Data access and use to improve quality and safety of care

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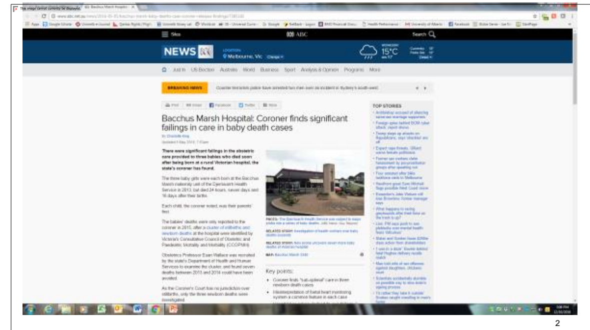
Presentation to
SA Data access workshop
March 2017

Review stimulated by quality scandal



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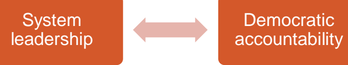
Review stimulated by quality scandal

Review of the Department of Health and Human Services' management of a critical issue at Djerriwarrh Health Services

November 2015



Review Panel
Adjunct Professor Debora Picone AM
Mr Kieran Pehm

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Three functions

All need to be strengthened

Devolved governance

System leadership

Democratic accountability

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What is the safety/quality problem?

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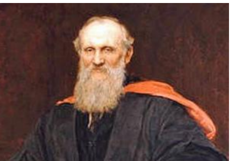
In physical science a first essential step in the direction of learning any subject is to find principles of numerical reckoning and practicable methods for measuring some quality connected with it.
I often say that when you can measure what you are speaking about and express it in numbers you know something about it; **but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind:** it may be the beginning of knowledge, but you have scarcely, in your thoughts, advanced to the stage of *science*, whatever the matter may be



William Thomson

Lord Kelvin

Thomson, W. (1891). "Electrical Units Of Measurement - A Lecture delivered at the Institution of Civil Engineers on May 3. 1883; being one of a series of six lectures on The Practical Applications of Electricity," in *Popular Lectures and Addresses*, Vol 1 London: MacMillan. p. 73

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The quantification trend

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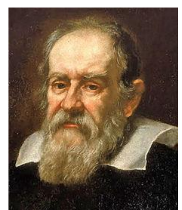

"count what is countable, measure what is measurable and, what is not measurable, make measurable"

attributed to Galileo Galilei

Intrinsic and extrinsic motivation

"The more precisely the position is determined, the less precisely the momentum is known in this instant, and vice versa".

Werner Heisenberg, uncertainty paper, 1927

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Strengthening devolved governance

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- Better boards
  - Better local (organic) coordination
- Better board reporting
- Better information
  - portal

Figure 2: First page of example board safety and quality analytics report

Indicator set	Performance relative to benchmark	Local progress
Comparative quality indicators (VLADs)	• Far below target on 1 • Below target on 5 • Near target on 20 • Exceeding target on 4 • Far exceeding target on 3	• Deterioration in 3 • No change in 25 • Improvement in 5
'Towards zero' safety indicators (ACSQHC hospital-acquired complications)	• Far below target on 1 • Below target on 1 • Near target on 10 • Far exceeding target on 2	• No change in 12 • Improvement in 3
'At zero' sentinel events and ISR 1 incidents	• Two ISR-1 incidents • Zero sentinel events	• Deterioration in ISR 1s • No change in SEs
Maternity indicators	• Below target on 2 • Near target on 3 • Exceeding target on 1	• No change in 3 • Improvement in 2
Capability framework compliance	• Far below target on 1 • Near target on 1	• Deterioration in 1 • Improvement in 1
Safety culture	• Near target on 5 • Exceeding target on 3	• No change in 6 • Improvement in 2
Patient experience	• Below target on 1 • Near target on 3	• Deterioration in 1 • No change in 3
Death in low-vol. DRGs	• Near target	• No change
Mental health indicators	• Near target on 2 • Exceeding target on 1	• No change in 2 • Improvement in 1
Aged care indicators	• Below target on 1 • Near target on 4	• Deterioration in 1 • No change in 4
Infection control indicators	• Near target on 3 • Exceeding target on 2	• No change in 4 • Improvement in 1
Overall performance	• Far off target on **4** • Below target on **10** • Near target on **53** • Exceeding target on **11** • Far exceeding target on **5**	• Deterioration in **7** • No change in **61** • Improvement in **15**

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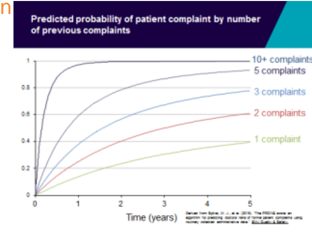

