

The limits of 'Quality Adjusted Life Years' (QALY) and 'tonnes of CO₂-equivalent' as regulatory devices

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Overview

- Research on development of new drugs.
- Book project: 'Cultural Economy of Precision Medicine'
- Intersecting histories of public knowledge: scientists and economists as arbiters of value
 - Stakes 1: is 'scientists discovers, economists apply, publics engage' a viable settlement with expertise? Do subjects pre-exist their framing in scientific debates?
 - Stakes 2: respective places of **sentiments** and **rationality** in understanding an economy

Jasanoff this morning

Facts and structure are not starting point for thinking about politics, but end points.

‘Reason is achieved not attained.’

Development of tCO₂-e as regulatory device

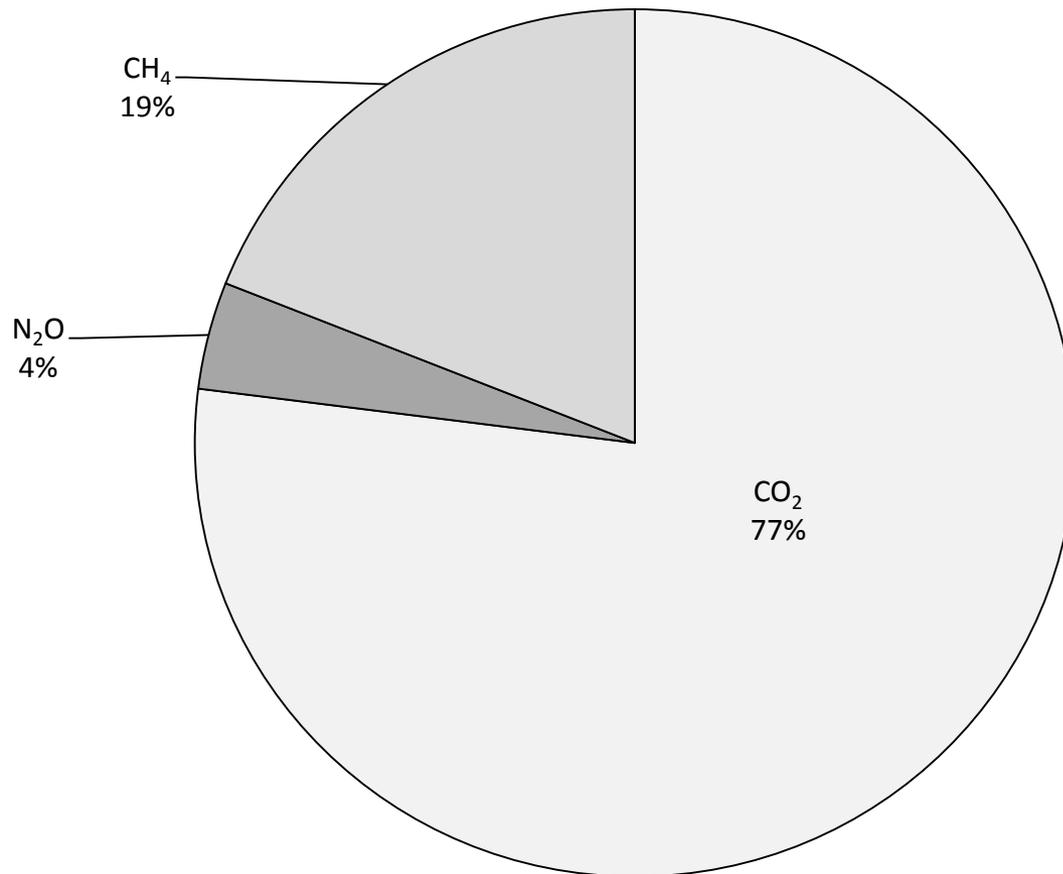


- 19thC onwards: Civil scientists key to framing modern pollution problems that then allow regulation
 - ‘Regulatory Capitalism’ (Braithwaite et al; Jessop)
- Ozone hole: allowed scientists to frame problem boundaries: clarify source of problem and calculate costs for responsible parties (CFC → HFC/HCFC)
- Acid Rain: permit trading allowed flexibility in pollution problems in USA
- UNFCCC: offset provisions between countries and CDM ‘baseline and credit’ scheme
- ‘Least cost abatement’ as key justification. Tensions with civic decision-making and national authority.

