Ethics in Biosystems Policy: Finding a Place for Morality in Public Policy

Jaime Staples, JD
PhD. Candidate
Health Policy Program
Harvard University

Overview

- Ethics in Science and Technology Regulation
- Case Study - Canadian Royal Commission on Assisted Reproduction Technologies
- Lessons
- Application to Convergence of Bio, Info and Nano Technologies
- Ethical Questions for the Future

Ethics in Science and Technology Regulation

Do Ethical Considerations have a Place in Regulation of Technology?

Ethics and Policy

- “Constant vigilance is required to ensure that moral considerations are not drowned out by the forces of self-interest, prejudice, or inertia, and that the moral viewpoint is not submerged underneath a more narrowly scientific, economic or political viewpoint.”

  - Will Kymlicka

Royal Canadian Commission

- 1993 - Royal Commission into New Reproductive Technologies (Baird Commission)
  - Charged with Considering the Ethical, Legal, Social and Economic Implications of New Reproductive Technologies (NRTs)

Ethics and Technology Policy

- What Role Can Morality Play?
  - Change Our Perspective
- Taking Morality Seriously, Implies Taking People Seriously.

Kymlicka's Approach

- How Do We Take People Seriously?
  - Identify Stakeholders
  - Discover their Legitimate Interests in the Technology
  - "Impact Screen"

Kymlicka's Approach

- Identify "Guiding Principles"
  - Overlap/Consistent Themes from Public Consultation
  - Endorsed by All Sectors of Society and Stakeholders

Guiding Principles for NRT

- Autonomy
- Accountability
- Respect for Human Life
- Equality
  - Equal Respect for Persons
  - Equal Access
- Appropriate Use of Resources (Health Care Priorities)
- Non-Commercialization of Reproduction
- Protection of the Child's Best Interests

Balancing Interests

- National Legislation
  - Weight Clearly Hangs in Favor of Some Interests
  - Creative Ways to Alleviate Conflicts of Interests
- Regulatory Body/Advisory Committee
  - Some Conflicts Cannot be Resolved
  - Monitor Technology Use
  - Dissemination of Information

Assisted Human Reproduction Act (2004)

- Established Unified National Policy
  - Prohibits
    - Reproductive Cloning
    - Therapeutic Cloning, except for ART research
    - Sex selection, except for X-linked disorders
    - Creation of human-animal creatures

Assisted Human Reproduction Act (2004)

- Assisted Human Reproduction Agency of Canada
  - License all laboratories and clinics that use in vitro embryos
  - Monitor and evaluate developments in human reproduction for ethical and societal concerns
  - Collect, analyze, and manage health reporting information
  - Provide information to the public
  - Enforce the Act

Lessons

- Use stakeholder interests and national values as a foundation for regulation
- Use Goals to Balance Interests
- Establish National Policies on Points of Agreement
- Create a Regulatory Body for Resolution of Complex Issues, Monitoring and Information

Lessons

- Permit technology to develop at a reasonable pace while instituting ethical safeguards
  - Responsive Ethical Regulation
  - Prospective Ethical Regulation

A Look South

- US Assisted Reproductive Technology Policy
  - Industry Self Regulation
  - Advisory Committees
  - Lack of National Legislation
  - Divided Public/Private Research Systems

Across the Pond

- UK Assisted Reproductive Technology Policy
  - Embraced the biotechnology revolution early
  - Capitalized on economic opportunity
  - Maintained ability to incorporate ethical considerations into regulatory system
  - Human Fertilization and Embryology Authority (HFEA)

Applying the Framework to Nano, Info and Bio Convergence

- Identify Stakeholders
- Identify Guiding Principles
- Set Goals
- Design Policy

Identify Stakeholders

- Interference in Four Areas
  - Individual
  - Commercial Sector
  - Environment
  - State

Identify Stakeholders

- Individual - Health
  - Release deficient enzymes, proteins (Insulin)
  - Target and destroy cancerous cells
  - Implantation of nano-computers may allow for continuous health monitoring and semi-automated treatment
- Individual - Living Standards
  - Efficient, clean production of common materials and solar energy
  - Improve equality through low cost access to food, social goods, and sanitation

Identify Stakeholders

- Commercial Sector
  - Commercial Market disruption
  - Inequality of Access
- Environmental
  - Accidents (Gray Goo)
  - Just Distribution of Natural Resources
  - Preserving the Earth
- State
  - Privacy
  - Weapons

Identify Guiding Principles

- Autonomy
- Accountability
- Equality and Equitable Distribution of Goods
- Respect for Human Life
- Appropriate Use and Preservation of Resources/Environment
- Defense against Other Nations/Terrorism
- Cooperation with Other Nations

International Cooperation

- Unique Importance to Nano, Bio, Info Convergence
- 35 Nations have Nanotechnology Programs
- Universal Guiding Principles for International Treaties
  - International Atomic Energy Agency
  - UN Nuclear Weapons Inspectors

Set Goals and Design Policy

- Consider and Balance Legitimate Interests of Stakeholders
- Balance Unhindered Development and Ethical Oversight
- Which Regulatory Devices Best Achieve that Balance?
  - Advisory Committees
  - Regulatory Bodies
  - National Legislation
  - International Governing Body
- Delicate Restriction

Invitation to Begin Addressing Future Ethical Implications

- How can Nations join to ensure responsible use of emerging technologies?
- International Divergence of Values
- International Equity of Access
- Preservation of the Environment

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