

Standards of evidence in policy advice

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The 'post-trust', 'post-elite' & 'post-truth' context



Post-truth

"relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief."



www.ingsa.org

- » Over 4000 members from over 80 countries
- » Regional chapters
- » Science diplomacy division
- » Knowledge centre
- » Forum for sharing, coordinating, networking
- » Capacity building activities
- » Open access learning resources
- » Reports and research



Understanding wellbeing in the context of rapid digital and associated transformations

Implications for research, policy and
measurement

Sir Peter Gluckman
Kristiann Allen
AUGUST 2018

The International Network for Government Science Advice

<https://www.ingsa.org/wp-content/uploads/2018/09/INGSA-Digital-Wellbeing-Sept18.pdf>



The Health Benefits and Risks of Folic Acid Fortification of Food

A report by the Office of the Prime Minister's Chief Science Advisor and the Royal Society Te Apārangi

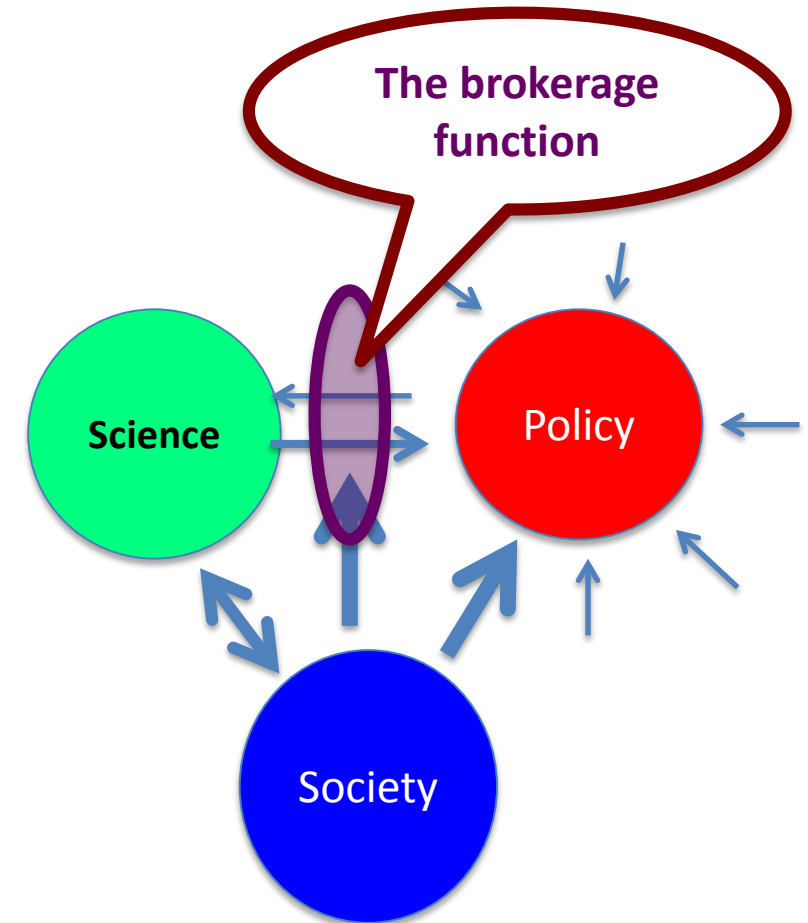
The post-normal perspective

The science applied or needed in the policy space is often 'post-normal'

- Complex system with multiple and competing knowledge streams
- Uncertain and incomplete knowledge
- Stakes are high and decisions are urgent
- Values in dispute

Science advisory systems must be cognizant of PNS characteristics to be effective

Failure of the science community to recognize PNS characteristics can make policy makers and politicians skeptical about the role and utility of science.



What is evidence ?

- Politicians and policy makers have many sources of evidence
 - Tradition
 - Prior belief
 - Anecdote and observation
 - Science
- Data does not equal information does not equal evidence
- Scientific processes aim to obtain relatively objective understandings of the natural and built world. Science is defined by its processes which are designed to reduce bias and enhance objectivity.
- Important value judgments lie within science especially over what question and how to study it. Critically in the context of policy is the sufficiency and quality of evidence.