First UNFCCC Carbon Offsets: 'Activities Implemented Jointly'

1995 to
2001

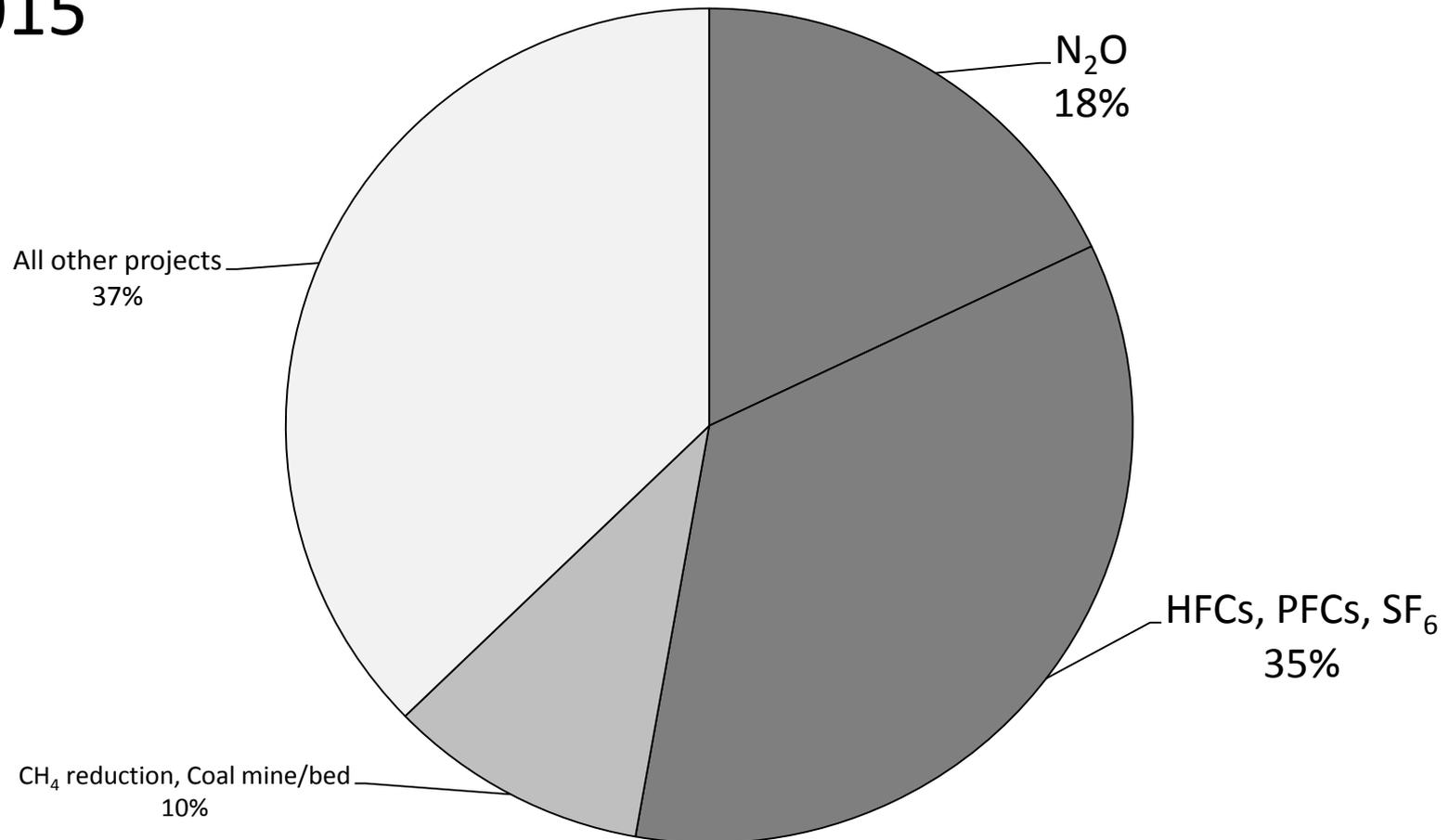
Share of AIJ Projects by Gas Type



UNFCCC offsets issued by gas type (Feb 2015)

