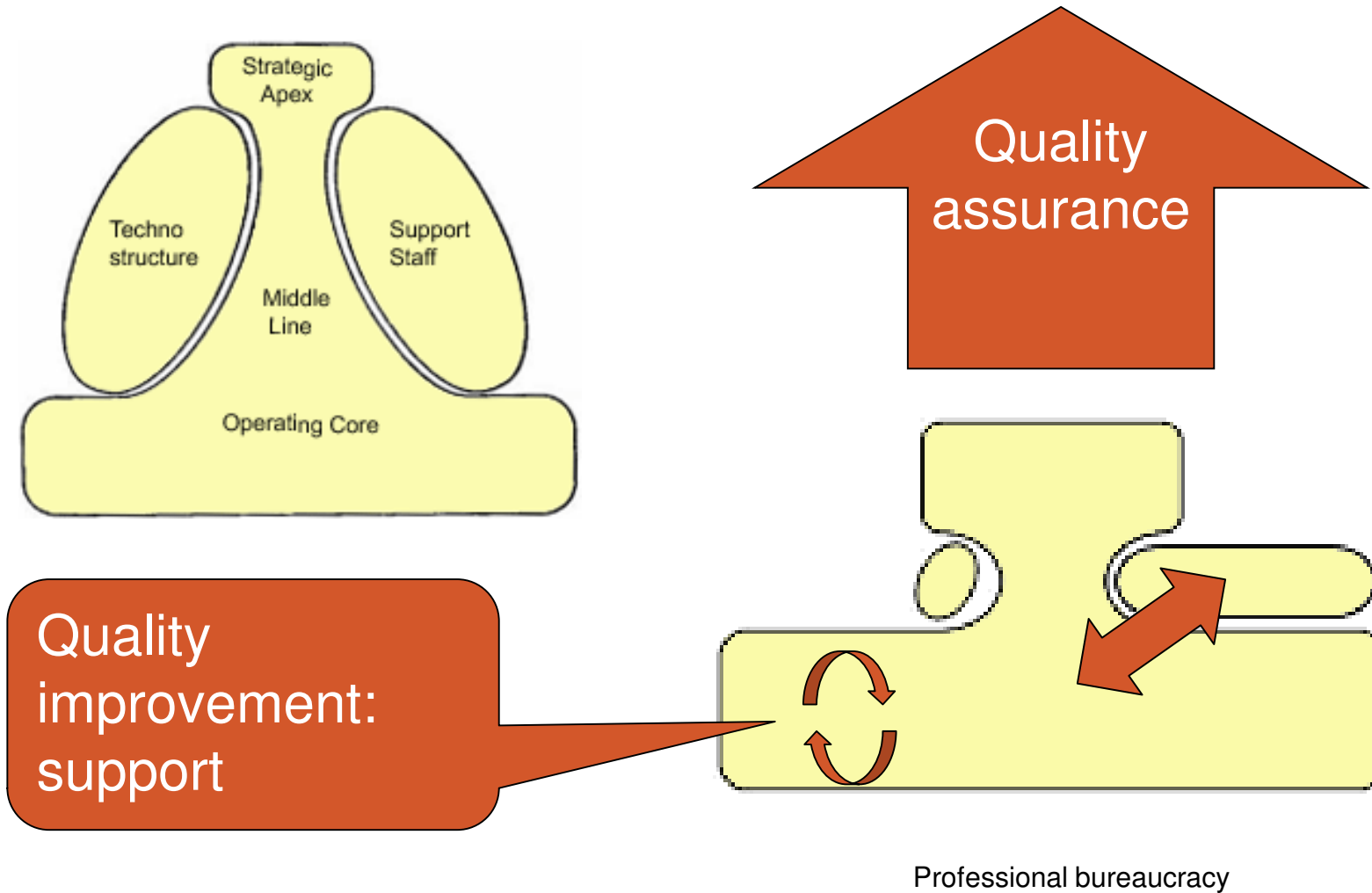


Figure Legend:

Unadjusted 30-Day Mortality by Week of Admission Relative to The Joint Commission Survey VisitTrends for 30-day mortality in week-long intervals relative to on-site surveys for all hospitals (A), major teaching hospitals alone (B), and nonmajor teaching hospitals (C). Shaded 95% CIs are shown for all unadjusted estimates, assuming a normal distribution of rates given the large sample size of admissions.