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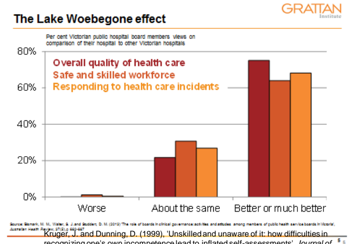
Strengthened democratic accountability

- Improved transparency
- Improved use of available data
  - Victorian Agency for Health Information



Strengthened democratic accountability

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	OLD	NEW
Harm is:	Rare, 'preventable'	Common, 'reducible'
We know of harm by:	Incident reports	Epidemiology of outcomes
We measure harm by:	Counts	Rates (%)
Harm is remedied by changing:	Individuals	Systems
Our objective is:	*Blame/apology*	Improvement

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Total incidence of CHADx by major class (Source: VAED for FY 2014-15)

Major class	All Public Hospitals	All Private Hospitals	All Victorian Hospitals
01: Post-procedural complications	34,106	17,808	51,914
02: Adverse drug events	14,858	6,402	21,260
03: Accidental injuries	6,078	2,179	8,257
04: Infections	12,846	2,694	15,540
05: Cardiovascular complications	47,304	17,984	65,288
06: Respiratory complications	23,499	8,737	32,236
07: Gastrointestinal complications	36,815	19,118	55,933
08: Skin conditions	18,196	7,509	25,705
09: Genitourinary complications	27,575	9,753	37,328
10: Hospital-acquired psychiatric states	16,959	5,934	22,893
11: Early pregnancy complications	2,710	757	3,467
12: Labour & delivery complications	76,050	20,600	96,650
13: Perinatal complications	40,458	4,424	44,882
14: Haematological complications	12,994	3,970	16,964
15: Metabolic complications	45,536	10,743	56,279
16: Nervous system complications	4,245	1,429	5,674
17: Other complications	40,535	17,563	58,098
Total	460,764	157,604	618,368

ACSQHC 'Priority complications'	Public Hospitals	Private Hospitals
Pressure injury	5,356	1,605
Falls with Fracture or ICI	362	127
Healthcare Assoc Infection	16,597	5,587
Surgical complications	2,563	1,099
Respiratory complications	2,846	554
Venous Thromboembolism	1,098	429
Renal failure	309	52
GI bleeding	2,099	617
Medication complications	2,017	455
Delirium	7,116	2,588
Incontinence	1,246	415
Malnutrition	1,564	482
Cardiac complications	9,843	4,194
Iatrogenic pneumothorax requiring intercostal catherer	230	74
Total count for all major categories	53,246	18,278

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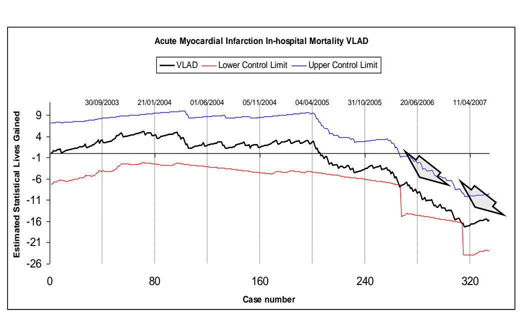
In-hospital Mortality VLAD



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Strengthened democratic accountability

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- Improved transparency
- Improved use of available data
- Improved accreditation

A better way to care

Strengthened system leadership

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- Strengthened clinical engagement
  - Clinical networks
- Strengthened department
- Strengthened oversight
  - See board report

One dimensional view of good/poor performance

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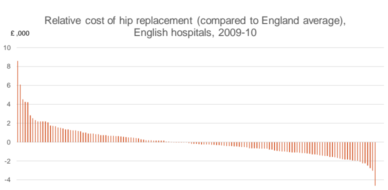

Broader measurement of outcomes

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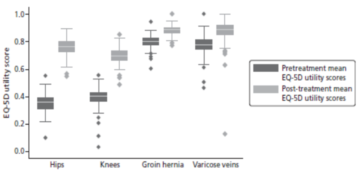
Patient Reported Outcome Measures (PROMs)

They can be generic (EQ5-D or condition specific)

In England collected for



Home How it works

Welcome to After my Surgery

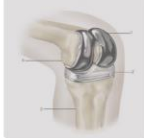
Are you considering a hip, knee or hernia operation?

