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I. "Selling" Your Research to Public Health & Health Systems Stakeholders

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THE UNIVERSITY of EDINBURGH
CHIEF SCIENTIST OFFICE
MRC Scottish Collaboration for Public Health Research and Policy
SCPHRP Scottish Collaboration for Public Health Research & Policy

OUTLINE

- **KNOWLEDGE TRANSFER AND EXCHANGE IN PH&HS RESEARCH:** SOME CONCEPTUAL FRAMEWORKS/IMPLICATIONS (slides courtesy of Dr Peter Craig, U. Glasgow)
- **BEST KTE PRACTICES** FOR PUBLIC HEALTH AND HEALTH SYSTEMS RESEARCH
- **SOME PERSONAL REFLECTIONS** (AFTER 21+ YEARS OF DIRECTING NEW START-UP INSTITUTES FOR OH&S/PH RESEARCH, MANDATED TO INFLUENCE POLICY AND PRACTICE)


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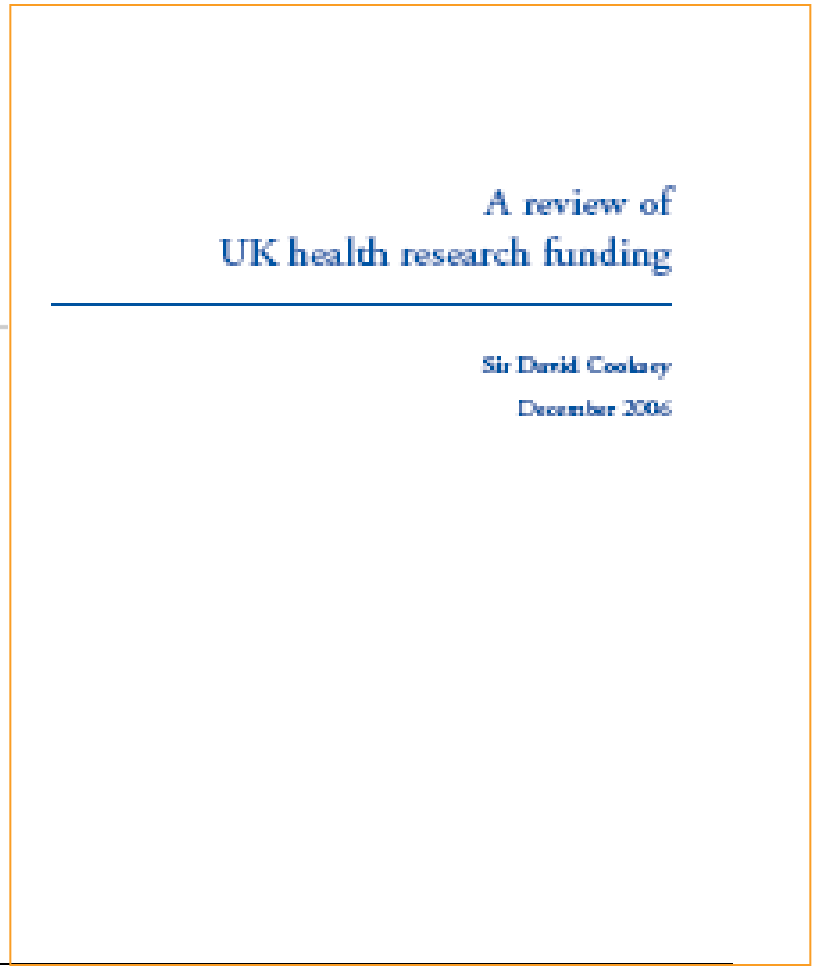
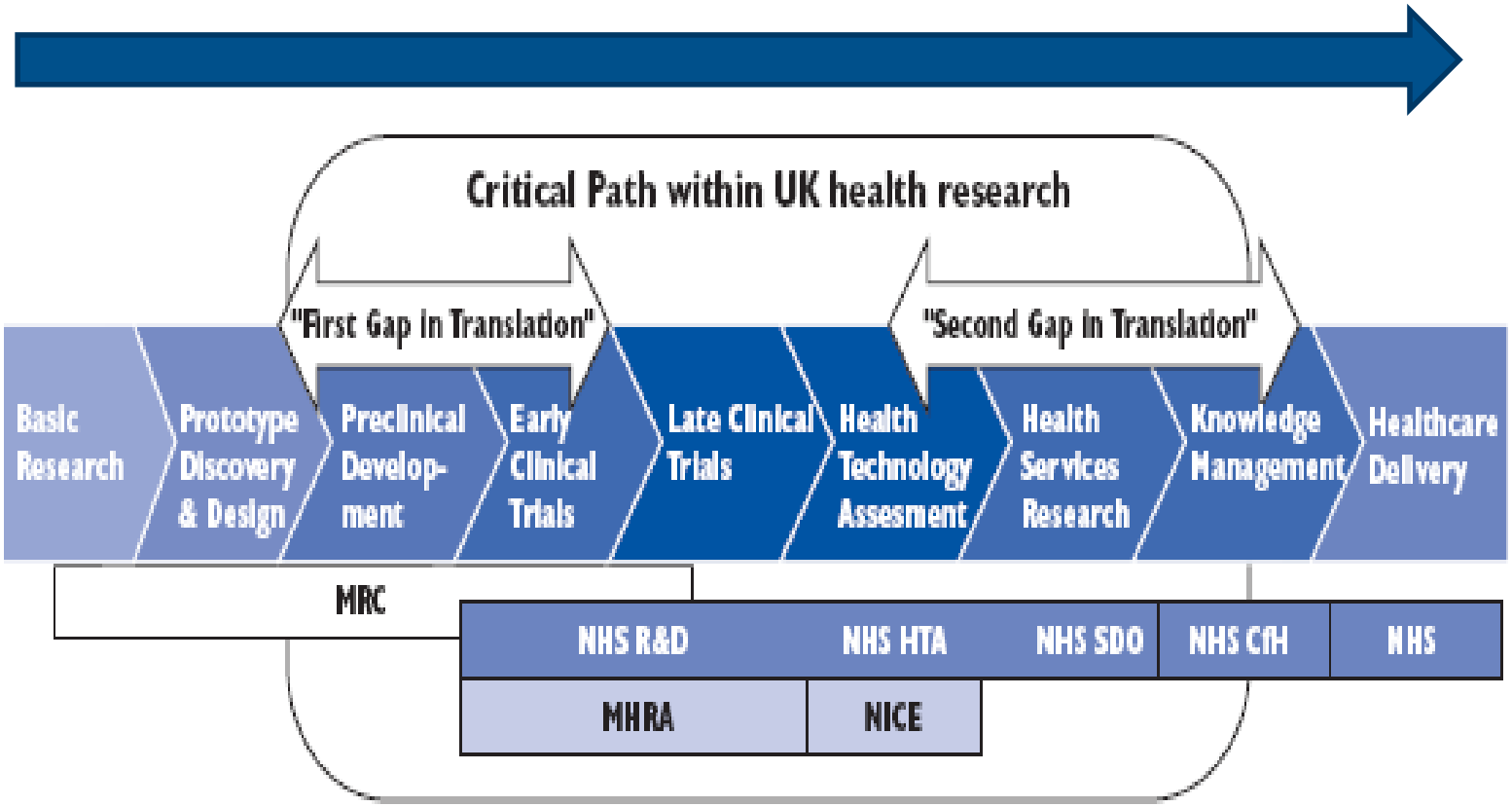
Contrasting Models of KTE for Lab/Clinical, versus PH/HS Research

