





SEALS

Virology and Pathology in a Changing Landscape



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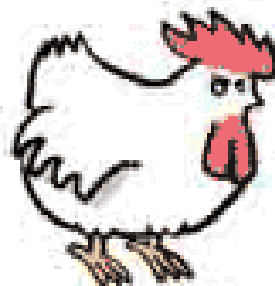
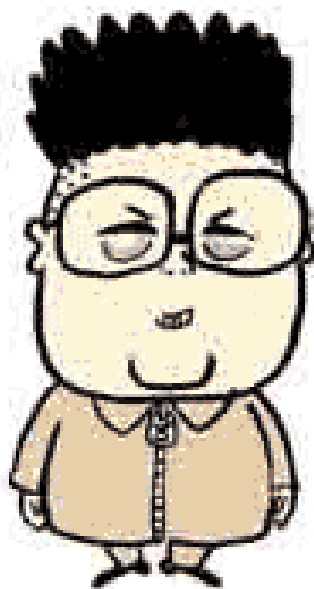


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NEW AXIS OF EVIL



Challenges ...

- **DEMOGRAPHICS**
- **ECONOMICS**
- **TECHNOLOGY**
- **VALUE**



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CRISIS? WHAT CRISIS?

- **AGEING**
- **WORKFORCE**



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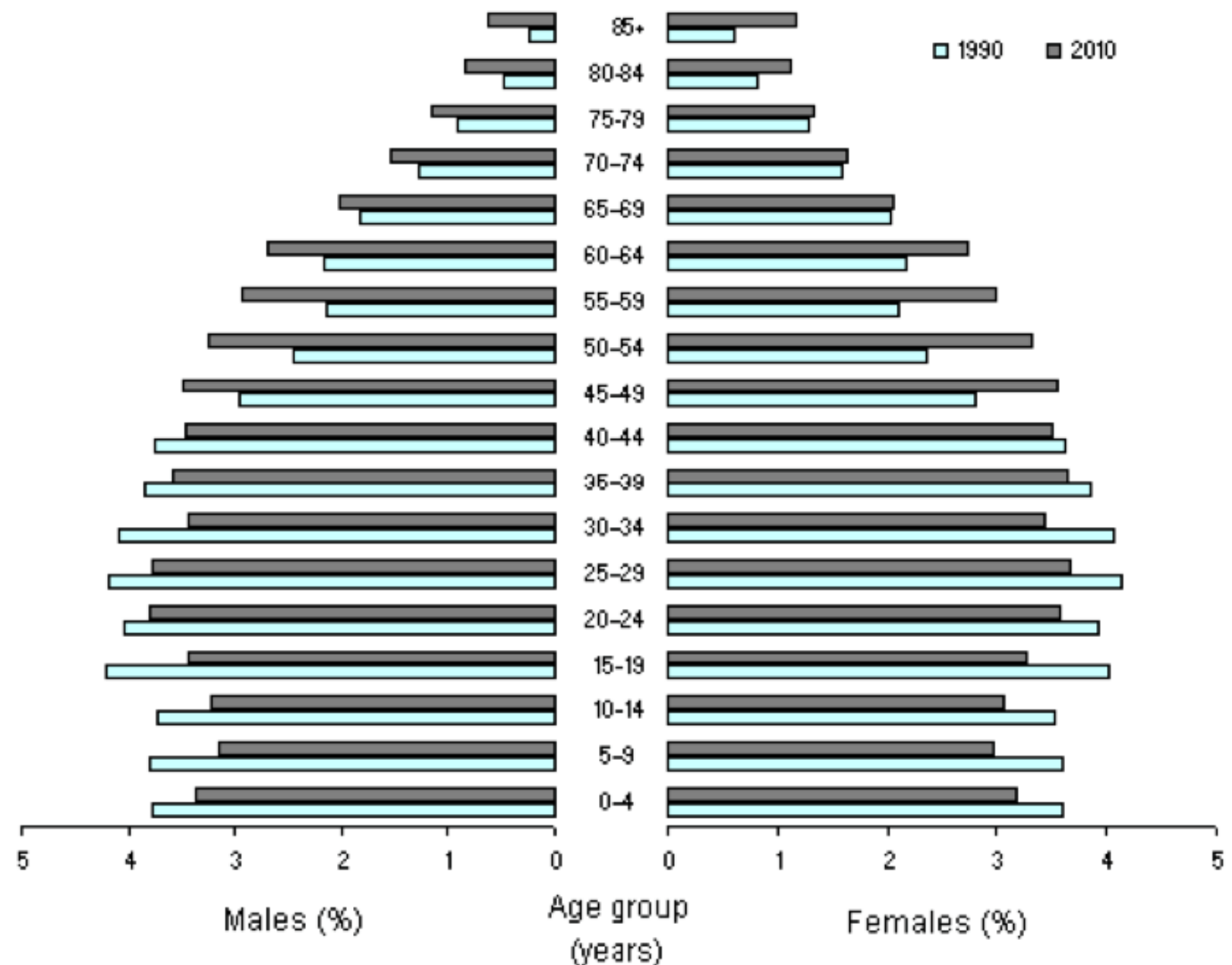


