



MACQUARIE
University

The economics of health technology

Some surgery required

MedTech 2015

11-12 November 2015

Dr Henry Cutler
Director
CENTRE FOR THE HEALTH ECONOMY



What is MUCHE?

The primary objective of MUCHE is to undertake world-leading independent and applied research, to inform public debate, assist government and business decision-making, and help formulate strategy and policy

Strategic research areas

STRATEGIC RESEARCH AREAS



PILLARS OF FOCUS



Where is the health care system going?

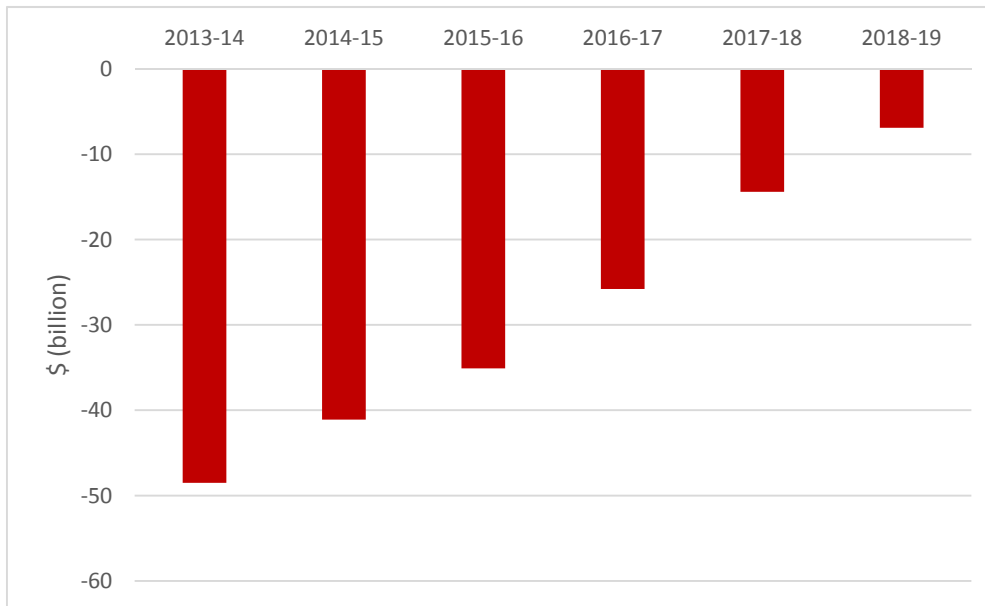


MACQUARIE
University



Federal budget

Federal budget projections

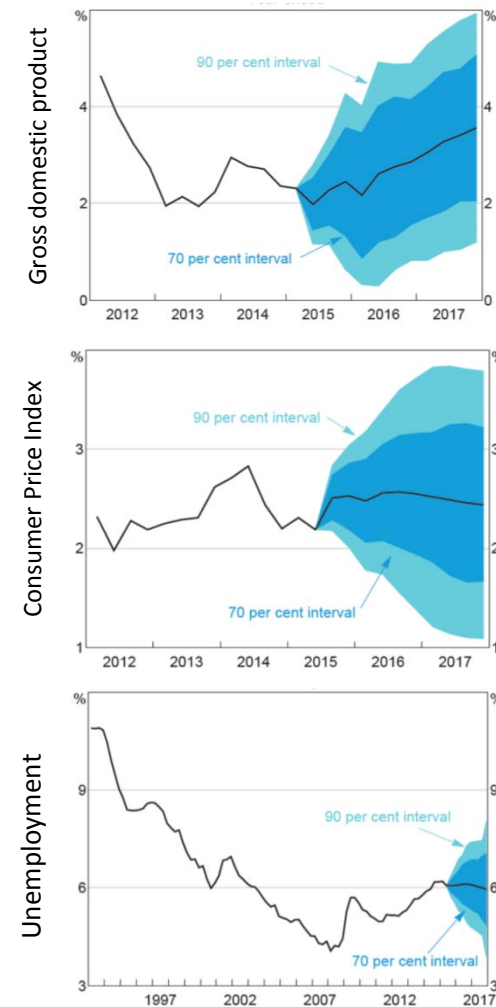


GDP = 3.5%

Inflation = 2.5%

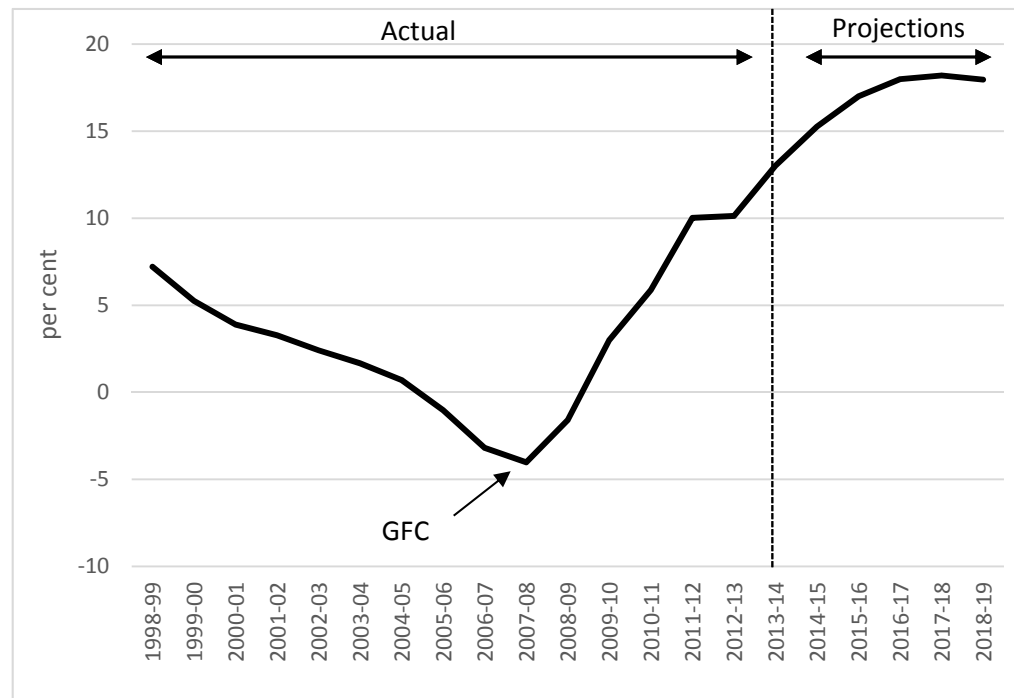
Unemployment
= 5.75%

Source: The Treasury (2015); RBA (2015)



