RESEARCH ON STORED BIOLOGICAL SAMPLES IS STILL RESEARCH

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As the third millennium begins, decoding of the human genome presents exciting prospects for the prevention, diagnosis, and, ultimately, treatment of human diseases. Like all powerful new technologies, the prospects of molecular biology bear a striking resemblance to a double-edged sword. One edge comprises immeasurable potential benefit to humankind, the other holds potential for great harm if promising technologies are abused or used in ways that subvert other important interests.

A good example of the dual prospects of new technologies is a study, elsewhere in this issue, which attempts to clarify the preferences of research subjects regarding consent for research on stored biological samples as an aid to developing research policy. Wendler and Emanuel describe the debate on when consent by individual subjects should be required for research on stored biological samples. They attempt to answer a variety of questions: for example, do subjects who consent to a research project and contribute a biological sample believe that they need to be asked for consent to future research on the stored sample? Does the need for new consent hinge upon whether the sample carries personal identifiers or has been anonymized (sample not linked to personal identifiers of the research subject)? If a clinically derived (no consent for research) stored sample has been anonymized, can it be used for research purposes?

To answer these and several other questions, the authors surveyed a group of 504 elderly individuals who had either volunteered for Alzheimer research projects or were Medicare beneficiaries. After analyzing their data, they suggest five possible policy changes based on the weight of opinion of those surveyed. For example, based on the views of the majority of those surveyed, the authors propose that consent is needed only the first time samples are used for research purposes; thereafter, identified samples could be used for further research without
specific consent. Instead, the authors suggest, presumed consent could be used, provided risks are minimal. Most respondents thought, and the authors therefore propose, that anonymized samples be used for research whether or not consent for research had been previously obtained. The authors correctly note that their survey sample was small and demographically narrowly focused, and suggest that further research is needed to determine whether their recommendations can be generalized to other groups.

**Is consent needed for future research?**

Concern with whether or not the data and conclusions of the study are generalizable, however, may be less important than concern with how such data ought to be used. Given a scenario of new research to be done on stored samples, only a relatively small proportion (29.0%) of the respondents thought that consent should be required for use of identified samples, even when consent had been given for previous research. A similarly small proportion (27.3%) of respondents thought that consent should be required for the use of anonymized samples when there had been no consent for research. Wendler and Emanuel recommend a policy not requiring consent to new research, because a majority of respondents thought consent to be unnecessary. What is the justification for removing autonomous choice for the minority group? What size majority is needed to override research subjects’ right to self-determination, that is, to abrogate their right to say yes or no to the use of their bodies, their body parts, or their personal information in research?

The authors’ proposal to use presumed consent instead of express consent under some circumstances should be considered in this context: no set of existing guidelines for human research explicitly permits research under presumed consent. Rather than using what some have
called “the fiction of presumed consent”, those who wish to use biological materials from human subjects without consent should provide arguments to justify overriding the subjects’ autonomy and privacy. Data of the kind that was generated in this study cannot be used to make such an argument. If samples are identified, subjects can be and should be located and asked for their consent, to protect the fundamental right of self-determination.

The unconsented use of anonymized human samples or information derived from them generally is justified by the claim that if individuals who provided samples cannot be identified, they can therefore not be harmed, or at least can be harmed only minimally. This has been held to be true whether harm is viewed in terms of physical harm, as does the Federal Common Rule, or is viewed as including psychosocial harms as well, as do guidelines from the National Bioethics Advisory Commission. This claim is not persuasive, however, because it assumes that there is some universal measure to establish a ranking of severity of harms. No such universal measure exists. Only the subjects can weigh the severity of potential harms to themselves or to their communities, in terms of their own values, preferences, and concerns.

There are many reasons a research subject might not want an anonymized sample to be used in a research project believed to be ‘important.’ For example, personal information systems have been used by governments in the past to identify and locate a target race or ethnic group, both in Germany to identify Jews and others in the 1930s and in the United States to identify and detain Japanese-Americans in internment camps in the early 1940s. Today, one could imagine an Arab-American declining to allow personal biological samples or genetic information, stripped of personal identifiers but perhaps still containing racial or ethnic information, to be used for research designed to develop identifiers of Arab-Americans in a genetic database.
Moreover, some participants in a particular research project may be concerned about the documented lack of security in large databases or may not trust that personal identifiers will in fact be completely removed if samples are used for future research. Research subjects’ reasons not to want their biological materials or information to be used in a study may be plausible or implausible, reasonable or unreasonable, in the view of the investigators. Nevertheless, the long-established legal and ethical principle of personal self-determination demands that every research subject be given an opportunity to decline to participate in any research project. This principle is of critical importance; it should be sustained no matter how great the value (as perceived by the investigator or a research review committee) of the new knowledge that might be obtained from such a study.

**Accurate use of words**

If language is not used precisely, important information can be lost. There has been a disturbing trend in recent years for authors writing about human research to use words in a way that obscures the actual status of research subjects, for example, using the term “participants” in research rather than “subjects.” Wendler and Emanuel use the term “sources” throughout their paper to refer to research subjects, following the usage of the National Center for Human Genome Research. We should be clear about this: subjects are individuals whose bodies, body parts, or responses are studied for the purpose of gaining new knowledge. Such individuals have personalities, histories, thought processes, and certain rights as moral agents. A mere source, on the other hand, could be a plant, an animal, or even a bit of soil; the word carries no connotation of values, preferences or reasons to agree or decline to be part of a particular research project. Referring to research subjects as sources diminishes their status, suggesting that they are things
rather than willing persons. Such terminology may seem to make sense, because the origin of a
stored sample may be from a previous research project or from a non-research source, such as a
clinical biopsy or operation. Nevertheless, there is danger in substituting the term ‘source’ for
‘subject’, because it may become psychologically easier to accept the idea that scientists may be
allowed to use freely, without consent, stored biological materials for new research. Authors of
research papers should avoid euphemisms that tend to obfuscate the status of persons being
studied, regardless of how their samples were obtained: they are research subjects.

It is important that the debate over the use of human biological samples be framed in its
proper perspective. The first question to be answered is not what is the size of the majority
needed to override the requirement for informed consent of research subjects; rather, it is whether
there are any circumstances under which persons, samples of their tissues, or information about
them, may be used for research without their consent. The pluralism of American culture does
not permit, in principle, universal policies based on a majority vote to decide who and what can
be used for investigational purposes. There should be no doubt about what is at stake in
developing policy for the use of stored samples: the fundamental right to decide whether and how
one’s body and its parts will be used in research.
REFERENCES


3 45 CFR §46.116(c,d).


7 General Accounting Office. Information security: serious and widespread weaknesses persist at federal agencies. 2000 September: GAO/AIMD-00-295.