One Insider's view of policymakers hierarchy of evidence

1. Expert opinion (including consultants and think tanks)
2. Opinion based-evidence (eg lobbyists, pressure groups)
3. Ideological evidence (party manifestos)
4. Media evidence
5. Internet evidence
6. Lay evidence (anecdotes of constituents)
7. Street evidence (conventional wisdom)
8. Cabbies' evidence
9. Research evidence

Phil Davies; fmr dep Chief Social Researcher 2007 quoted in
What Counts for Evidence Nutley et al 2013

Policy-making

- Policy making: it is about making choices
 - between different options
 - which affect different stakeholders in different ways
 - with different consequences,
 - many of which are not certain
- Virtually all policy making carries complexity risk and uncertainty :
 - But perceptions of complexity, risk, cost and benefit vary between stakeholders
- The political perspectives of stakeholder effects, interests, electoral positioning and electoral risk are always present

THE SCIENTIST:

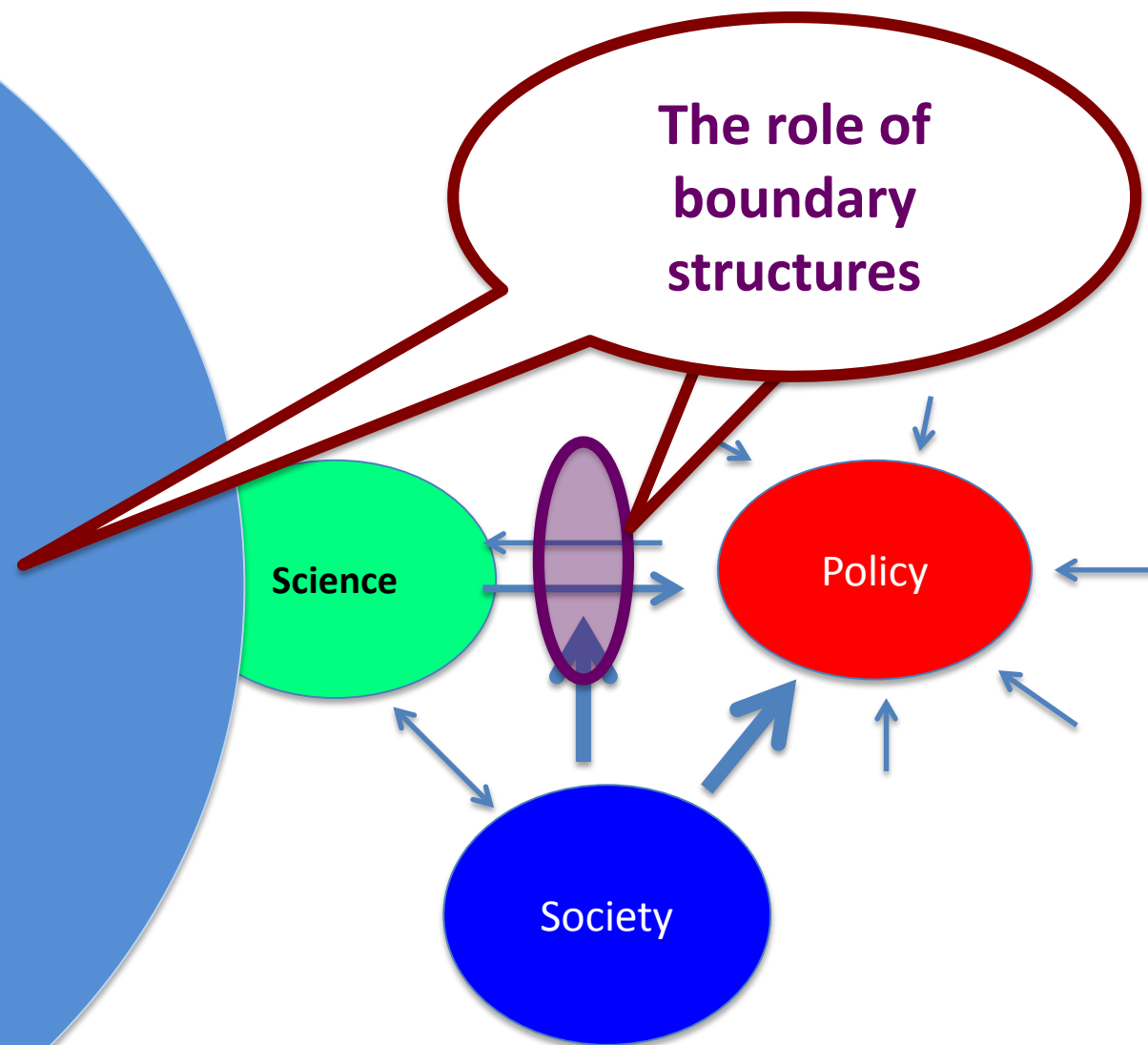
Brokerage
or advocacy?

