Options for Management of Potentially Dangerous Information Generated by Life Science Research

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Questions…

- What might trigger the desire (or need) for restrictions on dissemination of information gained from life sciences experiments?
- What are some potential mechanisms with which to manage information, and what are the important, attendant considerations?

Terms, premises…

- "[Information] control" is misleading term (for this discussion)
- "Management" (temporary) more useful
- Avoidance (of generating 'dangerous information') is preferred ('think first'), but science is unpredictable, highly distributed; management is more effective when deployed earlier (in process)

Why, when restrict dissemination of information from life sciences experiments?

- "Dangerous information"—risks of misuse clearly outweigh benefits (near term); high consequences
- Criteria: should be generally applicable across life sciences research, emphasize properties (pathogenicity/harm, breadth of effect) not names; Corson 'gray area' (1982) (4 criteria)
- Context is important: biological, social, political
- 'Buy-in' from critical constituencies
- Fundamental vs applied/proprietary research??

Fundamental versus proprietary?

- Distinction between basic/fundamental and applied/proprietary (NSDD189) no longer holds
- Scientists have social obligations (contract) that involve more than blind pursuit of information
- Obligations include (besides, 'first do no harm'), expectations that work should lead to goods, services (Commons) and be monetized; therefore, line blurred (gray area)
- Two options (unrestricted dissemination, national security classification) no longer suffice

What are some potential mechanisms with which to manage information?

- National security classification: problems = burdens, post hoc?, limited applicability (owned, controlled, produced by/for USG)
- "Controlled unclassified information"? New category? By whom?
- Self-regulation? Ideal, to be encouraged, but currently ad hoc,
- A new system for managed information?

What are some potential mechanisms with which to manage information?

Desired properties for info management:

- Targeted dissemination of, access to info; limit/slow access/dissemination elsewhere
- Information from publicly- and privately-funded, and -conducted research
- Process should be transparent, deliberative, standardized, international, adaptive
- Expertise and people (access, control): science, public health, security, policy, ethics, other
- Guide research to mitigate risks

Conclusions-1

- There is small, but growing 'gray area'; work in this area is increasingly consequential. Risks are assumed before benefits are realized.
- Society and research enterprise are inadequately served by just 2 options, i.e., unrestricted dissemination and classification
- National security classification: can't work for most gray area work

Conclusions-2

- Mechanism(s) for short-term, managed distribution is/are needed, while risk mitigation measures are created/deployed. National system(s)? Gray area orgs?
- Process & mechanism(s) need to be transparent, deliberative, inclusive
- Role for science academies/organizations?

Defining 'Gray'

Corson: Four criteria to define research for which communication ought to be limited (all must be met)

(1) research with dual use or military applications;

(2) research with short time to such applications;

(3) research when dissemination could give short-term advantage to adversaries; and

(4) research when information is believed not to be already held by adversaries