Federal budget

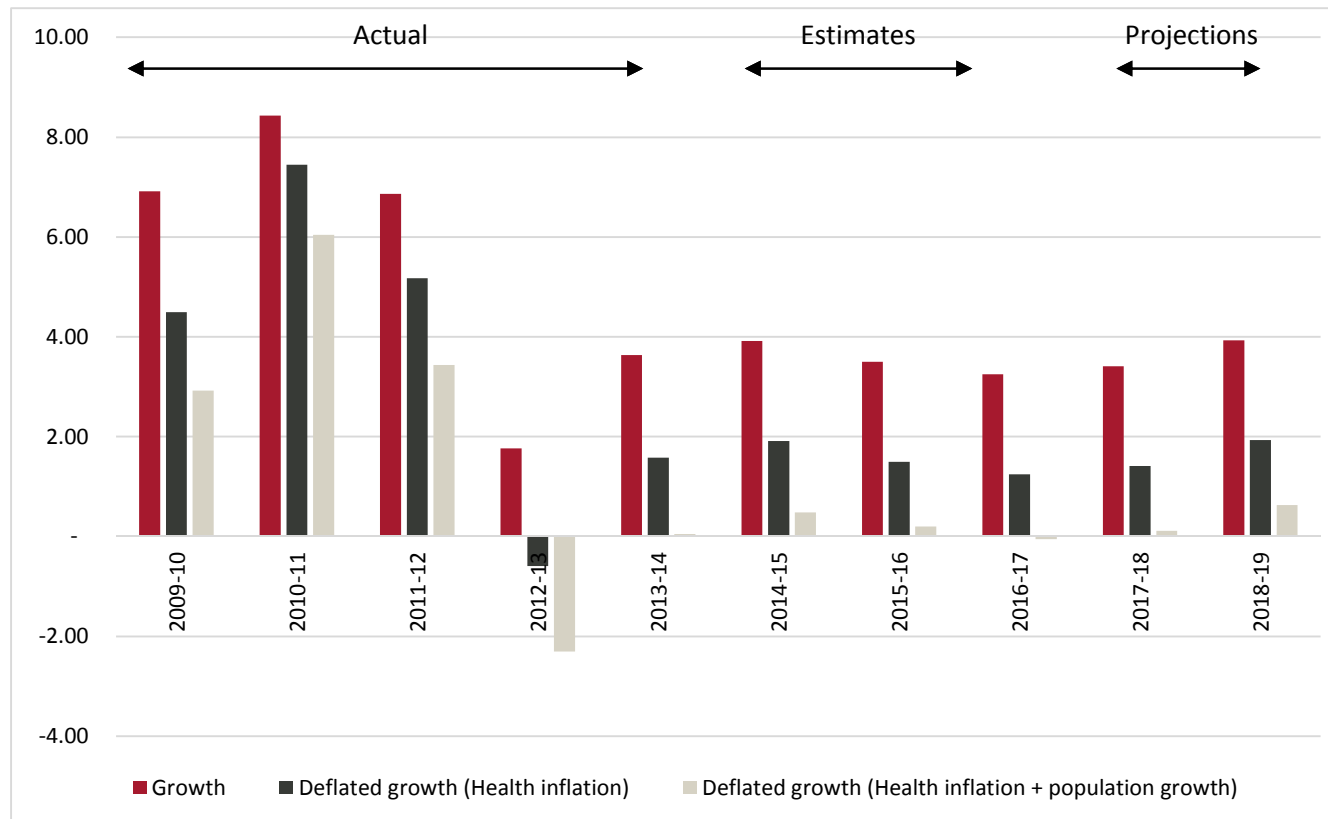
Commonwealth net debt to GDP ratio



Source: MUCHE calculations based on The Treasury (2015) and ABS (2015)

Health budget

Annual change in the federal health budget



Source: MUCHE calculations based on The Treasury (2015)

My contention

**Necessity is the mother of invention.
A tighter fiscal environment will force
governments to test new ways of improving
efficiency to manage the budget deficit.**

Federal reviews

- Primary Health Care Advisory Group
- Medicare Benefits Schedule (MBS) Review
- Private Health Insurance Review
- Mental Health Review
- E-Health (ongoing)
- Other reviews impacting health care

The search for health technology assessment



MACQUARIE
University



HTA in Australia

- Formal HTA is generally fragmented and uncoordinated
- Lack of assessment within local health districts / networks
- Local decisions often made around safety, 'quality' and financial cost
- No systematic approach for disinvestment

The failure of health economics

- Lack of understanding around HTA methods
- Rejection of key axioms
- Unsure of the quality of evidence used or presented
- Costly to undertake specific health economics interventions
- Difficult to transfer broader study results to local settings
- Unable to use results effectively due to purchasing process
- Limited incentive for some decision makers to use HTA

Source: Adapted from van Gool et al (2007)

Future directions in policy



MACQUARIE
University



Improving HTA

- Draft MSAC technical guidelines for HTA (Investigative) similar to PBAC guidelines
- But an economic evaluation for medical devices is different compared to pharmaceuticals