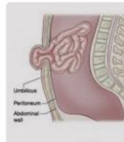
Having an operation is a big decision and it is natural to wonder how you will feel after surgery. Will you be able to walk v problems and do the shopping again? Will you be free of pain?

Many people in this situation would like to know how patients before them have benefited from surgery. This website sho you what thousands of NHS patients have said about their own experience. You can use it to see how patients of your age with similar health problems felt after they had their operation.

You can use this tool at home or in your local GP surgery. You can print your results and discuss them with your family, fr and your doctor.

Please start by selecting an operation below. If you would like to learn more about how our calculator works, please click *How it works* above.



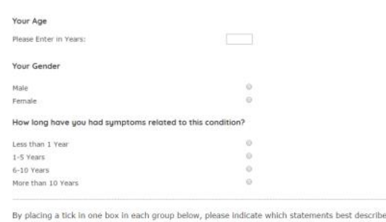


Hip replacement Knee replacement Groin hernia operatior

About you

Please provide some personal information and a description of how you feel today. This information allows the calculator to compare you to similar patients who already had surgery.

Your data will be treated confidentially and will only be used for this purpose. No information will be saved anywhere.



By placing a tick in one box in each group below, please indicate which statements best describe your own health state today.

Mobility

I have no problems in walking about

I have some problems in walking about

Your Results

This figure shows how 100 patients like you felt six months after their operation, compared to how they felt l patients are similar to you in terms of their age, gender and how they felt before having surgery.

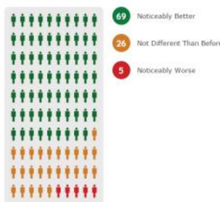
Please note that these results only provide an indication of the likely outcome of your surgery.

There may also be a number of other things you may wish to know about, for example how long you will nee for or what may happen if you do not have surgery. We recommend that you discuss these results with your

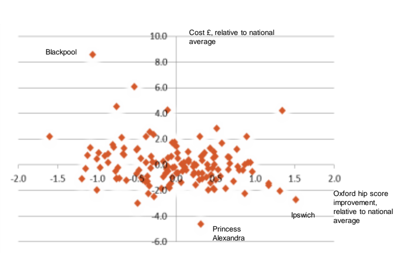
You can print these results by clicking on the button below. You can also change your answers.

If you would like to learn more about how we calculated these results please click on *How it works* above.

How 100 patients like you felt after surgery



How should the outcomes of care influence payment?



Street, A., et al. (2014) 'Variations in outcome and costs among NHS providers for common surgical procedures: econometric analyses of routinely collected data', *Health Services and Delivery Research, 2(1).*

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Issue of low volume

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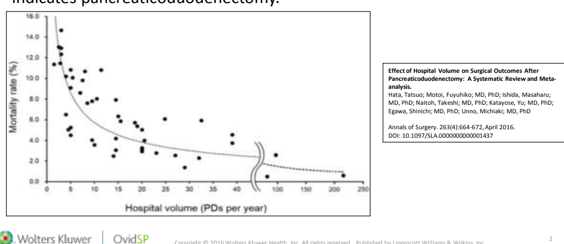
FIGURE 3 . Scatter plot of hospitals according to the median values of each included hospital group and postoperative mortality rates. PD indicates pancreaticoduodenectomy.



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

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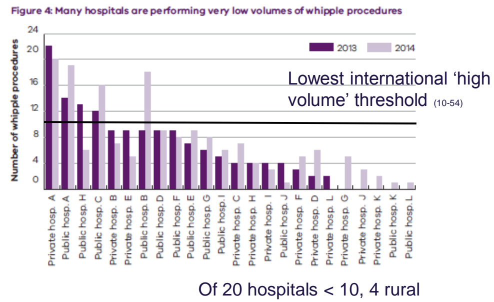
Using data to examine hospitals doing low volumes (Pancreaticoduodenectomy example)



Of 20 hospitals < 10, 4 rural

Key themes for safety and quality reform

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1. Fostering a **culture** of continuous improvement and clinical excellence in the health sector, including by engaging and empowering clinicians in reform.
2. Strengthening **oversight** of both safety issues and clinical governance by the Department, so that warning signs are detected and acted upon in a timely manner.
3. Improving **governance** of hospitals, so that the public can be confident that all hospitals - big and small, public and private - are delivering safe care.
4. Advancing **transparency** within the health sector, so that communities can verify that their local hospital is rapidly identifying and rectifying important defects in care when they arise.

And thanks to all who contributed to review

When is right time to evaluate impact?

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https://www2.health.vic.gov.au/hospitals-and-health-services/quality-safety-service/hospital-safety-and-quality-review