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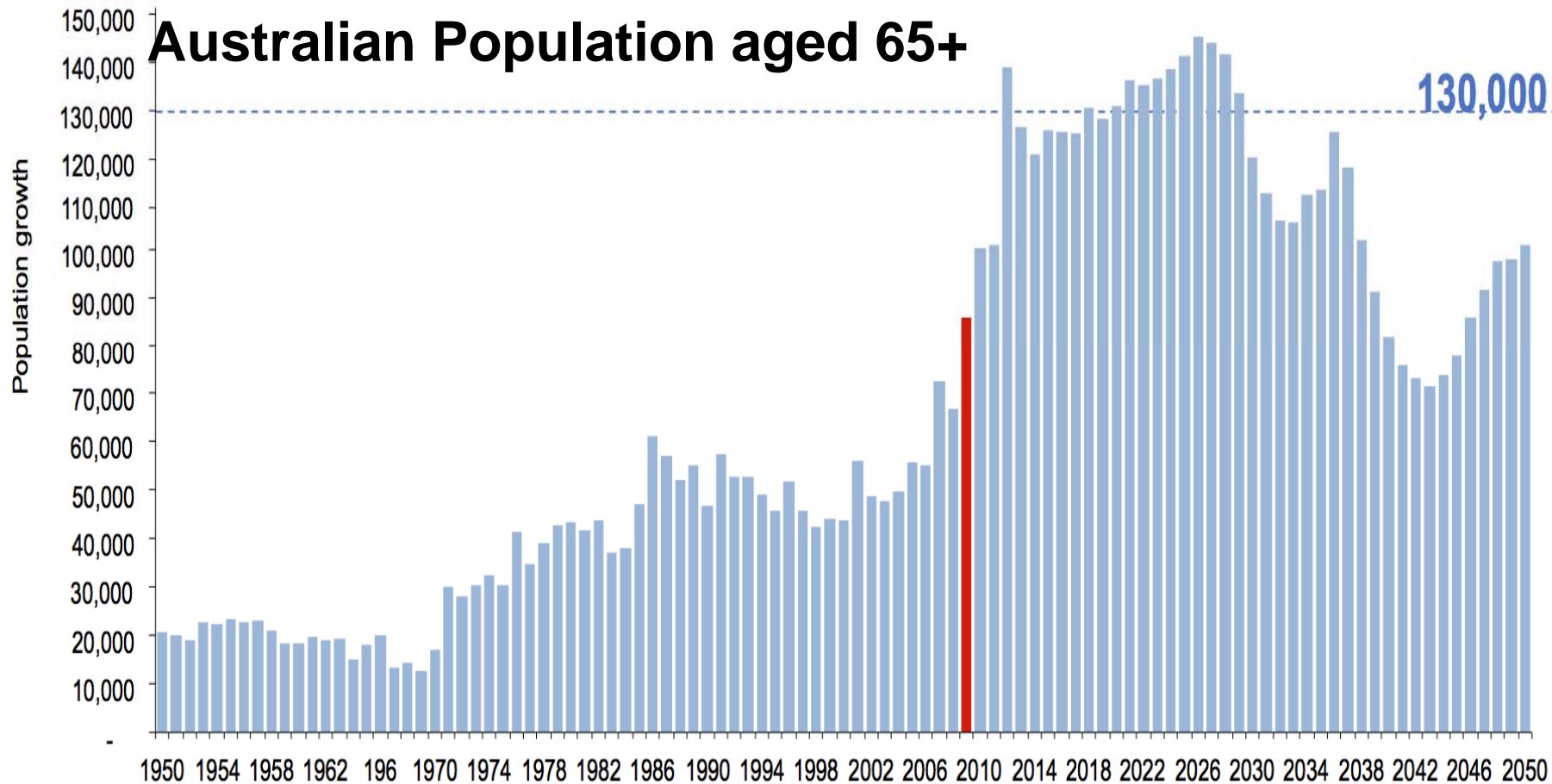
POPULATION STRUCTURE, Age and sex - Australia - 1990-2010



1950

2000

2050



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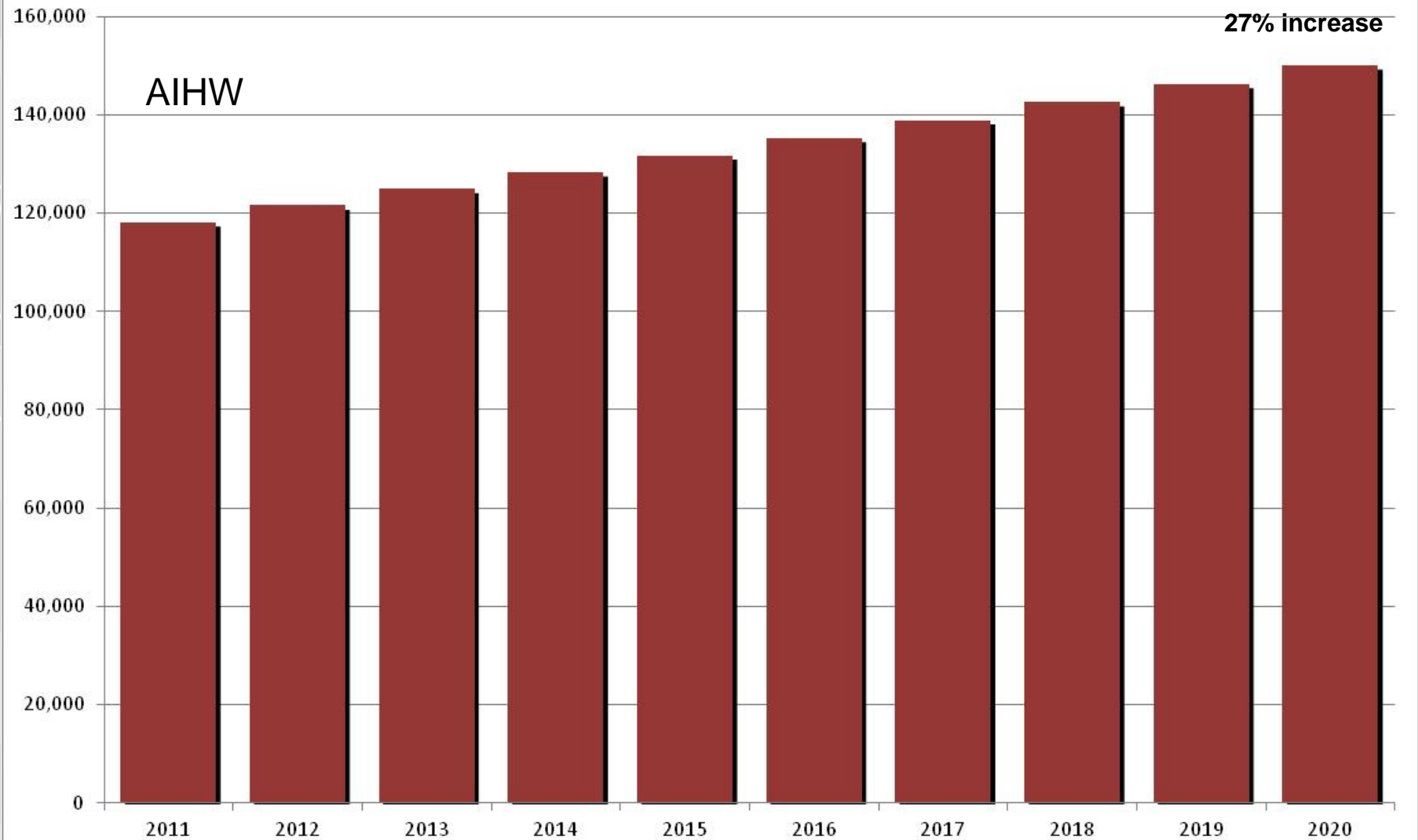


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All Cancers - new cases



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In Australia, it is estimated that by 2050

- **the number of people of current working age will increase by 45%**
- **The number of people aged between 65 and 84 will more than double**
- **Those 86 and above will increase by more than four times**
- **Over the next 10 to 20 years Australia is expected to experience severe workforce shortages**
- **In the Asian region, it is projected that by 2050, the number of people aged 65 or more will increase from the present 400 million to 1.25 billion**

ARC Centre of Excellence in Population Ageing Research
<http://www.cepar.edu.au/overview/facts-population-ageing.aspx>



