the PHS meeting had no trouble agreeing that it is unethical to test drugs and vaccines in the Third World simply because it's cheaper and people are less liable to object. And the PHS panel's draft report states explicitly that "study participants and their community should have access to drugs, vaccines, and intervention/prevention strategies resulting from the study."

But even though such principles are easy to state, participants at the PHS meeting emphasize that, in practice, they can be difficult to implement because very different considerations often apply in determining the risks and benefits of research in poor countries. "The normal standard is you can only do research on somebody when the risks are justified in comparison to the benefits," says Robert M. Veatch, director of the Kennedy Institute of Ethics at Georgetown University in Washington, D.C., who spoke at the PHS meeting. In the developed world there is usually at least a minimal standard of health care that can be provided as an alternative to some risky, unproven therapy, he notes. But in the developing world, there may be no alternative and offering even a risky experimental one may be better than nothing, he said.

The promise of an experimental therapy may be sufficient inducement to persuade sick people to enroll in clinical trials, but is it ethical to offer incentives for people to enroll in epidemiological studies that will provide them no direct benefit? Quinn, who has run up against this problem in his work in Africa, says that even token compensation for subjects who agree to participate in research projects can cross a fine line between reasonable inducement and undue coercion. For that reason, he and his colleagues decided that any cash compensation would prove too tempting. Instead, in one study of maternal HIV infection they offered a photograph of a child to people who participated in their study, and in another it was a bottle of milk. But Barry says that even if no compensation is offered at all, Africans may still feel coerced: "Often [they] will not say 'no' to a white face because there is a colonialist legacy."

As for obtaining truly informed consent from would-be subjects of research projects, several participants in the PHS meeting said this is an area in which Western standards may collide most strongly with the reality in Third World countries. "It makes no cultural sense to have somebody give informed consent the way we often go about informed consent," says Barry. Warren Johnson, a tropical disease researcher at Cornell Medical Center, agrees: "I think its a little naïve for us to expect the same procedures we utilize in Manhattan in an urban, educated population to be meaningful and relevant to a rural, largely illiterate population," he says. "It's not very meaningful to have a thousand sheets of paper with an 'X' on them."

"People confuse illiteracy with lack of intelligence and even education," shoots back Peter Lamptey, director of Family Health International, an organization that conducts AIDS prevention work throughout Africa. "You can always translate [technical terms] to the level that people will understand and make an informed choice," he says. But even so, Lamptey concedes that there can be cultural barriers that make it difficult to gain informed consent. In some societies, for example, married women may not be able to give informed consent, instead deferring to their husbands.

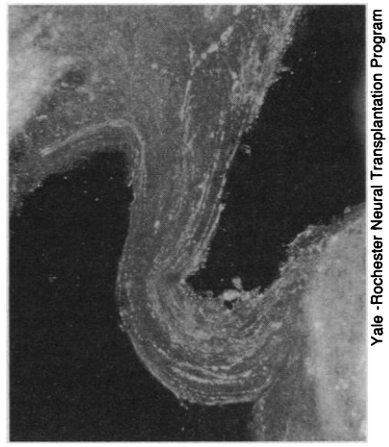
But, regardless of societal differences, St. John insists that no researcher is "excused from the ethical obligation of informed consent." The draft consensus document from the PHS meeting spells out some specific steps, including oversight by local communities, education of participants, and having a local person "familiar with the language, culture, ethics, and conditions of the participating subjects" obtain the consent.

One thing is clear: "Mounting an international research study may be much more complicated and require more effort to set it up than a domestic study," says St. John. But, he adds, overcoming these complications will be essential because more international collaboration will be needed to find effective ways of stopping the worldwide spread of AIDS.

■ JOSEPH PALCA

OTA Quietly Backs Fetal Tissue Work

So charged is the debate over the use of fetal tissue in research that few federal agencies choose to confront it directly. Last week, the Office of Technology Assessment proved itself no exception. Its latest report* focuses on "neural grafting," a process in which researchers transplant tissue into the central nervous system (CNS) with the aim of treating degenerative neurological conditions such as Parkinson's and Alzheimer's disease. But the most effective material for neural grafting—at least for now—is tissue from the fetal CNS, which is currently unavailable to federally supported researchers because of a moratorium imposed by Health and Human Services Secretary Louis Sullivan.



Yale - Rochester Neural Transplantation Program

Bridging the gap. *A monkey fetal tissue graft in the brain of an adult monkey. [Courtesy of John Sladek]*

Though OTA doesn't come right out and recommend overturning the moratorium, it presents a subtle case for doing so. First, the report estimates that neurological conditions for which neural grafting treatment looks promising—primarily stroke- or injury-related neural damage and Alzheimer's disease—cost society nearly $70 billion a year in medical costs and lost productivity. Then OTA points out that although neural grafting is entirely experimental at this stage, animal models and a limited number of clinical trials in parkinsonian patients suggest that the treatment may be quite effective in countering otherwise irreversible nerve damage. And finally, OTA says more research is needed into the efficacy of neural grafts. But such research virtually requires access to fetal tissue, OTA acknowledges.

OTA outlines three different options for Congress to consider: leave the HHS moratorium intact and delay important advances in neural grafting research; form a commission to assess the implications of the moratorium for society as a whole; or legislatively override the HHS moratorium and reconstitute the HHS Ethics Advisory Board to propose guidelines for fetal tissue research. Though OTA doesn't specifically tell Congress which option to choose, it does note that the federal moratorium "could retard the development of [neural grafting] techniques in the United States, leaving progress to be made by other countries," and adds that it may have discouraged basic research into neural grafting.

Some members of Congress, in fact, are already pushing the third option. Earlier this fall, Representative Henry Waxman (D–CA) proposed legislation to end the moratorium (*Science*, 31 August, p. 964).

■ DAVID P. HAMILTON

**Neural Grafting: Repairing the Brain and Spinal Cord* (Office of Technology Assessment, U.S. Congress, OTA-BA-462, September 1990).