THE POLICY MAKER

Pragmatic policy options
or politically driven policy options

THE POLITICIAN

Evidence informed policy
or policy informed evidence



Beyond the evidence alone - perspectives of policy makers and politicians

Why do we have to do something now?

Why is it a priority?

Have we got the option that meets our broader needs?

Who will it benefit, who won't it benefit?

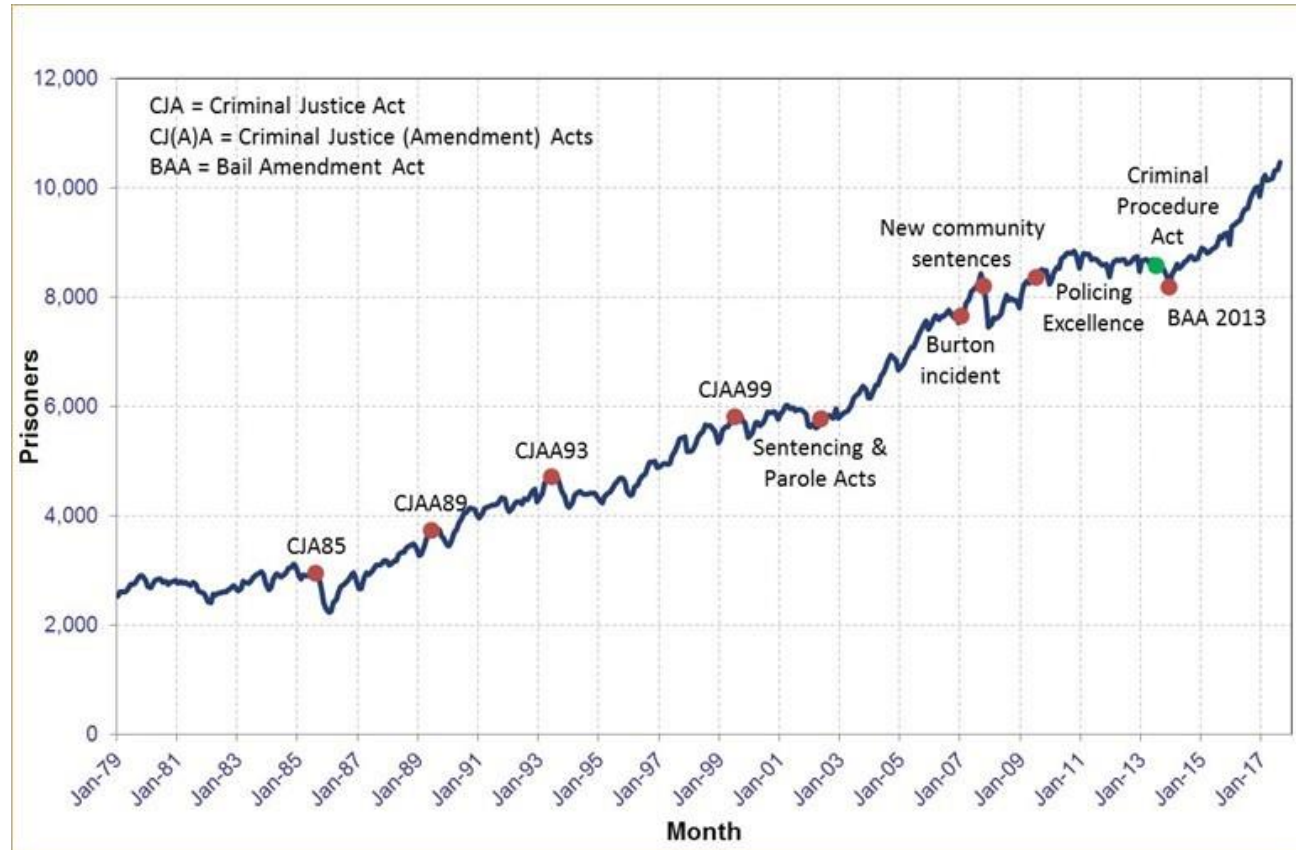
Does it benefit priority stakeholders?