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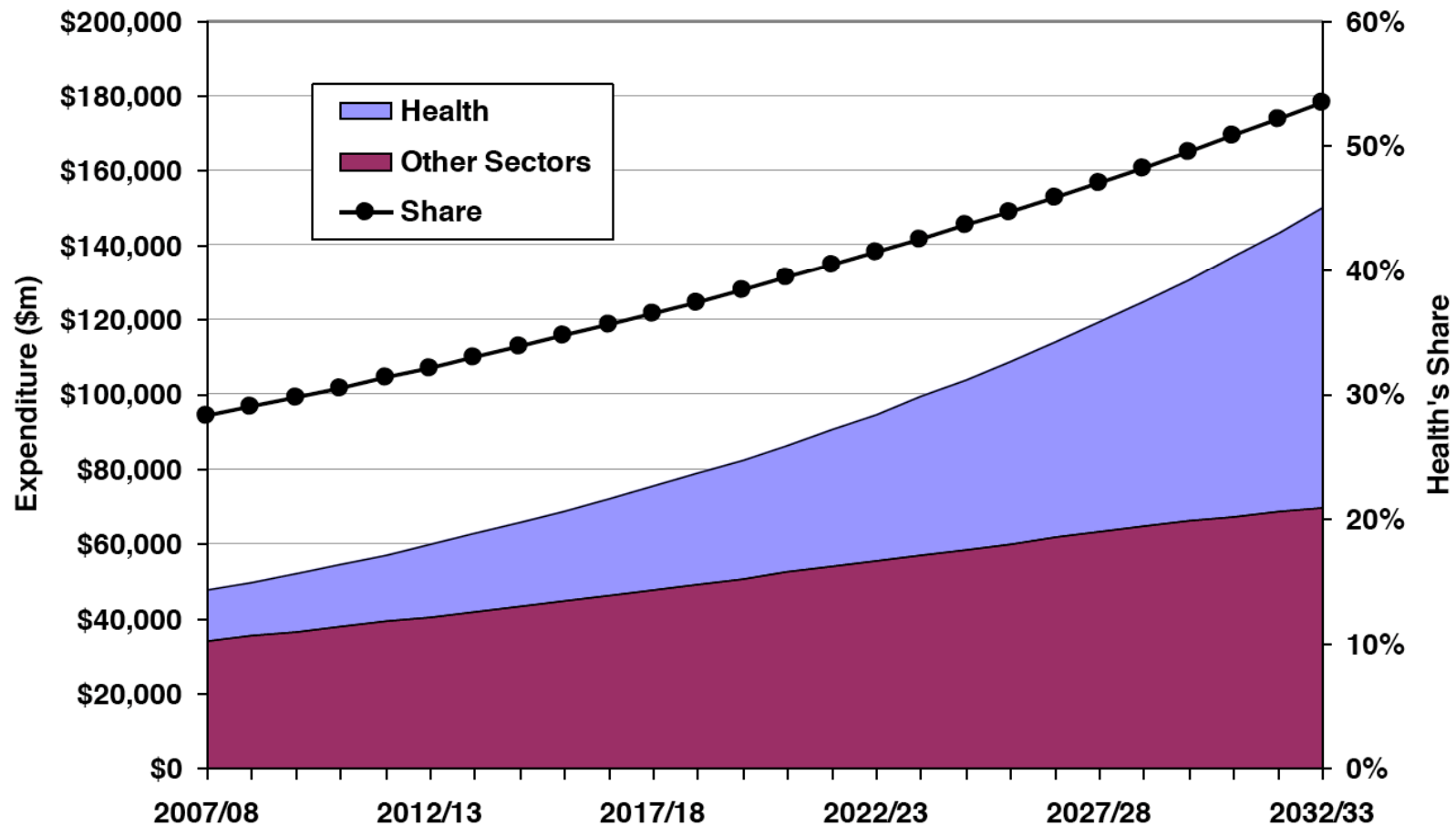


Current growth is unsustainable



New South Wales
TREASURY

Health's share of expenditure at current growth rates

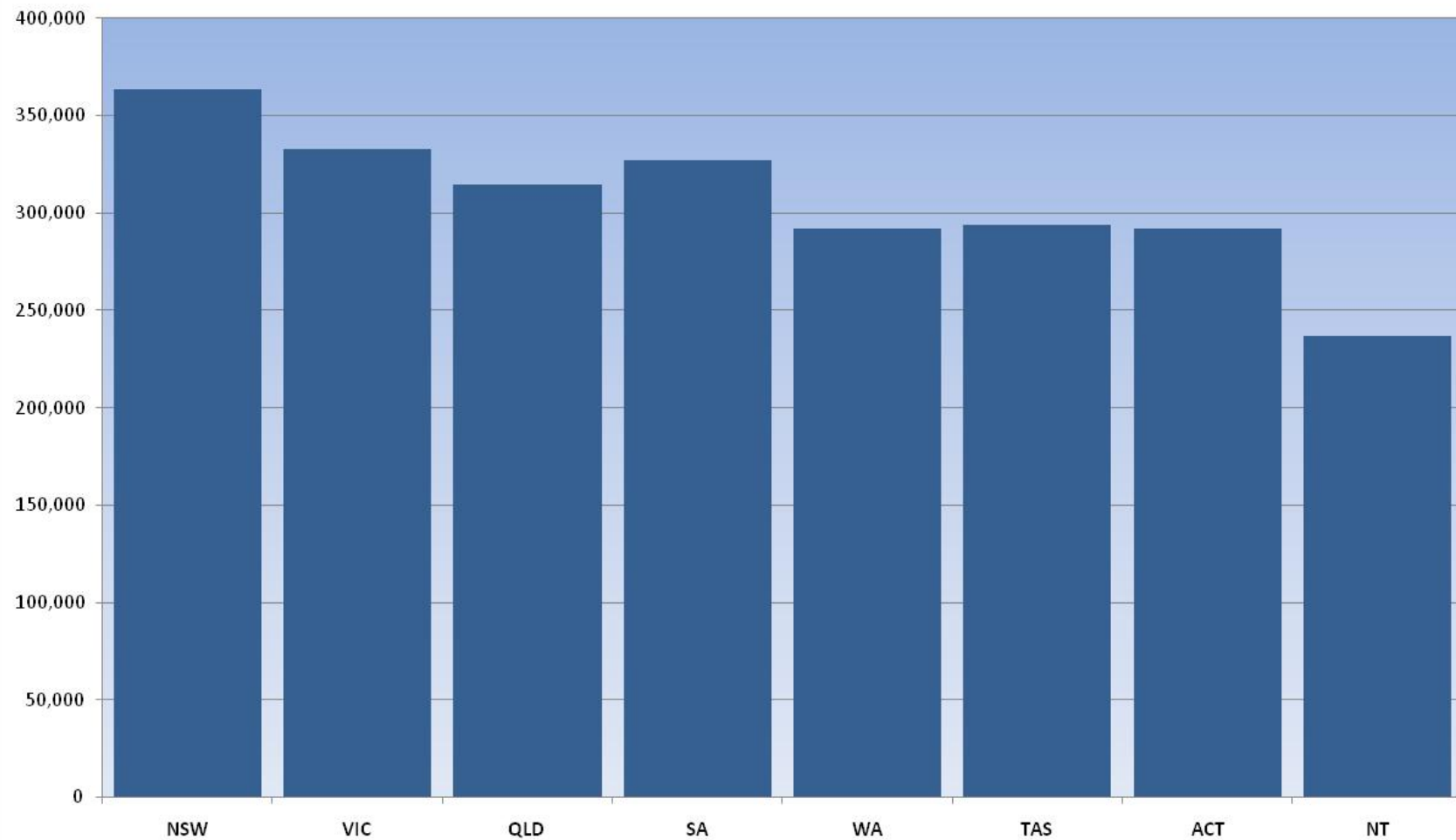




Pathology?

