

Public and population health: Evidence, action, and ethics

Jason Scott Robert, PhD

Franca Oreffice Dean's Distinguished
Professor in the Life Sciences *and* Lincoln
Associate Professor of Ethics in
Biotechnology and Medicine

jsr@asu.edu



Uncertainty abounds

- ❑ Public and population health research and practice (PPHR&P) are fundamentally exercises in uncertainty:
 - ❑ Incomplete knowledge
 - ❑ Dynamic populations
 - ❑ One-shot “solutions”, each of which poses potential but unpredictable risks to individuals and communities

- ❑ Moreover, these features make our knowledge base *inherently* uncertain and unstable, which increases the ethical hazards attached to PPHR&P

- ❑ So what’s the connection between evidence, action, and ethics in PPHR&P?

Analogy: Evidence-based medicine

- ❑ Lots of definitions out there, leading to all sorts of reactions to the nature and propriety of EBM.



- ❑ My preferred defⁿ: EBM is the conscientious use of the current best evidence in making decisions about the care of an individual patient.

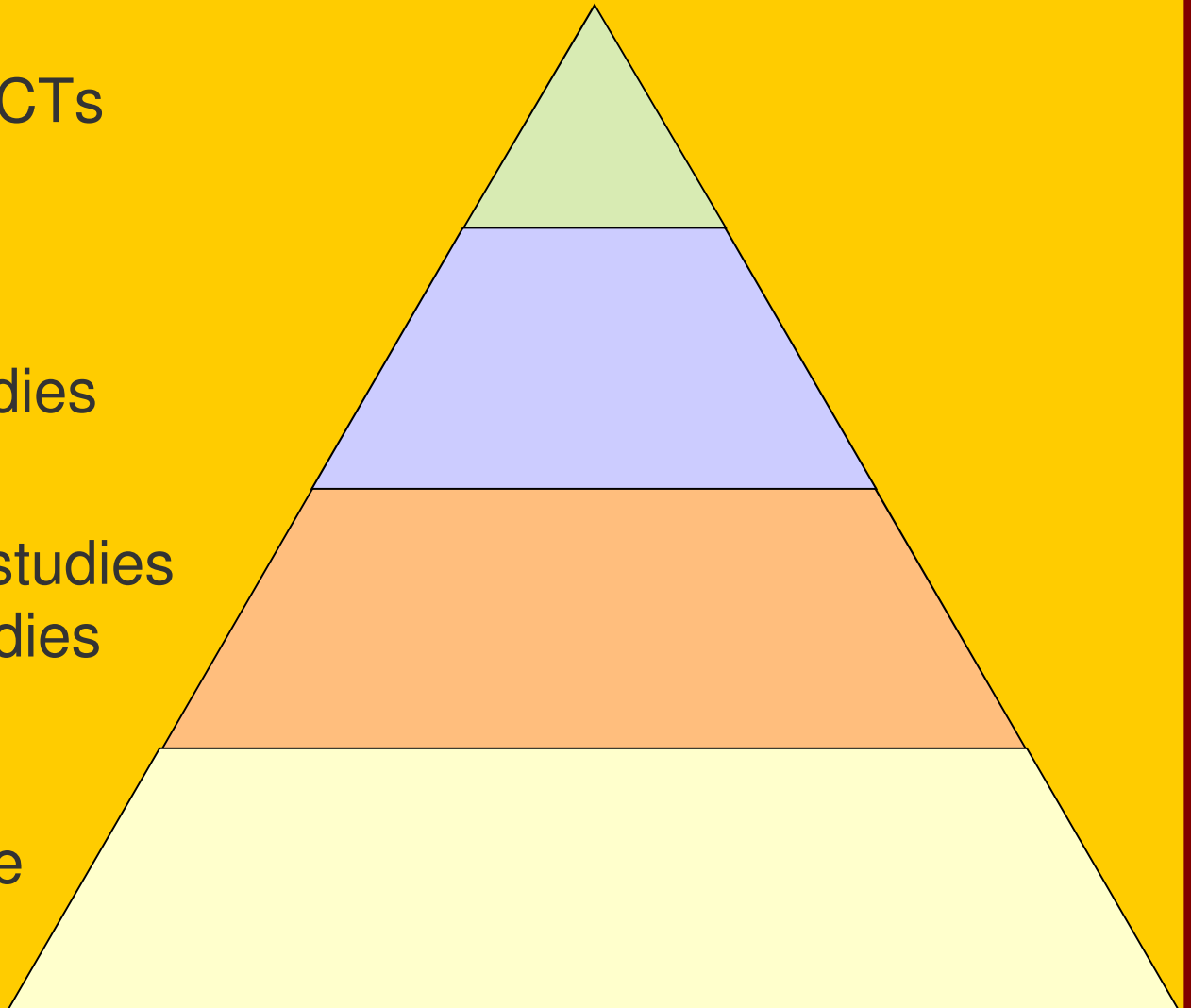
The Evidence Pyramid

- Meta-analyses
- Well-designed RCTs
- Other RCTs

- Cohort studies
- Case control studies

- Cross-sectional studies
- Correlational studies

- Case reports
- Common practice
- Expert opinion



Steps in practicing EBM

1. Encounter a clinical problem
2. Formulate a clinical question
3. Search the available evidence
4. Critically appraise the evidence
5. Apply your findings to your patient

Sources of murkiness in EBM

1. Encounter a clinical problem
2. Formulate a clinical question
3. Search the available evidence
4. Critically appraise the evidence
5. Apply your findings to your patient

Murkiness lurks at every step in the practice of EBM.

Conflicting attitudes toward EBM

- ❑ Faced with the uncertainties endemic to the quest for incontrovertible evidence and specific guidance, clinicians develop one of two attitudes:
 - ❑ Frustration (“librarians”)
 - ❑ Consolation (“researchers”)