2005 to
2015

CERs Issued to February 2015



PBS: From Universal Access to Economic Calculation



1944: Goal of universal access to all efficacious medicine – not realised until 1960

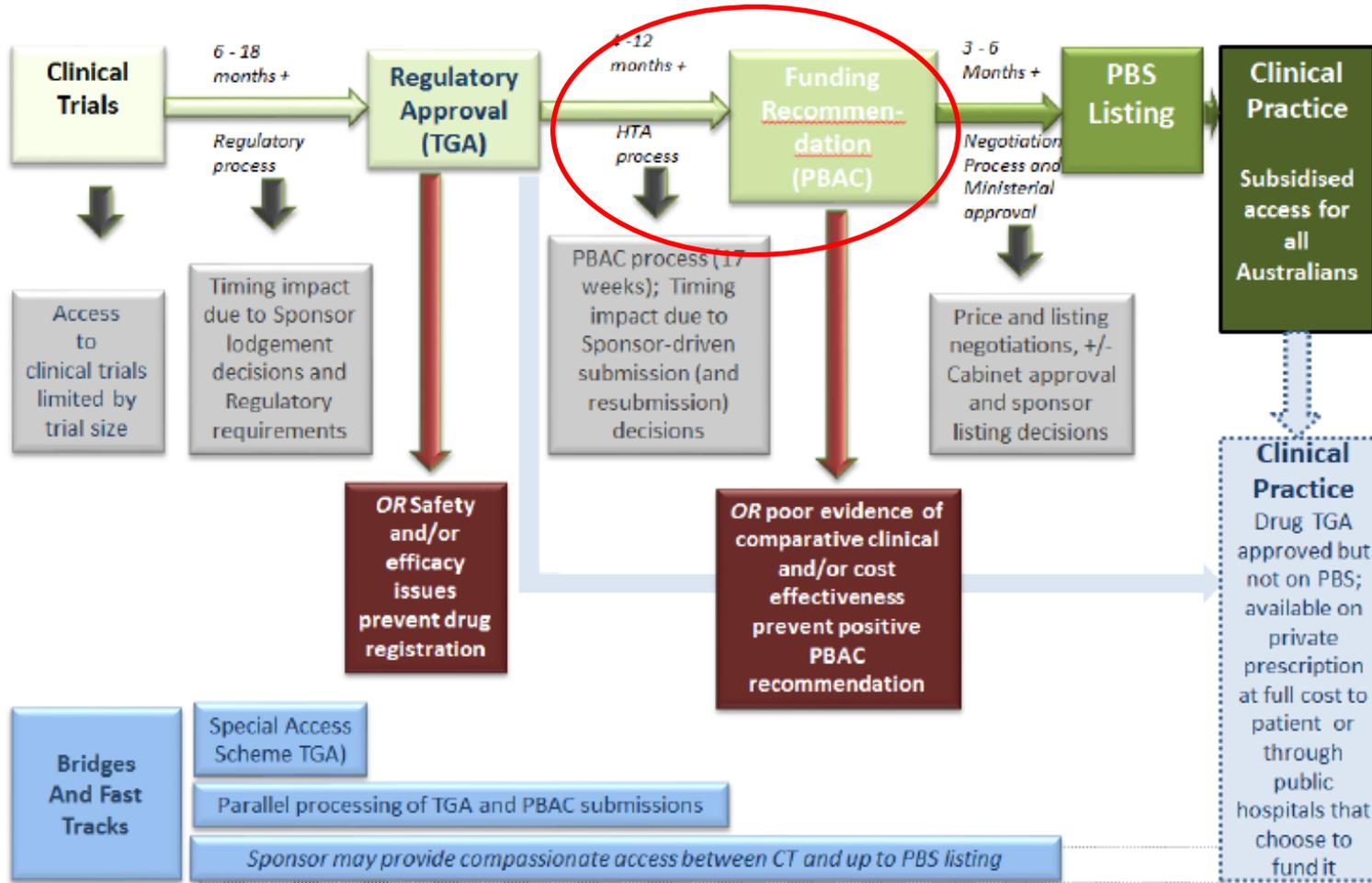


1980s-1990s: Assessment of comparative effectiveness and cost-effectiveness required for all reimbursement applications
- WHO calculations of health spend/GDP



2000: National Medicines Policy formalises pursuit of both health and industrial development objectives
- Further international economic analyses of health reforms
- 'Pro-curlal frame'

Pathway for Access to New Medicines in Australia



From Department of Health (2015)

TAXING TIMES...