P1-8 Medicare data 2010/11

Services/100,000 Popn



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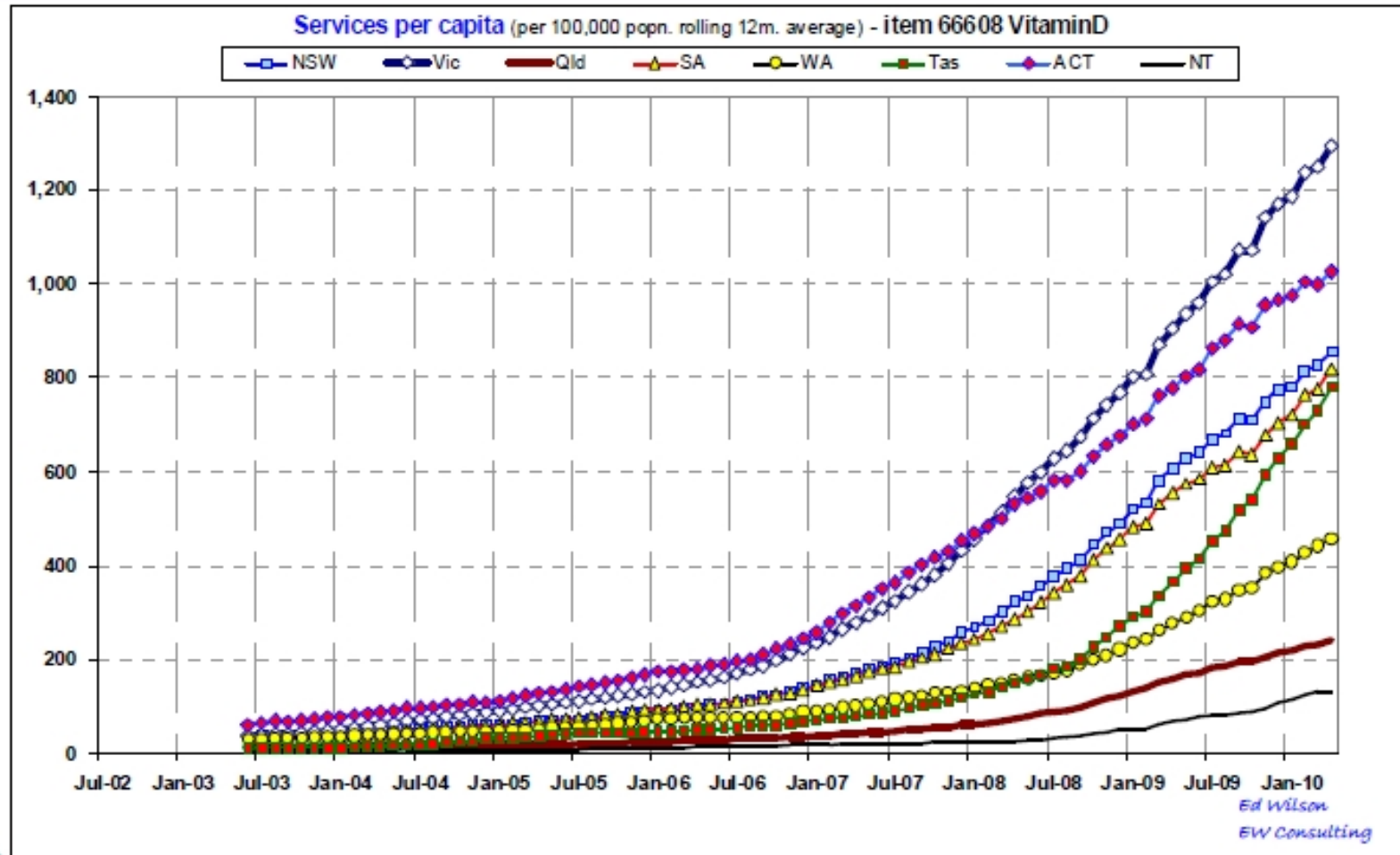
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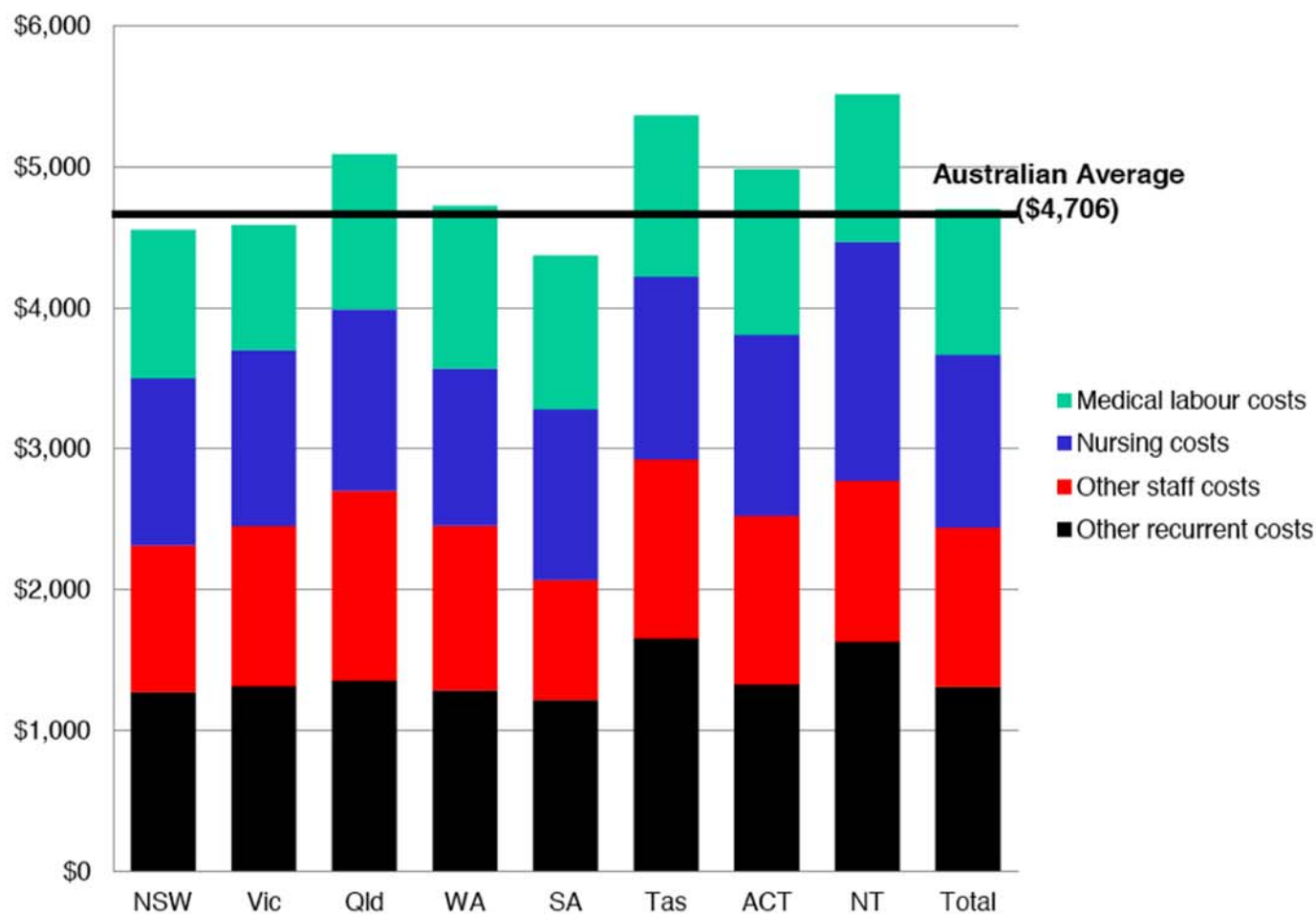
Vitamin D item 66608