What are the risks and to whom?

What is the political risk of doing or not doing?

What will it cost?

Using evidence to build a better justice system: The challenge of rising prison costs



<https://www.pmcsa.org.nz/wp-content/uploads/Using-evidence-to-build-a-better-justice-system.pdf>

Methamphetamine contamination in residential properties: Exposures, risk levels, and interpretation of standards



**Barry Soper: Meth house myth -
Have we been duped?**

**Editorial: Chief science advisor does New Zealand a
favour**

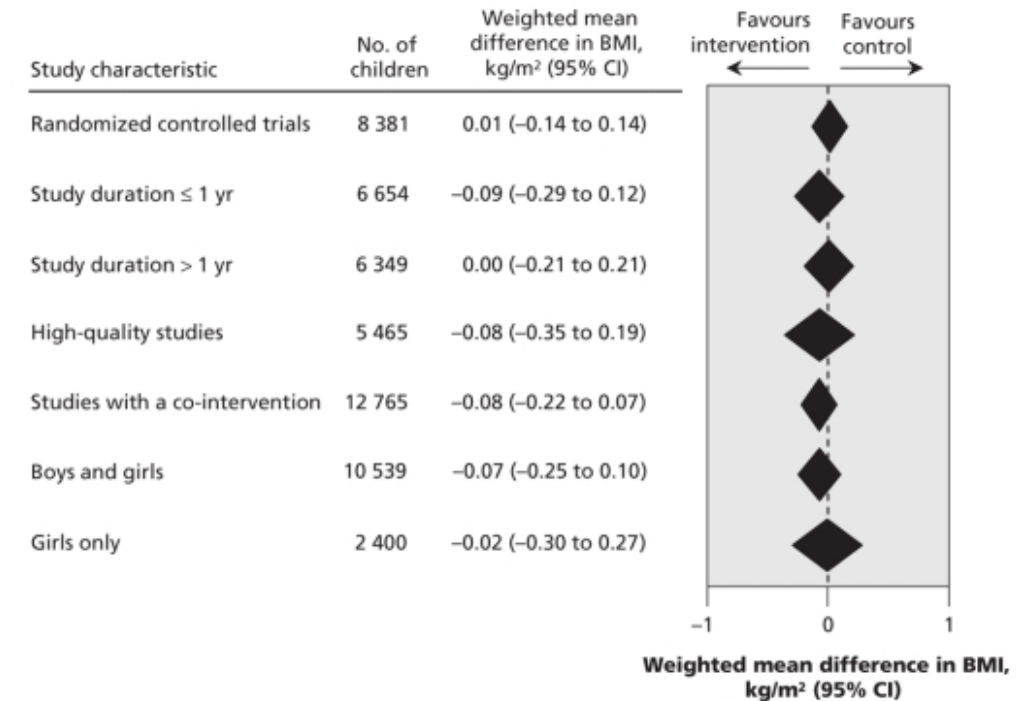
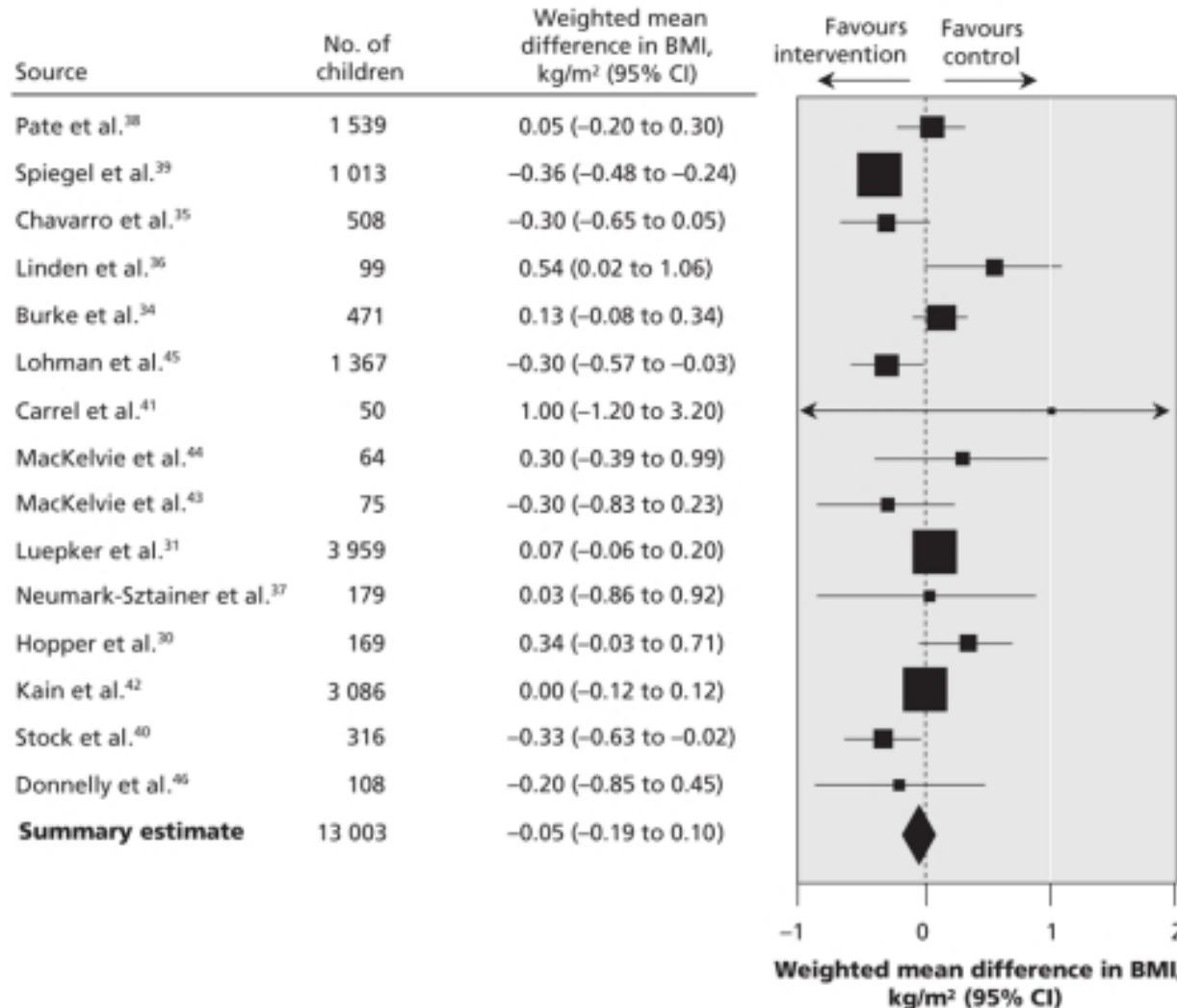
<https://www.pmcsa.org.nz/wp-content/uploads/Methamphetamine-contamination-in-residential-properties.pdf>

