Strategies for Addressing Society’s ‘Wicked’ Bioethics Problems

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“The kinds of problems that planners deal with—social problems—are inherently different from problems that scientists deal with.
Planning problems are inherently wicked.”

- Rittel and Webber (1973)
Tame (Benign) Problems

• Problem to be solved is clear
• Obvious when problem is solved
Characteristics of ‘Wicked Problems’

- WP have no definitive formulation.
- There is no immediate test of whether a solution “worked”.
- WP have no stopping rule – you can’t tell when you’ve solved the problem.
- Solutions to WP can be only good or bad, not true or false.
- Every attempt at a solution “counts”; no trial and error.
- WPs do not have an exhaustive list of potential solutions
- Every WP is unique
- Every WP may be a symptom of another WP
- The way one chooses to define the WP determines the nature of the WP
- Planners have responsibilities for their actions to identify and solve these problems
Are Bioethics Problems Tame or Wicked?
“[Bioethics is] the systematic study of the moral dimensions -- including moral vision, decisions, conduct and policies -- of the life sciences and health care, employing a variety of ethical methodologies in an interdisciplinary setting.”

~ Warren Reich. *Encyl. of Bioethics*
Life is a constant oscillation between the sharp horns of a dilemma.

- H.L. Mencken
Allocating Resources — A Wicked Problem

By MARGARET R. MCLEAN, M.D., M.P.H.

DAILY COMMENT
JUNE 28, 2012

SOMETHING WICKED THIS WAY COMES
BY ATUL GAWANDE

A few days ago, while awaiting the Supreme Court’s ruling on President Obama’s health-care law, I called a few doctor friends around the country. I asked them if they could tell me about current patients whose health had been affected by a lack of insurance.

New Biotechnology
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Molecular Diagnostics & Personalised Medicine

Research paper
Pharmacogenomics and personalized medicine: wicked problems, ragged edges and ethical precipices
Leonard M. Fleck
Big Data
How to Use Genomics
Improve Population and Public Health

INDIANA

- Overall health rank: 37 (out of 51)
- Immunization rates: 47
- Obesity rates: 43
- Infant mortality: 45
- Deaths from cardiovascular disease per/100,000: 14*
Why Are Bioethics Problems Wicked?

“All evaluative judgments and, more specifically, all moral judgments are nothing but expressions of preference, expressions of attitude or feeling”.

Alasdair MacIntyre

AFTER VIRTUE

Third Edition

INDIANA UNIVERSITY
CENTER FOR BIOETHICS
"...the reason why medical ethical questions seem irresolvable may well inhere not in some defect of medical practice or the advent of biomedical technology or the inherent complexity of moral life, but in our community's political philosophy. We lack a common conception of the good."
“...science has become especially challenging for policy-making precisely because liberal democracies lack a coherent way to accommodate pluralistic views about scientific innovation.”
Towards Solving Them

“The population problem has no technical solution; it requires a fundamental extension of morality”.

- Garret Hardin (1968)
No such conflict should exist because each subject has a legitimate magisterium – and these do not overlap...The net of science covers the empirical realm...The net of religion extends over covers questions of moral meaning and value.

S.J. Gould Non-Overlapping Magisteria (1982)
“....There are no easy fixes to these dilemmas. But any solutions are going to require a much broader pursuit and application of science.....”
The Australian Public Service (APS) is increasingly being tasked with solving very complex policy problems. Some of these policy issues are so complex they have been called ‘wicked’ problems. The term ‘wicked’ in this context is used, not in the sense of evil, but rather as an issue highly resistant to resolution.