This **2009 landmark paper** challenged the use, for PH&HS Research, of the **2006 "Cooksey Report"** model of KTE (commissioned by RCUK – see document at right) based on **"bench to bedside"** translation.



The Cooksey Model (2006)



Pathway for the translation of ***basic and clinical research*** into ***clinical practice***

Does this apply to public health?

PH research is for **improving population health and reducing health inequalities** -- not clinical practice or healthcare delivery

Basic sciences of public health (e.g. epidemiology, psychology, economics and sociology,+ laboratory sciences) **play a part throughout KTE process** (not just intervention dev't)

PH interventions often required at both individual and societal levels simultaneously (e.g. for the obesity pandemic)

PH evidence often heterogeneous (methods and quality); requires flexible and inclusive methods of synthesis

PH interventions often from sources other than health – e.g. speed limits and seat-belts

PH policies rarely based on one study; often **other factors matter more than evidence**: total costs/who pays/who benefits; interest-group politics; values; timing

No!

Research in public health (and health systems research):

- **Influences – and is influenced by – culture, behaviour, policy and practice,**
- Influences **operate in a variety of direct and indirect ways**,
- **Not a straightforward linear translation** of evidence into practice.

Source: Ogilvie, Craig et al. 2009

The Chasm…Unbridge-able?

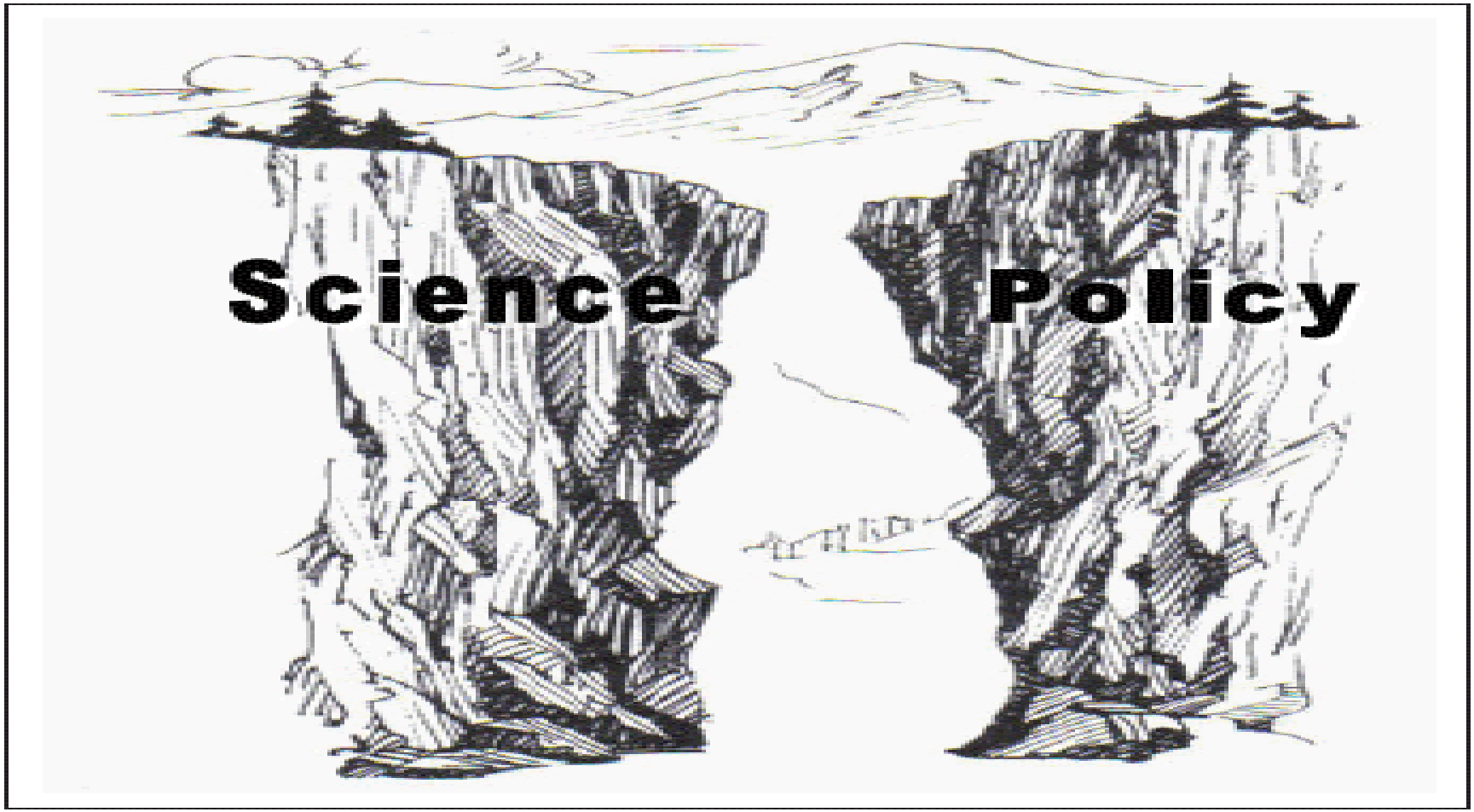
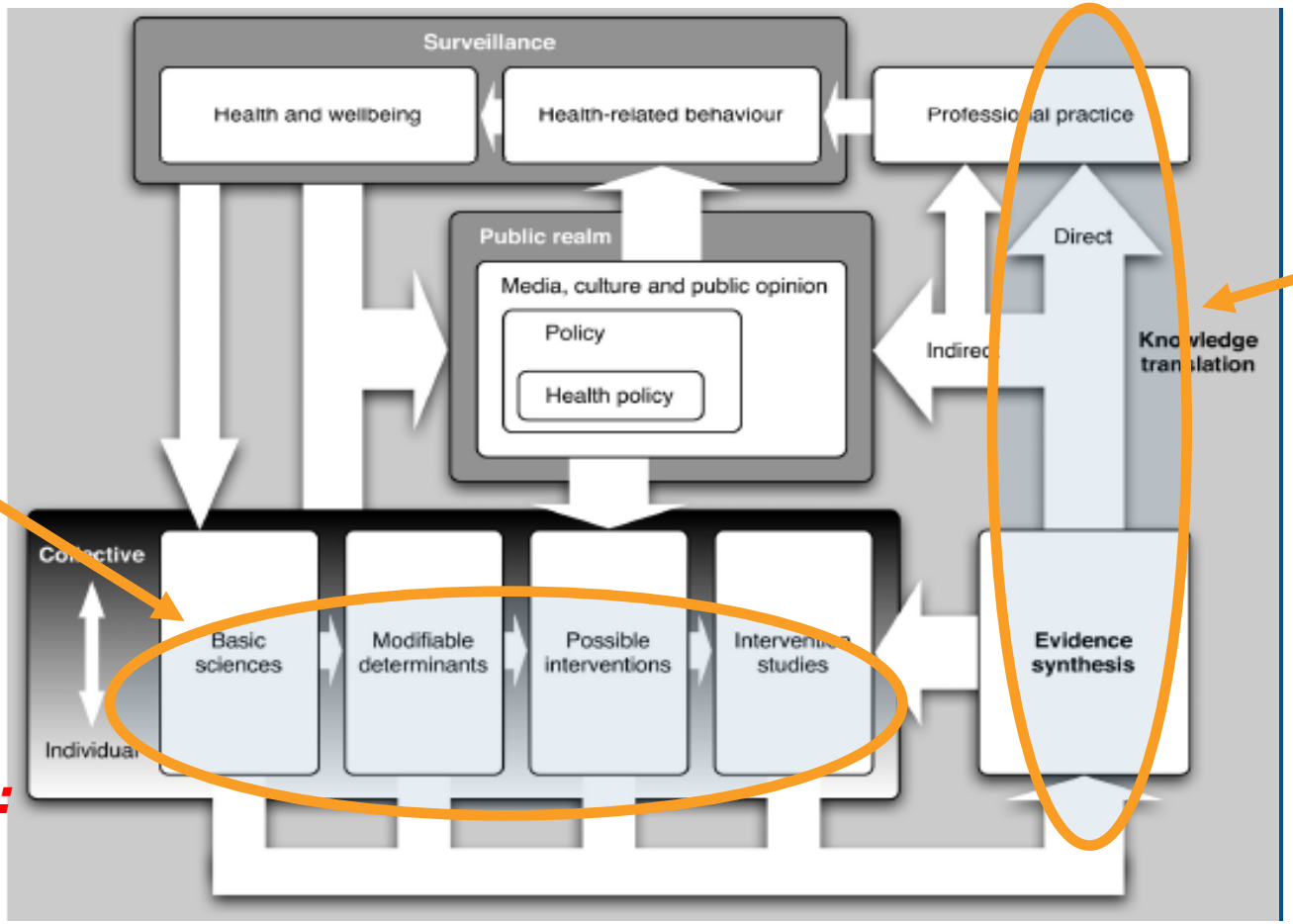