Purposes of evidence in informing policy

- To provide explanation of complex (open) systems so options can be explored
- To define options for action to achieve a particular outcome (s) and explore implications of each option
- To address a particular implementation issue or scientific question
- To define and plan an action
- To evaluate the impact and effect of the action

Effect of school-based physical activity interventions on body mass index in children: a meta-analysis

[Kevin C. Harris](#), MD, [Lisa K. Kuramoto](#), MSc, [Michael Schulzer](#), MD PhD, and [Jennifer E. Retallack](#), MD



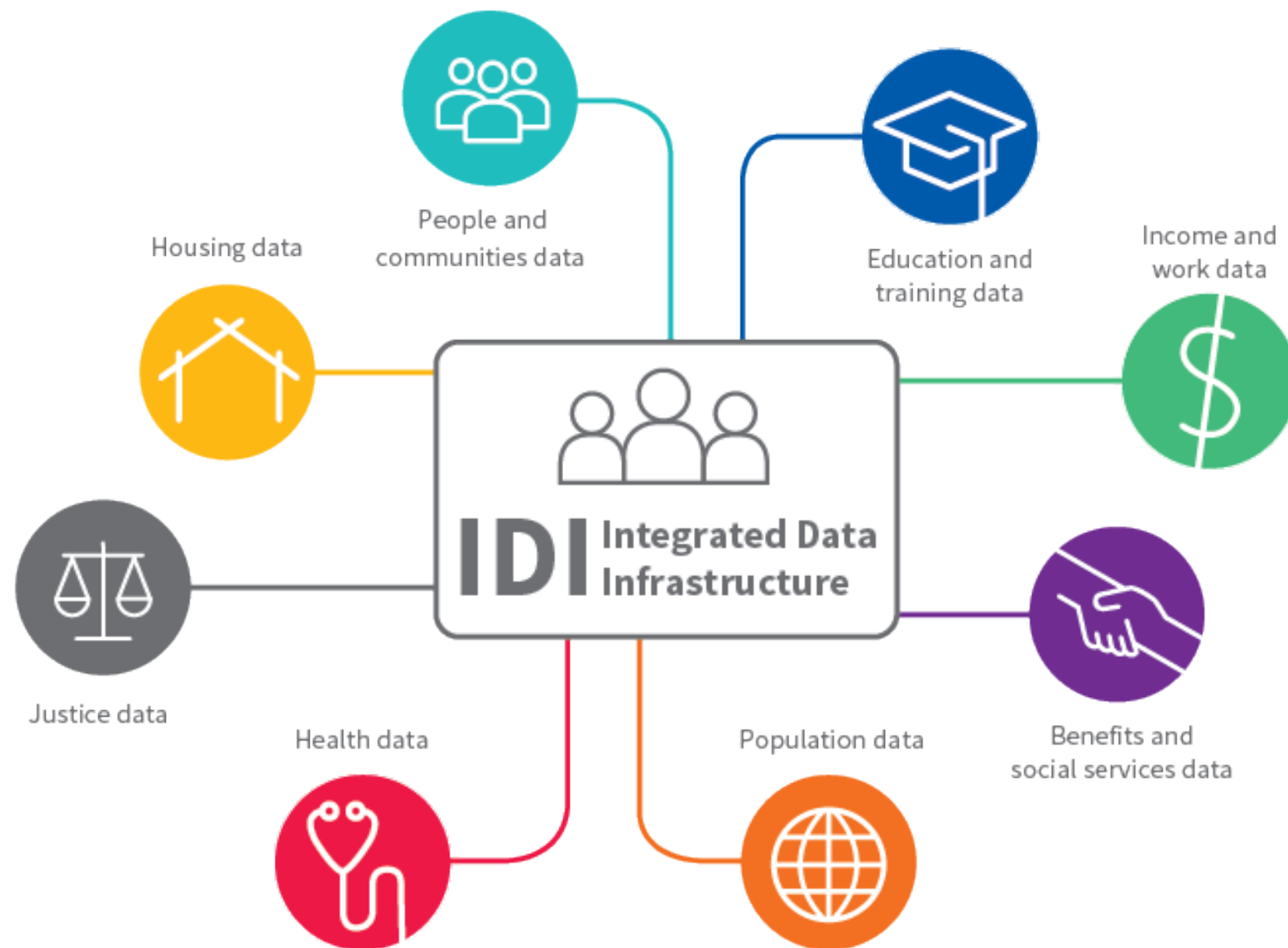
Difference Between Open & Closed System

Open System

- It interact with its environment for inputs & Out puts
- It would be compatible with the other systems
- Its output cannot be easily estimated (Probabilistic System)
- Flexible system

Closed System

- It does not interact with its environment for inputs & Out puts
- It would be compatible with the other systems
- Its output can be easily estimated (Deterministic System)
- Rigid system





Evidence synthesis for policy

A STATEMENT OF PRINCIPLES

THE
ROYAL
SOCIETY

 The Academy of
Medical Sciences

- Rigorous
- Inclusive
- Accessible
- Transparent

Guidance Note for Lead Authors of the IPCC Fifth Assessment Report on Consistent Treatment of Uncertainties

IPCC Cross-Working Group Meeting on Consistent Treatment of Uncertainties
Jasper Ridge, CA, USA
6-7 July 2010

Michael D. Mastrandrea, Christopher B. Field, Thomas F. Stocker,
Ottmar Edenhofer, Kristie L. Ebi, David J. Frame, Hermann Held, Elmar Kriegler,
Katharine J. Mach, Patrick R. Matschoss, Gian-Kasper Plattner, Gary W. Yohe,
and Francis W. Zwiers



The Guidance Note for Lead Authors of the IPCC Fifth Assessment Report on Consistent Treatment of Uncertainties is the agreed product of the IPCC Cross-Working Group Meeting on Consistent Treatment of Uncertainties.