Successfully solving or at least managing these wicked policy problems requires a reassessment of some of the traditional ways of working and solving problems in the APS. They challenge our governance structures, our skills base and our organisational capacity.
Translational Science and the “Valley of Death”
Mapping the translational science policy ‘valley of death’

Eric M Meslin¹,²*, Alessandro Blasimme² and Anne Cambon-Thomsen²
Mapping Translational Science

Adapted from Khoury et al. Genetics in Med (2007)
Steps on the Translational Path

- **Discovery**
- **Candidate Health**
- **Evidence-based Practice Guidelines**
- **Health Practice**
- **Pop Health Impact**

**Valleys:**
- T1 valley
- T2 valley
- T3 valley
- T4 valley

**Phases:**
- Phase I/II trials; observational studies
- Phase III trials; evidence synthesis
- Dissemination, implementation research; Phase IV
- Outcomes research; population monitoring

Adapted from Khoury et al. *Genetics in Med* (2007)
Impediments to Crossing the T1 Valley

Phase I/II trials; observational studies

Institutional resources
  Funding
  Trained personnel

Access to biological materials, molecules, markers, reagents

Access to health information/data in the EMR/EHR

Research participants
  Technology

Discovery

Candidate Health Application
• Rethink the science social contract with society
• Build and maintain public trust
• Creative use of evidence and novel research platforms
Rethink The Social Contract

Is the Social Contract Incompatible with the Social Safety Net? Revisiting a Key Philosophical Tradition

By Eric M. Meslin, Aaron E. Carroll, Peter H. Schwartz, Sheila Kennedy
Indiana University

Author's Note: The authors would like to thank several people for comments on earlier versions of this paper including Eric Wright, Heather McCabe, Halley Rose Meslin, and Kimberly Quand.

ABSTRACT: The American political landscape is characterized by ideological polarizing and seemingly irreconcilable disagreement. No where is this more obvious than in current efforts to reform health care which has become more about scoring political points than about developing policies that would benefit millions. Especially worrisome is the AIDS habit of dismissing proposals – especially those that are an expanded role for government – as somehow inconsistent with American 'values'. We believe that progress may be possible by engaging directly with and expanding on our basic understanding of social contract theory and its influence on American civic discourse.

Keywords: Social contract theory, Affordable Care Act, Efforts, Leech, Rousseau, Health reform, civic discourse, political culture, safety net

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Research Ethics in the Era of Personalized Medicine: Updating Science’s Contract with Society

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Build and Maintain Public Trust

• Reduce hype about science progress
• Valuing the role that science should play in public policy generally
• Agree on ways to democratize science, including sustained critical reflection and creative political experimentation.

Deflating the Genomic Bubble
James P. Evans, Eric M. Meslin, Theresa M. Marteau, Timothy Caulfield

“Soccer is the sport of the future in America … and it always will be.” This oft-quoted epithet poking fun at the promise of the “beautiful game” in the United States can seem uncomfortably apt when applied to genomic medicine. It’s now been 10 years since humans deciphered the digital code that defines us as a species. Although it may be hard to overestimate the significance of that achievement, it is easy to misconstrue its meaning and promise. People argue about whether mapping the human genome was worth the investment (1–3). With global funding for genomics approaching $3 billion/year (4), some wonder what became of all the genomic medicine we were promised (5). It thus seems an appropriate time to take stock of whence the real benefits from genomic research may come and how best to attain a future in which genomics improves human health.

Recent methodological progress in genomics has been breathtaking. We now regularly assay genomes at millions of loci (6), and routine whole-genome sequencing...
Use Innovative Research Platforms

- Internationalize science
- Public engagement strategies that move further “upstream”
- ELSI 2.0 “Collaboratory”
- Identifying key impediments to policy implementation
- Collect data on policy influences
The successful application of new knowledge and breakthrough technologies... will require an entirely new interdisciplinary approach to policymaking:

• that operates in an agile problem-solving environment
• works effectively at the interface where science and technology meet business and public policy.
• is rooted in a vastly improved understanding of people, organizations, cultures, and nations
• implemented by innovative strategies and new methods of communication
• engages the nation’s top social scientists, including policy experts, to work in collaboration with scientists and engineers from many fields.”

Neal Lane, Science 312, 30 June, 2006