FIGURE 3
The science–policy chasm

A non-linear framework for thinking about translation of PH/HS research



EBP model

Cooksey pathway

Source: Ogilvie D et al. *BMC PH 2009;9:* 116-125.

Implications

Measuring the impact of public health research is complex:; **simple 'payback' (ROI) models will often underestimate its benefits**

- e.g. **time-preference (social) discounting**, favoured by many economists, needs careful thought: it can kill *any* preventive policy if the benefits are very remote in time, and/or the discount rate chosen is high enough – this is **no help if only preventive measures are likely to work in the long run** (e.g. the obesity pandemic!)

The framework implies a more holistic research agenda:

- **translation occurs throughout the framework**, and funders should support research to understand, and make best use of, the **whole range of (2-way) translational processes**.

Implications (cont'd)

Key elements of **best KTE practice for PH/HSR:**

- **Involve** carefully selected potential **users** of the research **in its earliest stages**: they should help **"frame the question(s)"** so the answers (later) are relevant to their work; in its full form this is research "**co-production**;" can be onerous;
- **Keep them involved** throughout the project – e.g. via fully engaged "Stakeholder Reference Committees" to ensure "**no surprises"** and awareness of any **delays**
- Create a **range of research products** at the end: "20-30 pages, 6-8 pages*, 2-3* pages, < one page* (for the Minister)" +/- VIDEO!

[*these shorter versions should include **no jargon**!]

Personal Reflections on Influencing Policy with Research

OBSERVATION: Policy-makers ask not just "Why should I care about this research?" but also "Why NOW?"

MORAL: Policy "windows of influence" open… and close; ask: "When is the best time to present these results?" "When is the worst time?"

IMPLICATION: Research projects often must report before they are "ready. "Conversely, don't hesitate to present "old" research if a policy window re-opens!

Personal Reflections on Influencing Policy with Research (cont'd)

OBSERVATION: Powerful researcher influences often indirect – e.g. changing the way policy stakeholders "think about an issue."

MORAL: Provide more scientific/critical ways of thinking to stakeholders – even if your specific research project is inconclusive.

IMPLICATION: Take opportunities to provide broader advice, and relevant CPD, to policy stakeholders; building relationships more important than reporting on your research in the long run.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Personal Reflections on Influencing Policy with Research (cont'd)

OBSERVATION: Stopping bad policies can be as useful as getting a good policy implemented; you are remembered.

MORAL: When other researchers seek grants from calls for useless studies, be brave enough to speak up (e.g. "Improving PSA Screening Uptake": more harm than good!)

IMPLICATION: Getting one more grant for a useless policy purpose, is less important than keeping your integrity in the long run.

II. Evaluating the Impacts of Your Public Health & Health Systems Research

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Outline

- **Current Trends in Assessing Research Impact** – the view from Canada's CIHR
- **The Attribution Challenge:** A Worrisome Case Study from the UK
- **Non-Traditional Types of Impact-Evidence** in PH and HS Research
- **The UK REF 2021 Research Excellence Framework (REF)** Approach to Impact Assessment: Improving, but**….**
- **Best Practices** in PH & HS Research Impact Assessment **: Practical Advice**

Assessing Research Impact: Important Trends in PH & Health Systems Research

- Increasing need for greater accountability, and to demonstrate to society at large value-added of research investments.
- Demonstration of health, health system and health policy impacts requires solution of a thorny attribution problem: what could really show that "Research X" *caused* "Policy Y"?
- High-quality and relevant reporting of outputs and impacts is key – but what to report – and how?
- Moving beyond "**publications**…"
  - Measures of impact beyond bibliometrics – fighting "tyranny of the Impact Factor" – a journal-based metric: not designed to reflect the quality of publications; statistically flawed; biased against our fields
  - Challenge of emphasing publications in a relatively more nascent field of research that also requires substantial capacity development – how can Early Career Researchers be fairly treated?

[Adapted from CIHR-IPPH Director's/Associate Director's slides, 2015-16]

CIHR Impact Assessment Framework ("Cy Frank Report", 2009)

Category	Description
Advancing Knowledge	• discoveries, breakthroughs, and contributions to the scientific literature: fundamentally an expert judgement call, fraught with attribution problems
Building Capacity	• development and enhancement of research skills in individuals and teams: throughput easy to measure; impact of that throughput not so much ("circularity")
Informing Decision-Making	• impacts in the areas of science, public, clinical, and managerial decision-making, practice and policy: archival/"testimonial" documentation can be onerous
Health & Health Systems Impacts	• advances in prevention, diagnosis, treatment and palliation, functioning of the health system: also an expert judgement call, and relatively rare
Economic Impacts	• commercialization of research discoveries and human capital gains: rarely applicable to PH and HS research –