Variation in cost per case mix-adjusted separation across States



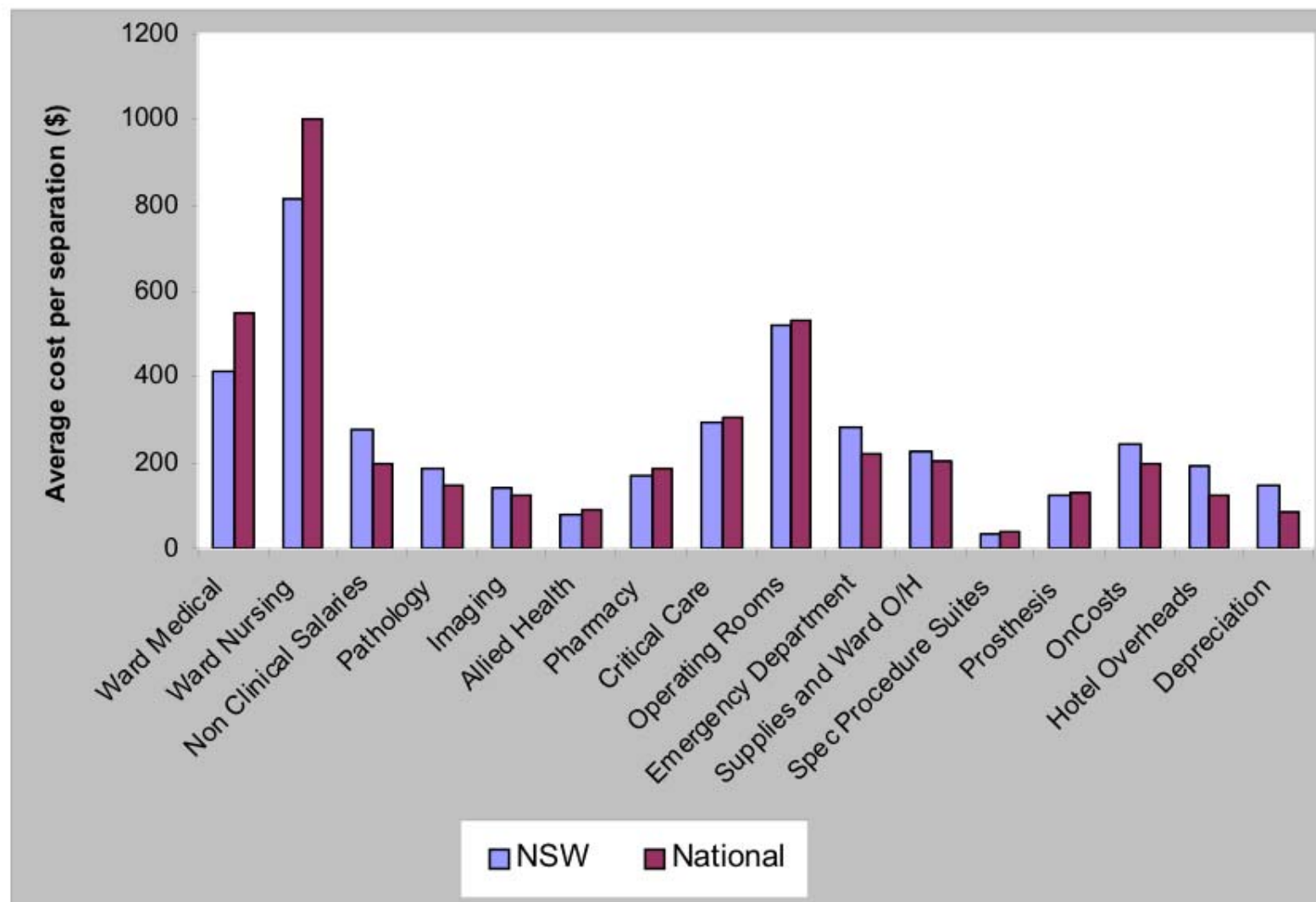
The Treasury



Source: AIHW Hospital Statistics 2009-2010



Figure 7: New South Wales comparison of average component costs per separation to national average component costs per separation, Public sector, Round 13



Technology ...