This meeting was agreed in advance as part of the IPCC workplan.
At its 32nd session, the IPCC Panel urged the implementation of this Guidance Note.

Supporting material prepared for consideration by the Intergovernmental Panel on Climate Change.
This material has not been subjected to formal IPCC review processes.

Term* Outcome

Likelihood of the

Virtually certain
probability

99-100%

Very likely

90-100% probability

Likely

66-100% probability

About as likely as not 33 to 66% probability

Unlikely

0-33% probability

Very unlikely

0-10% probability

Exceptionally unlikely 0-1% probability

Additional terms that were used in limited
circumstances in the AR4

extremely likely – 95-100% probability,
more likely than not – >50-100% probability

Extremely unlikely – 0-5% probability

may also be used in the AR5 when appropriate.

Different roles in a science advisory ecosystem

	Knowledge generators	Knowledge synthesizers	Knowledge brokers
Individual academics	+++	++	
Academic societies/professional bodies		+	
Government employed practicing scientists	+++	+	
Scientist within regulatory agency	+	++	++
Independent think tanks		++	
What works units etc		+++	+
National academies		+++	+
Government advisory boards/science councils		++	+
Science advisors to executive of government		+	+++
Science advice to legislators		+	++

Barriers on the demand side

- Policy formed evidence versus evidence informed policy (the policy-political interface)
- Turf protection
- Hubris
- Exposure to scientists as advocates
- Lack of understanding of the scientific process and value
- Mr Google and Mr Wikipedia
- Training is shifting towards policy management

The core challenge of knowledge brokerage - maintaining trust

- With multiple constituencies
 - Politician
 - Policy makers
 - Media
 - Public
 - Scientists



That governments are more likely to make better decisions
when they use well-developed evidence wisely