

**Stanford University School of Medicine**  
**Responsible Conduct of Research**  
**Session 7: Science and Society**  
**Makeup Cases**

**Please choose one case and write a 3-5 page paper that answers the questions that accompany the case. E-mail the paper to [tobinsl@stanford.edu](mailto:tobinsl@stanford.edu) with your name in the subject line. Your paper is due at noon on the last day of class for the quarter.**

### **Case 1**

Paul Berg and several colleagues published now-famous policy recommendations for the conduct of recombinant DNA research that were developed in part at a conference at Asilomar, CA in 1975. The statement provided guidelines for physical and biological containment measures, and outlined experiments that the scientists felt should not be conducted at that time. (Berg P, Baltimore D, Brenner S, Roblin RO, Singer MF. (1975) Summary statement of the Asilomar conference on recombinant DNA molecules. *Proc Natl Acad Sci U S A*. 72:1981-4.)

#### **Discussion questions:**

- 1) Considering the state of knowledge about recombinant DNA at the time, do you agree with the statement's recommendation to defer particular experiments?
- 2) Maxine Singer has suggested that something like the Asilomar statement could not happen again today because the environment in which science is conducted today has changed. What might she mean by that? What, if anything, has changed, and do you agree?
- 3) A survey carried out in Europe asked people whom they trust to tell the truth about genetically modified crops, and found that 26% of respondents named environmental organizations and 6% named universities. Have scientists contributed to public distrust about genetically modified crops, and if so, how?
- 4) In her discussion of lay and scientific reporting about genetics and behavior, Dorothy Nelkin states that "the ideas of genetics have been, and still are, especially vulnerable to selective interpretation and pernicious abuse...", suggesting that genetics research might have a higher social impact than other kinds of research. Do you agree, and if so, should researchers do anything about it? Why or why not?

## Case 2

By Sally Tobin

The emergence of the H5N1 strain of avian flu has caused worldwide concern about a potential flu pandemic. To help researchers track flu strains as they are isolated, the World Health Organization (WHO) established a voluntary, password-protected web site so that public health and research personnel could post flu genotypes and other information. However, the posted data were not made universally available. According to an article by the Associated Press, the primary reason for opposition to full release of information was that some Asian countries felt frustrated that information from Asian viruses is used to generate vaccines without reimbursement or public acknowledgment, and that these same countries cannot afford the vaccines. However, the lack of open availability may hamper the ability of researchers to mount an appropriate effort to produce a vaccine within a limited time frame.

In August 2006, a group of leading flu researchers announced in *Nature* that they had founded a new resource, the Global Initiative on Sharing Avian Influenza Data (GISAID). Participants will place genetic data into secure sections of existing online databases, and the data will be accessible to those who have signed up as GISAID members. Members promise “to collaborate with, and appropriately credit, all relevant researchers in any resulting publications and intellectual-property agreements.” All data will become open to the public after six months (or possibly less). GISAID hopes that better access to data will let researchers track emerging mutations or drug resistance more effectively.

Do you think that GISAID is a workable approach? Though approximately 70 researchers from many countries (including 6 Nobel laureates) have signed on, the only government to endorse the concept is Indonesia. Is government endorsement a necessity? Why or why not?

Menno de Jong, a flu researcher in Vietnam, suggests that poor countries might be encouraged to participate by offering resources to increase their research capacity. Would this be an effective strategy?

At the heart of this issue is the question of whether individual governments and researchers are willing to pool resources in the face of a potential worldwide disease threat. The stakes are very high. How can this process be facilitated? Can you suggest improvements to the GISAID model?