Analytical opportunity limitless

- managing the data ...exabytes, zettabytes!!
- interpretation – what does it mean?
- validity / utility / value
- managing the knowledge
- guiding/communicating clinical & cost effective use



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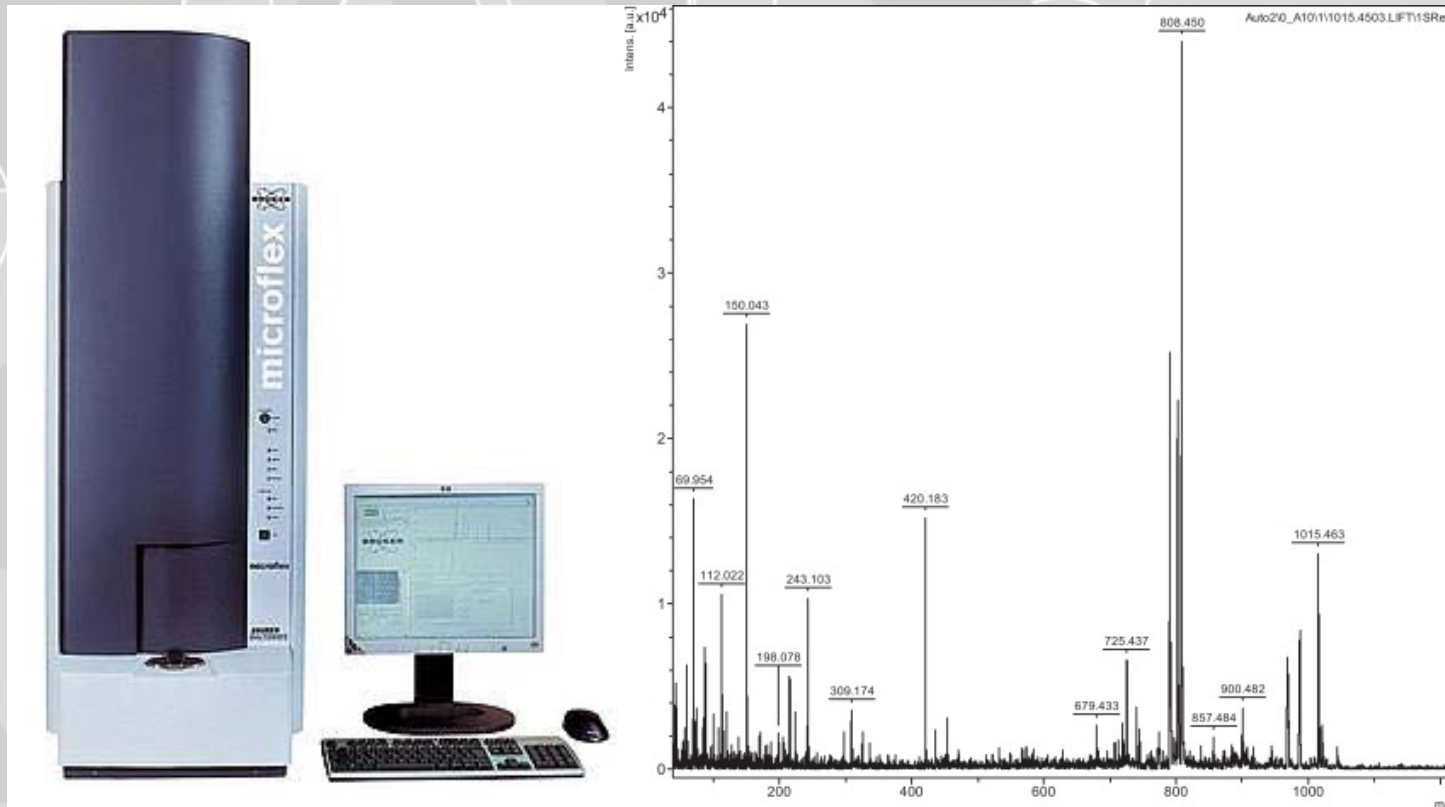
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Microbiology / Biochemistry?



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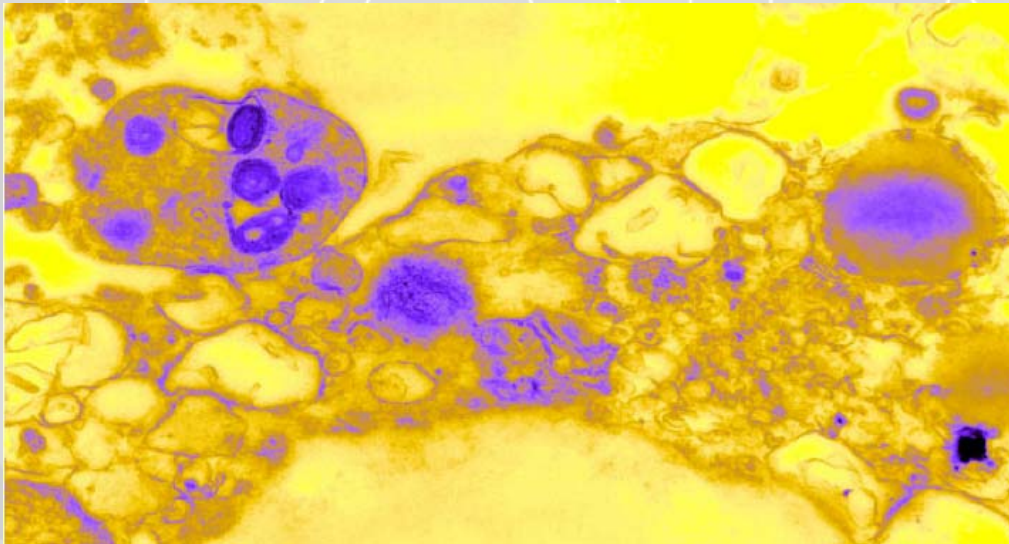


Indolent or aggressive?

Medicine: A computerised pathologist that can outperform its human counterparts could transform the field of cancer diagnosis

**The
Economist**

Nov 8th 2011



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VALUE

- **Appropriate and necessary**
- **Accurate**
- **Clinical utility**
- **Timely**
- **Accessible**
- **Communicated reliably**
- **Integrated with other information**
- **Interpreted and used properly**



What influences clinical decision making?

- **Correct diagnosis missed or delayed in 14% admissions**
- **Up to 43% of patients do not receive recommended care**
- **\$800 billion – nearly 1/3 of all healthcare spending is wasted on unnecessary diagnostic tests, procedures, and extra days in hospital (USA).**

“Clearly we overestimate our ability to correctly deploy tests, interpret test results, and act appropriately on the results of clinical interactions and subsequent investigations”