The Attribution Challenge: A Worrisome UK Case Study

- In 2008, a major study, funded by several research Councils in the UK, was undertaken by Brunel University and RAND (Europe), to attempt an economic analysis of the benefits and costs of health research, using the Buxton and Hanney "pay-back" methodology*
- It started by selecting two classes of "breakthrough drugs" widely acknowledged, over the previous three decades, to be major advances in therapy for common and disabling conditions:
  - Beta-blockers, for hypertension and coronary heart disease (and many other indications later)
  - SSRIs, initially used for serious psychiatric conditions such as depression, but later extended to many others, such as OCD

*Buxton M, Hanney S, Morris S, Sundmacher L, Metre-Ferrandiz J, Garau M, et al. Medical Research – What's it worth? Estimating the economic benefits from medical research in the UK. Report to the UK evaluation forum 2008. London, UK.

The Attribution Challenge: A Worrisome UK Case Study (cont'd)

- A cost-benefit analysis, via **retrospective** citations, estimating entire investment stream to develop these drugs, over decades
- Not surprisingly: found that the benefits of game-changing new drug families greatly outweighed the original research investments that led to them (DUH!)
- No mention in the report, of any of the other billions of dollars of UK health research investments over the same years – even in similar fields – that did **not** lead to any cost-effective breakthroughs in patient care (yet)
- "*Cherry-picking is easy in full harvest; picking which saplings will yield best in future decades is almost impossible*"

No one takes this expensive study seriously nowadays
… but have methods for this purpose actually improved?

Non-Traditional Types of Impact-Evidence in PH and HS Research

- Citation of research in policy/programme documents (often grey literature) and the processes that generate them (e.g. UK NICE Guidance)
- Triangulated testimonials by users of the research (ideally conducted by arm's-length consultant using a standard script, allowing negative and positive comments, as well as "never heard of it…")
- Archival documentation of influence on policy making (typically tough to find; best sources often confidential – e.g. "bad PH/HS policy options killed by research input before they were made…")
- **PERHAPS THE BEST OVERALL OPTION: DETAILED CASE STUDIES OF RESEARCH INFLUENCE ON POLICY-MAKING, BASED ON ALL OF THE ABOVE SOURCES, WITH A CLEAR "NARRATIVE THREAD" CONNECTING EVENTS OVER TIME IN A PLAUSIBLY CAUSAL SEQUENCE – MORE LIKE HISTORIANS THINK – EMPIRICALLY GROUNDED, NOT JUST ANECDOTE!**
- Attribution is even more challenging for upstream prevention

Case-Study E.G. -- "Killer Facts" and Early Childhood Interventions in Australia

- Neurobiologists' presentations on "hard-wiring"/gross damage in (VERY) abused/neglected infants' brains had huge impact;
- External validity to most children was not NB; the *thinking* of policy-makers changed
- Long-term public costs estimated and influential
- Emphasis on rapid policy actions – FNP-like programmes; community parent-child centres; EDI implementation
- Politicians could show responses within four years,

Source: Bowen S, Zwi AB, Sainsbury P, Whitehead M. Killer facts, politics and other influences: what evidence triggered early childhood intervention policies in Australia? *Evidence* & Policy 2009; 5(1): 5-32

The UK Research Excellence Framework (REF) Model of "Impact Case Studies"

For REF2021, the definition of research impact will include, but is not limited to:

"an effect on, change or benefit to the activity, attitude, awareness, behaviour, capacity, opportunity, performance, policy, practice, process or understanding of:

- an audience, beneficiary, community, constituency, organisation or individuals

- in any geographic location, whether locally, regionally, nationally or internationally.

[Impact includes the reduction or prevention of harm, risk, cost or other negative effects.]"

[Good in its inclusivity; bad in its wordiness?]

The UK Research Excellence Framework (REF) Model of "Impact Case Studies"

Forthcoming "2017 mock REF" at the University of Edinburgh has recently *asked for the following data,* in any Impact Case Studies submitted by faculty to this planning exercise:

- **Who/what, other than academia, has benefited from this research, in the UK and internationally,** between Jan. 2014 [Date of last REF return] and now? [For example, governments, policy-makers, the NHS, NGOs, charities, patients, practitioners, the public, education, commerce, the arts, international development, animal husbandry/welfare, the environment, etc.]
- **For each beneficiary listed above, how have they been impacted?**

1) **How "deep" is the impact** (significance, with metric if possible)?