## Accreditation: Assurance and/or improvement?





# A new approach to improvement

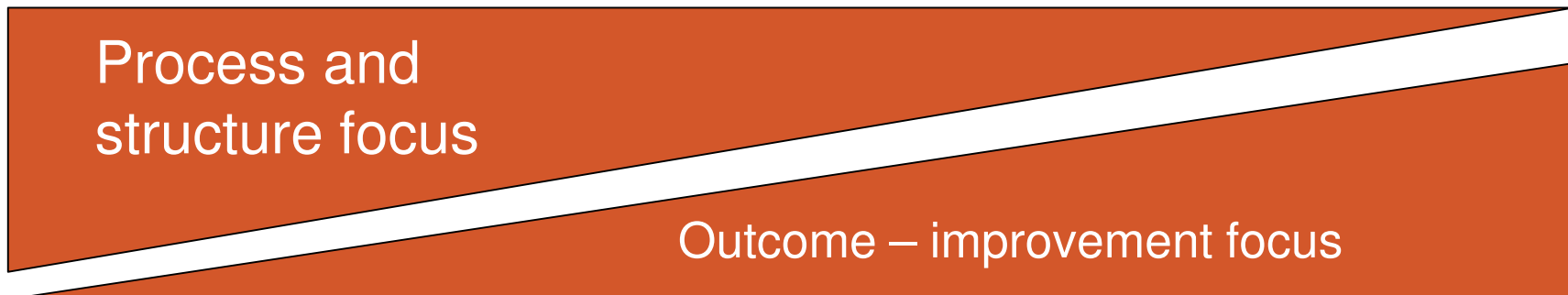
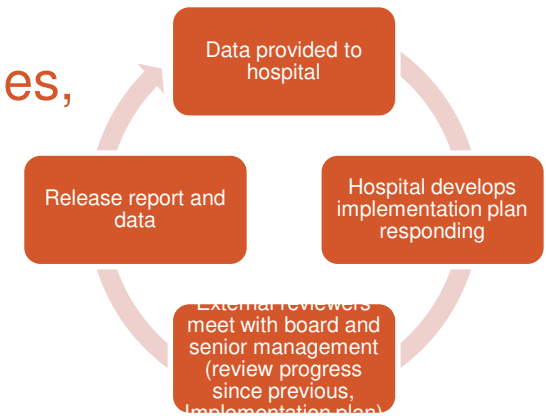




# A new approach to improvement

Medical Colleges should remove accreditation for training from units with poor performance (in the bottom 10% of performance on any of the 3 measures – patient outcomes, patient experience and staff experience)

*(Measures may be College specific)*



## A new approach to safety assurance

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- Yearly self-certification for a set of basic standards ('process measures') with no evidence of audit required. This risk-based approach means the resources of independent accreditation are freed up to test safety and to support hospitals' improvement activities
- Short notice or unannounced safety visits, based on problems and high-risk situations recently identified elsewhere in the State or nation (e.g. by clinicians specially trained in conducting high quality root cause analyses). Testing 'work as done' rather than 'work as imagined' will improve organisational reliability

## The proposal

<b>Issue with the current model</b>	<b>Solution offered</b>
<b>Lack of evidence for overall value of accreditation in terms of improved patient outcomes.</b>	Ongoing study of the new proposed data sources together with improvement plans enables development and testing of an underlying programme theory – to understand how accreditation ‘works’ and how to make it work better.
<b>Standards lack a strong evidence base</b>	Major emphasis on patient outcomes, patient experience and staff experience replaces process-based standards – all have solid evidence
<b>Surveyor differences</b>	Use of comprehensive objective data, not assessment of provided process data.
<b>Lack of engagement of medical staff</b>	Guaranteed by the focus on patient outcomes and also the potential consequences for poor performance
<b>Safety is not tested nor patient outcomes systematically measured</b>	All outcomes measured and safety tested by unannounced visits.
<b>No incentives for excellence</b>	Provided by the publication of unit level results
<b>Lack of accessibility of accreditation results</b>	Results published in detail

# What we need to do

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- Set an ambition
  - And one which starts from where each hospital is
- Give information to hospitals and clinicians so they know where they stand
- Publish information about relative performance
- Hold to account:
  - Through financial incentives (private sector)
  - Through governance mechanisms (Public sector)
  - In both, through improved accreditation system