Annette Katelaris, Editor
MJA 197(3) 6 August 2012



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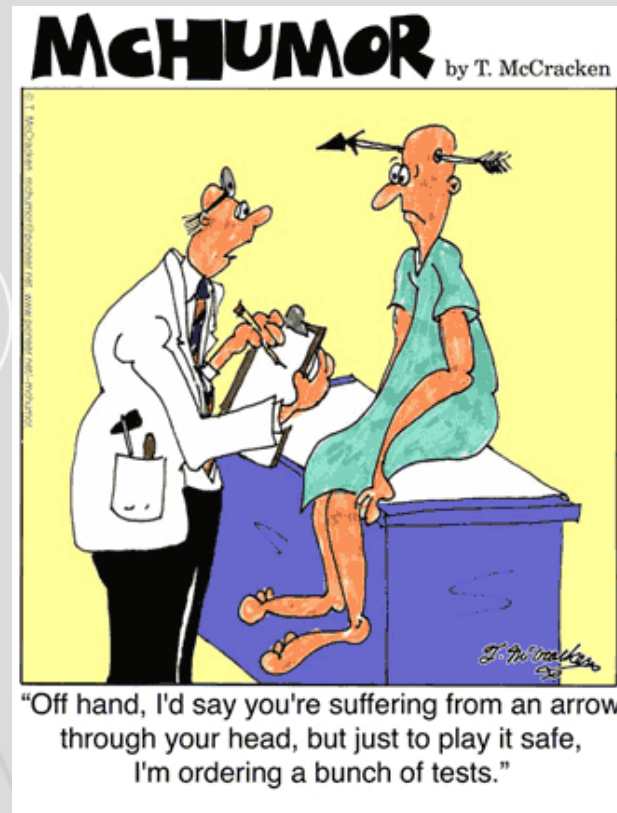
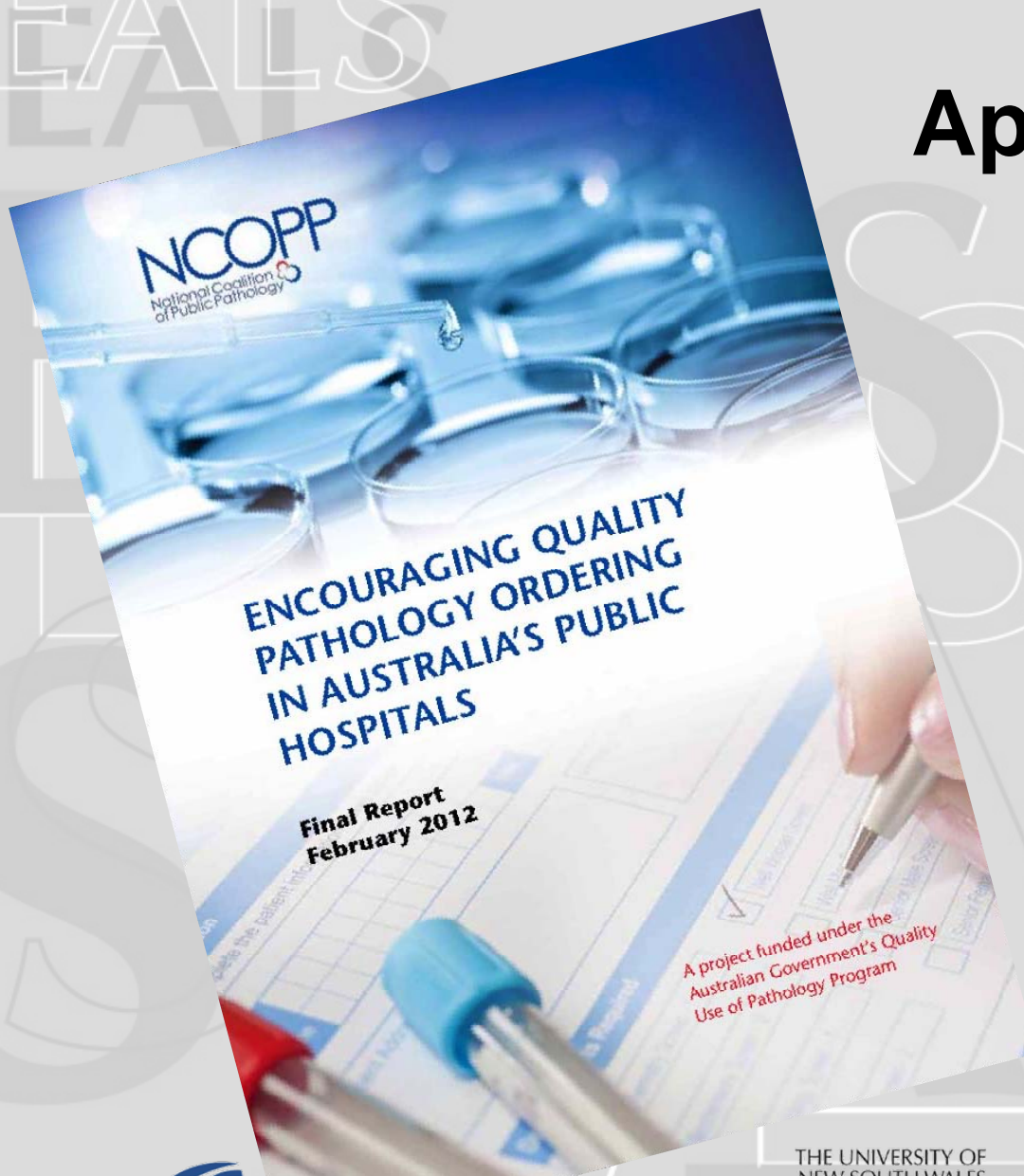
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Appropriateness



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The Question of "Appropriateness"

- No standard measure
- Usually associated with "overuse"
- Few studies have examined "underuse"
- Mostly quality improvement projects not research projects
- Usually determined retrospectively - limitations
- Incidence of inappropriate use 4.4 - 95% ... CAUTION !!!
- Better defined studies 20 - 25% of frequently ordered tests

Agreement that overuse and underuse occur



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Appropriateness depends on perspective

- **Laboratory**
- **Clinician**
- **Patient**
- **Public Health Official**
- **Funder**
- **Regulator**

Recognition that "appropriateness" is a complex multiple-faceted concept.



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Quality Healthcare

Patient Centred models of care
... improvements measured by:

- Patient outcomes
- Patient experience
- Efficiency of care delivery



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Quality Use of Pathology

Using the **right test**
at the **right time**
for the **right patient**
with the **right clinical condition** at the **right price** and with the **right outcome!**