The special
co-payment formula
contains a "price signal",
that will discourage
visits to the
doctor!

And at the low
price of just two middies,
it won't discourage
visits to the
doctor!

THE SPIN DOCTOR
WILL BE WITH YOU
SHORTLY,
DEAR...

HOPE
31.5.14

Cost Effectiveness Assessment: How?

- Clinical and cost: compared to existing therapies
- PBAC guideline: incremental cost per QALY gained
 - **Is it worth \$x to achieve additional benefit compared to existing therapy**
- Australia *does not* apply a formal incremental cost effectiveness ratio (ICER) threshold (unlike some EU jurisdictions)

Difficult social questions

- PBS spend on new cancer drugs rapidly accelerating compared to other areas
- 17% of \$ expenditure but only 1% of PBS scripts
- Widespread **efficacy concerns**

RESEARCH

Availability of evidence of benefits on overall survival and quality of life of cancer drugs approved by European Medicines Agency: retrospective cohort study of drug approvals 2009-13

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PHARMA

Half the cancer drugs approved in Europe recently don't significantly help patients

By ASSOCIATED PRESS / OCTOBER 5, 2017



Cancer cells under a microscope / American Cancer Society/Getty Images

Research published in British Medical Journal finds 39 out of 68 new treatments approved with no supporting evidence of better survival rates or improved quality of life

New Cancer Drugs and the PBS

- Growth in new drugs, particularly for late-stage cancer, that are developed and marketed with a companion diagnostic test for a biomarker
- Examples of such 'codependent technologies' include:
 - trastuzumab (**Herceptin**) and HER2 testing for breast cancer
 - **cetuximab** and K-RAS mutation testing for metastatic colorectal cancer
 - **gefitinib** and EGFR testing for lung cancer
- Proponents claim such treatment is potentially more clinically and cost-effective

Breast cancer publics

- Very high survival rates: **96%** of patients will be alive five years after diagnosis (cancer.org.au)
- Vocal advocates for further research, care and financial support
- The cost-effectiveness of trastuzumab was estimated to be \$180,910/Quality Adjusted Life Year (QALY) gained based on the best available information in 2001 (Parkinson n.d.)



Herceptin in Australia

- Registered with the TGA in 2000
- Trial results published in 2005,
- Media campaign to subsidize it for the roughly 2000 Australian women it's suitable for.
 - “Desperate, sick women in double jeopardy because of callous government/incompetent bureaucracy”
- Cost went from \$1000 per dose to \$30.
- Cost to taxpayer of \$470m (MacKenzie, Chapman et al)

Jasanoff & Simmet (2017) on public facts:

	Climate Policy (offsets)	Health Policy (Herceptin)
“They are embedded in prior choices of which experiential realities matter,	Emissions trading shaped by Ozone and Acid Rain regulations. ‘Don’t pick winners’	Worthiness of mothers vs. ‘bureaucrats’ Problem of growing healthcare spending
produced through processes that reflect institutionalized public values, arbiters of which issues are open to democratic contestation and deliberation, and	CDM Executive Board; national authorities; policy process of designing CPRS and Emissions Reduction Fund (submissions for carbon offsets)	Coordinated campaigning by Breast Cancer Network and NGOs
vehicles through which polities imagine their collective futures	Contestation over role of coal, oil and gas in economies	‘Pro-curial frame’ (Thompson)

Discussion/Conclusions

- Climate and health decisions *not* 'pure science' applied
 - Science not simply, discretely prior to economics
- Expert narrative about an issue conjures subjects: (deserving carbon offset or PBS recipients)
- Economization through rationality alone is doomed. Need historical sensitivity.

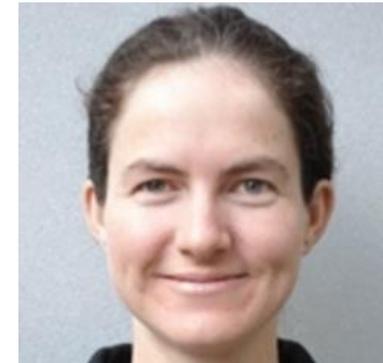
Team members



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