- Large uncertainty associated with medical devices, both from an investment and evaluation perspective

Improving HTA

Differences between medical devices and pharmaceuticals

	Medical devices	Pharmaceuticals
Aim	<ul style="list-style-type: none"> • Diagnostic • Treatment • Monitoring 	<ul style="list-style-type: none"> • Treatment
Administration	<ul style="list-style-type: none"> • Health care professional • Learning curve 	<ul style="list-style-type: none"> • Mostly patient
Outcomes	<ul style="list-style-type: none"> • Dependent on user and settings 	<ul style="list-style-type: none"> • Mostly dependent on the drug
Life cycle	<ul style="list-style-type: none"> • Relatively short (< 5 years) • Constant threat of new entrants • Modifications 	<ul style="list-style-type: none"> • Relatively long (10-20 years) • Limited competition • Stable pricing
Infrastructure	<ul style="list-style-type: none"> • Can have wider implications (e.g., service reconfiguration) • May require additional infrastructure 	<ul style="list-style-type: none"> • Total cost usually contained to the drug
Evidence base	<ul style="list-style-type: none"> • Difficult to perform RCTs, particularly blinded studies • No 'steady state' period • Hard to find an appropriate comparator 	<ul style="list-style-type: none"> • Primarily derived from RCTs • Usually a stand out comparator • Difficulty transferring results to local settings or alternative populations
Economic evaluation	<ul style="list-style-type: none"> • Lack of data on outcomes • Large uncertainty 	<ul style="list-style-type: none"> • Able to capture health impacts 'relatively' easily • Costs are easily identified and measured

Source: Adapted from Productivity Commission (2005); Drummond et al (2009)