Cf. Timmermans and Angell (2001)

EBM: The upshot

- ❑ Is EBM “cookbook medicine”? Rarely.
- ❑ Even if Steps 1-4 yield one clear evidence-based strategy, it still may not be right for your particular patient.
- ❑ Moreover, it is more likely that Steps 1-4 have not yielded one clear evidence-based strategy, but rather a range of possible strategies that may be effective, contingent upon the particularities of your patient.

Clinically competent EBM

- ❑ Clinically competent EBM successfully balances the complexity of population-based evidence with the idiosyncracies and personhood of the individual particular patient, creating a space to nurture the effective and artful practice of medicine toward healthy outcomes.

How does this matter to PPHR&P?

- ❑ Medicine is "a science-using, judgment-based practice committed to the knowledge and care of human illness and characterized by its varied and ingenious defenses against uncertainty" (Montgomery Hunter 1991).
- ❑ Medicine is thus *not* a judgment-using, science-based enterprise.
- ❑ Accordingly, medicine and uncertainty are inextricably intertwined. So, too, w/ PPHR&P.

Wicked problems in PPHR&P

Policy Sciences 4 (1973), 155–169

© Elsevier Scientific Publishing Company, Amsterdam—Printed in Scotland

Dilemmas in a General Theory of Planning*

HORST W. J. RITTEL

Professor of the Science of Design, University of California, Berkeley

MELVIN M. WEBBER

Professor of City Planning, University of California, Berkeley

All policy and planning work
involves wicked problems

Rittel and Webber (1973)

“Policy problems cannot be definitively described. Moreover, in a pluralistic society there is nothing like the undisputable public good, there is no objective definition of equity, policies that respond to social problems cannot be meaningfully correct or false, and it makes no sense to talk about ‘optimal solutions’ to social problems unless severe qualifications are imposed first. Even worse, there are no ‘solutions’ in the sense of definitive and objective answers”