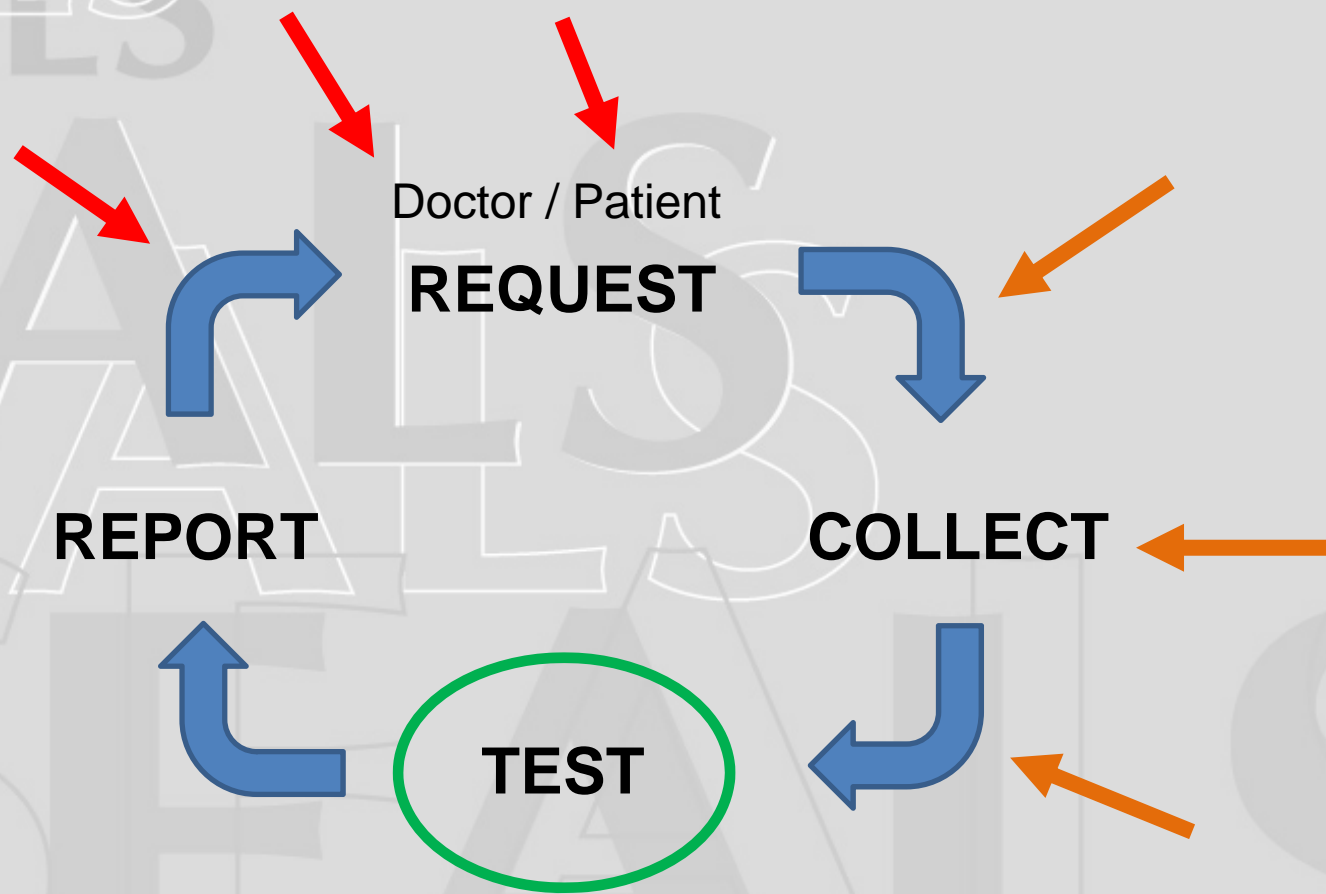
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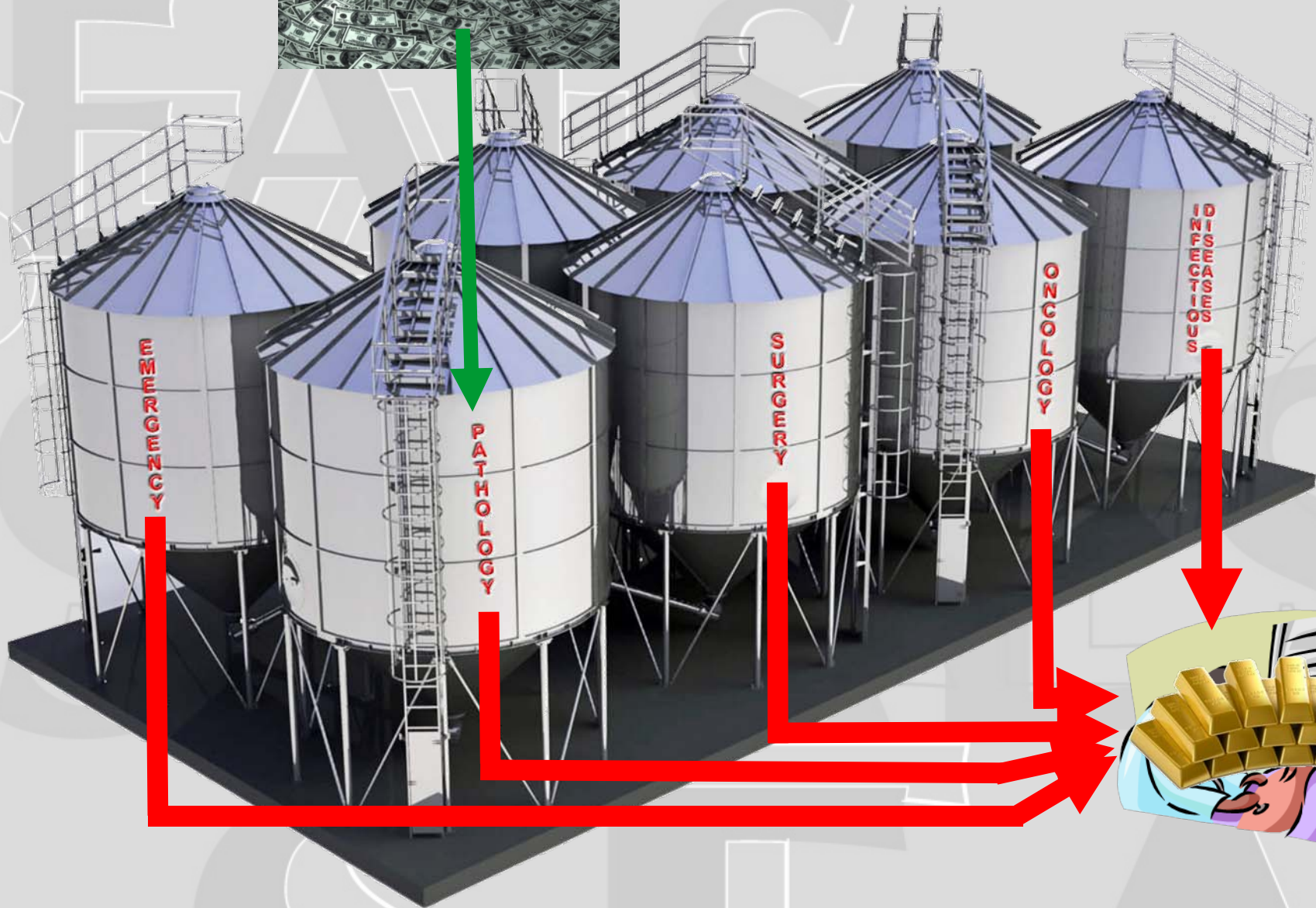
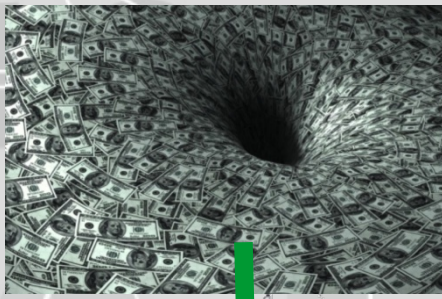


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Pathology

**A “clinical knowledge service”
that underpins the quality,
safety & cost-effectiveness
of healthcare**



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