The cost of making a wrong decision

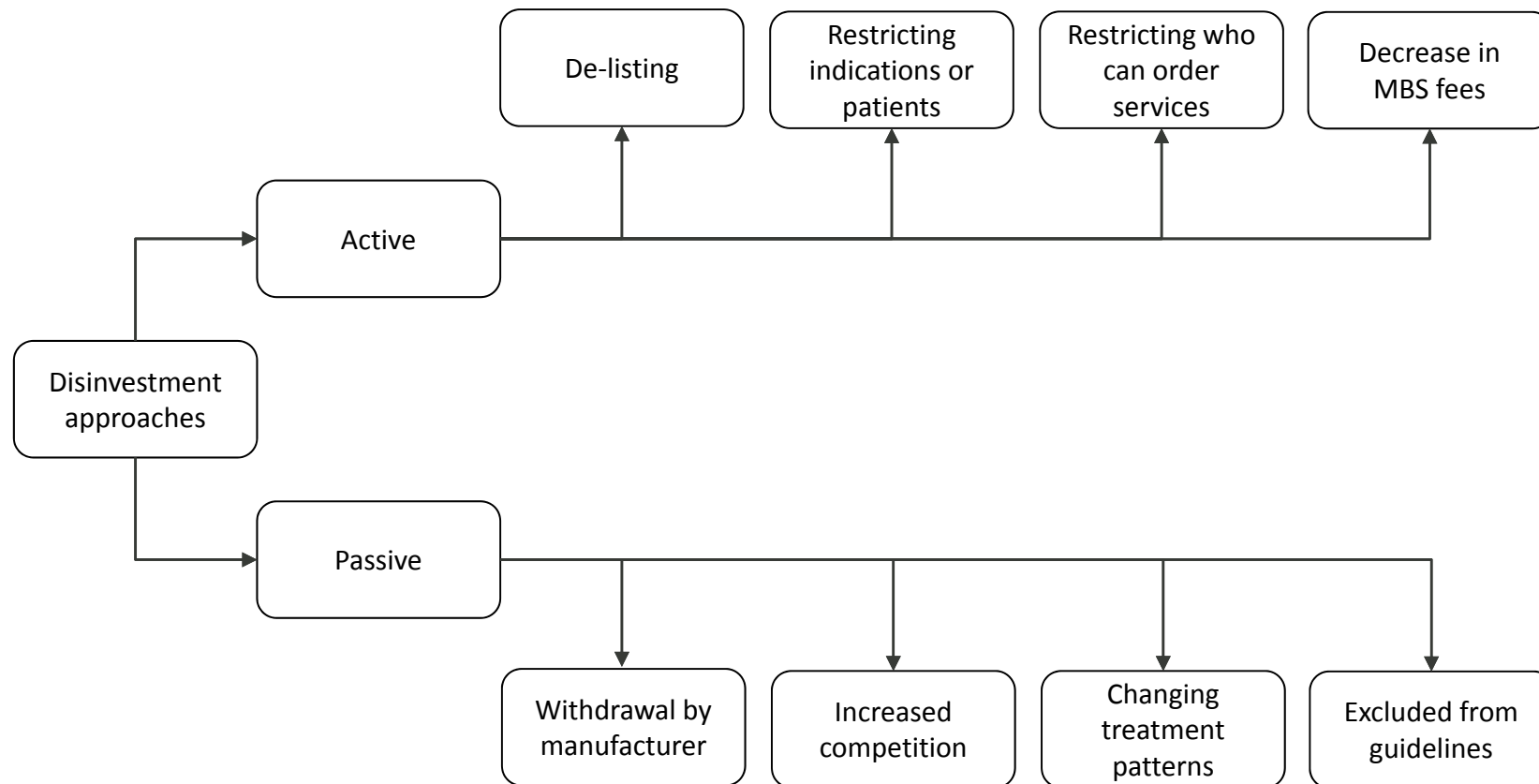
Impacts on social welfare from potential errors in HTA decision making

	Cost effective	Not cost effective
Approved	Correct. Greater welfare	Incorrect. Less welfare
Rejected	Incorrect. Less welfare	Correct. No change to welfare

Dealing with uncertainty

- A large amount of uncertainty with HTA comes from limited data
- ‘Gold standard’ evidence of efficacy usually does not exist
- Important to ensure HTA accounts for this uncertainty
- Using currently available data better
- Collecting additional data through interim funding

Making way for new technology



Source: Adapted from Parkinson et al (2015)

Challenges with disinvestment

- No agreed systematic approach to disinvestment
- Difficult to choosing the ‘right’ technology to disinvest
- Lack of data on cost and outcomes associated with current practice
- Lack of resources to collect and evaluate additional evidence
- Lack of will to disinvest due to perverse incentives
- Requires behavioural change (old habits die hard)
- Politically challenging

Source: Adapted from Elshaug et al (2007); HealthPACT (2013); Gallego et al (2010)

The way forward

- Data, data, data
- Greater involvement of patients in the HTA process
- Encourage the use of guidelines and changes to clinical practice
- Provide more information to clinicians to help them switch
 - Choosing Wisely Australia
- Promote health technology assessment using a societal perspective



MACQUARIE
University

Thank you

END

Dr Henry Cutler
Director
CENTRE FOR THE HEALTH ECONOMY

E: Henry.cutler@mq.edu.au

P: +61 2 9850 2998

Acknowledgements

I would like to acknowledge the contribution Dr Bonny Parkinson made in undertaking research for this presentation