2) **How "wide" is the impact** (# of people x geographical spread)?

[see examples of specific metrics on next page]

"In most cases, evidence will be needed for the REF submission, e.g., pdfs of policy documents, published surveys, online media archives, letters of confirmation from prominent individuals)."

The UK Research Excellence Framework (REF) Model of "Impact Case Studies"

2017 mock REF2021 call for Impact Case Studies at the University of Edinburgh goes on to provide a list of specific sorts of "impact-evidence" expected:

- * Patients with x disease: "10% decreased mortality"; "300 lives saved per year"; "hospital stays now average 3 days, not 5";

[PH EXAMPLE: SIDS and SLEEP POSITION – IS IT CLEAR PRECISELY WHICH RESEARCH SHOULD GET THE CREDIT?]

- * NHS: cost-savings to NHS of "approx. £10M a year";

- * Practitioners: "73% of UK clinicians now use our procedure compared with 49% in 2013";

NB: Some (*) of these evidence-examples are truly *impacts*, but rarely convincingly attributable to specific PH&HSR projects; others (**) are mere *process* measures (next slide):

The Mock REF2021 Call for Impact Case Studies (cont'd)

- **Policy-makers: chaired guideline committee; updated clinical guidelines in UK, Europe & USA; cited in WHO policies a, b, c

- **Governments/NGOs/charities: informed policy debate on xx date; contributed to think-tank yy; resulted in changed legislation zz; affected charity policy qq;

- **The public: 200 people attended a public lecture; 1000 people visited a science festival demonstration; 23000 people viewed a video on YouTube; the work was covered in the media in x countries.

The UK Research Excellence Framework (REF) Model of "Impact Case Studies"

- A great improvement on the traditional "Publications, Grants and Trainees/Teaching" model, BUT
- Not yet convincing (to me), or equally applicable to both lab/clinical as well as PH & HS Research…

However, many talented persons are working hard on it, throughout the UK, and the final REF 2021 Impact Assessment methodology will no doubt be better yet!

PRACTICAL ADVICE ON PH & HS RESEARCH IMPACT ASSESSMENT

- Ensure that all scientific staff in applied research groups, backed up by administrative staff, enter their research "impacts" – under several categories, prospectively and OFTEN (e.g. monthly!)
- Research Lead should always edit these!
- Use an integrated system of reporting that allows "bespoke" outputs/printouts for various purposes/audiences, and clear attribution of all outputs/impacts to specific funders [e.g. *ResearchFish* in the UK –*"part-way there, but: outputs still painful to read; major non-interoperability with university/CV/grant systems."*]

PRACTICAL ADVICE ON PH & HS RESEARCH IMPACT ASSESSMENT

- Explicitly reward researchers for high-quality impact reporting of this kind – for example in annual Performance Reviews – prompt, polite but firm feedback on failed efforts also works
- Make it EASY for researchers to keep their impact summaries online up-to-date: software design is critical – was it pre-tested before purchase, *by researchers from our fields?*
- Encourage your institution/funders to ask for "Impact Documentation" in all CVs submitted for promotion/awards/grants, etc.

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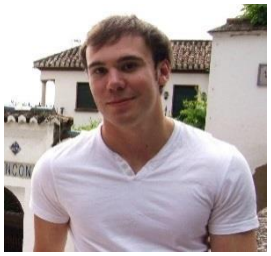

Stephen Malden
Researcher

Jan Pringle
Research Fellow

Louise Marryat
Farr Institute Scotland

Remit

- **Developing novel public health interventions**
- **Fostering collaboration between government, researchers and the public health community**
- **Building capacity within the public health community**

John McAteer
Working Group Lead

Larry Doi
Early Years

Jane Hartley
Adolescence & Young Adulthood

Greig Inglis
Working Age/ Adult Life

Darryl Archibald
Later Life

BIBLIOGRAPHY

The best single source of references in the field of KTE for Public Health (and related – e.g. Health Systems) Research, at least up to 2014, is an annotated bibliography by staff of CIHR's Institute of Population and Public Health, listing dozens of key contributions to this literature since about 2000:

Di Ruggiero, E., Viehbeck, S., & Greyson, D. (2014). Knowledge Utilization and Exchange. Oxford Bibliographies in Public Health. doi:10.1093/OBO/9780199756797-0106.