Wicked problems 101

- Wicked does not mean evil – but wild, untamed, complex, political, unsuited to *technocratic* solutions
 - Technocracy is “a system of governance in which technically trained experts rule by virtue of their specialized knowledge and position in dominant and political and economic institutions” (Fischer 1990)
 - “In a technocracy, technical solutions are offered for problems that were at one time considered to be political problems of conflicting values and interests” (Evans 2006)

PPHR&P and public policy

- ❑ Technocratic 'solutions' are never sufficient
- ❑ Achieving population health outcomes requires participatory assessment of needs and priorities, cultivating political will, building good processes, soliciting popular buy-in, and evaluation, evaluation, evaluation

BUT: Public policy is a messy affair

- ❑ If and when science comes into play, it does so alongside other values (such as justice, compassion, or privacy) and other factors (including political expediency, money, and partisanship)
- ❑ Science is invariably *politicized* in *political* debates (of course!)

Evidence-based PPHR&P

“The advocacy and lobbying that are required to influence policies, change practice, and achieve public health action are an important component of public health. The process of achieving influence is often more difficult, and requires more complex social and political negotiations, than appraising evidence and formulating recommendations” (Rychetnik et al. 2004)

Connecting evidence and action

- ❑ PPHR&P is inherently epistemically uncertain.
 - ❑ Even so, evidence nonetheless matters.

Toward “science with impact”

- ❑ Credibility – science produced with integrity: good technical data, sound methods, reasonable analysis, responsible argument, and acknowledgement of limitations of any given study
- ❑ Legitimacy – sensitivity to divergent values among stakeholders, unbiased and fair analysis (especially of opposing views); applies to research agenda setting and knowledge production
- ❑ Saliency – usefulness to a range of stakeholders, achieved through asking and answering meaningful questions in a way that may inform the policy process

Connecting evidence and action

- ❑ PPHR&P is inherently epistemically uncertain.
 - ❑ Even so, evidence nonetheless matters.
 - ❑ But evidence is not all that matters.

- ❑ This suggests the need – or at least an opportunity – to integrate ethics into PPHR&P.

Connecting evidence, action, and ethics

“In public health advocacy, research provides only one type of evidence, and evidence of any type is but one consideration that is taken into account. Social, political, and commercial factors often drive or determine the use of evidence in policy settings. A key feature of evidence based policy and practice is that it is informed by a consideration of the evidence, but the decisions made will depend on prevailing values and priorities” (Rychetnik *et al.* 2004;

Tasks for ethicists in PPHR&P

- ❑ Motivating protocols and interventions
 - ❑ Soliciting input and buy-in, surveying (and probing) stakeholder values
- ❑ Developing protocols and interventions
- ❑ Implementing protocols and interventions
- ❑ Evaluating protocols and interventions
- ❑ Advocating for uptake of protocols and interventions

But which values (should) matter?

- ❑ In a complex pluralistic democracy, there may be no (or few) universally shared ethical values.
- ❑ Even when they exist and are widely shared, they are likely to be in conflict with each other, at least sometimes.

Resiliency and flexibility are key

DEALING WITH DISASTERS

VIEWPOINT

Toward Inherently Secure and Resilient Societies

Brad Allenby^{1*} and Jonathan Fink²

Recent years have seen a number of challenges to social stability and order, ranging from terrorist attacks and natural disasters to epidemics such as AIDS and SARS. Such challenges have generated specific policy responses, such as enhanced security at transportation hubs and planned deployment of a global tsunami detection network. However, the range of challenges and the practical impossibility of adequately addressing each in turn argue for adoption of a more comprehensive systems perspective. This should be based on the principle of enhancing social and economic resiliency as well as meeting security and emergency response needs and, to the extent possible, developing and implementing dual-use technologies that offer societal benefits even if anticipated disasters never occur.

Science (2005)

Transparency and accountability, too



These are *structural* values

- ❑ Enabling structural values creates a space for identifying and deliberating publicly and respectfully about more specific content-full normative values.
- ❑ This will not be an easy task, but it is a critical one – and we should never have expected it to be easy in the first place!