PROPOSED REVISIONS TO THE COMMON RULE

for the Protection of Human Subjects in the Behavioral and Social Sciences

Committee on Revisions to the Common Rule for the Protection of Human Subjects in Research in the Behavioral and Social Sciences

Board on Behavioral, Cognitive, and Sensory Sciences

Committee on National Statistics

Committee on Population

Division of Behavioral and Social Sciences and Education

NATIONAL RESEARCH COUNCIL
OF THE NATIONAL ACADEMIES

THE NATIONAL ACADEMIES PRESS
Washington, D.C.
www.nap.edu

THE NATIONAL ACADEMIES PRESS 500 Fifth Street, NW Washington, DC 20001

NOTICE: The project that is the subject of this report was approved by the Governing Board of the National Research Council, whose members are drawn from the councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The members of the committee responsible for the report were chosen for their special competences and with regard for appropriate balance.

This study was supported by the Bill & Melinda Gates Foundation, the Alfred P. Sloan Foundation, and the National Academy of Education. Opinions, findings, conclusions, or recommendations expressed in this publication are those of the author and do not necessarily reflect the views of the organizations or agencies that provided support for the project.

International Standard Book Number-13: 978-0-309-29806-3
International Standard Book Number-10: 0-309-29806-7
Library of Congress Control Number: 2014933435

Additional copies of this report are available from the National Academies Press, 500 Fifth Street, NW, Keck 360, Washington, DC 20001; (800) 624-6242 or (202) 334-3313; http://www.nap.edu.

Printed in the United States of America

Suggested citation: National Research Council. (2014). *Proposed Revisions to the Common Rule for the Protection of Human Subjects in the Behavioral and Social Sciences*. Committee on Revisions to the Common Rule for the Protection of Human Subjects in Research in the Behavioral and Social Sciences. Board on Behavioral, Cognitive, and Sensory Sciences, Committee on National Statistics, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

THE NATIONAL ACADEMIES

Advisers to the Nation on Science, Engineering, and Medicine

The **National Academy of Sciences** is a private, nonprofit, self-perpetuating society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare. Upon the authority of the charter granted to it by the Congress in 1863, the Academy has a mandate that requires it to advise the federal government on scientific and technical matters. Dr. Ralph J. Cicerone is president of the National Academy of Sciences.

The **National Academy of Engineering** was established in 1964, under the charter of the National Academy of Sciences, as a parallel organization of outstanding engineers. It is autonomous in its administration and in the selection of its members, sharing with the National Academy of Sciences the responsibility for advising the federal government. The National Academy of Engineering also sponsors engineering programs aimed at meeting national needs, encourages education and research, and recognizes the superior achievements of engineers. Dr. C. D. Mote, Jr., is president of the National Academy of Engineering.

The **Institute of Medicine** was established in 1970 by the National Academy of Sciences to secure the services of eminent members of appropriate professions in the examination of policy matters pertaining to the health of the public. The Institute acts under the responsibility given to the National Academy of Sciences by its congressional charter to be an adviser to the federal government and, upon its own initiative, to identify issues of medical care, research, and education. Dr. Harvey V. Fineberg is president of the Institute of Medicine.

The **National Research Council** was organized by the National Academy of Sciences in 1916 to associate the broad community of science and technology with the Academy's purposes of furthering knowledge and advising the federal government. Functioning in accordance with general policies determined by the Academy, the Council has become the principal operating agency of both the National Academy of Sciences and the National Academy of Engineering in providing services to the government, the public, and the scientific and engineering communities. The Council is administered jointly by both Academies and the Institute of Medicine. Dr. Ralph J. Cicerone and Dr. C. D. Mote, Jr., are chair and vice chair, respectively, of the National Research Council.

www.national-academies.org

COMMITTEE ON REVISIONS TO THE COMMON RULE FOR THE PROTECTION OF HUMAN SUBJECTS IN RESEARCH IN THE BEHAVIORAL AND SOCIAL SCIENCES

SUSAN T. FISKE (*Chair*), Department of Psychology and Woodrow Wilson School of Public and International Affairs, Princeton University
MELISSA E. ABRAHAM, Harvard University Medical School and Massachusetts General Hospital
CELIA B. FISHER, Center for Ethics Education and Department of Psychology, Fordham University
ROBERT M. GROVES, Office of the Provost, Georgetown University
PATRICIA K. HAMMAR, PKH Enterprises, LLC
JULIA I. LANE, American Institutes for Research and BETA, University of Strasbourg, CNRS
RENA S. LEDERMAN, Department of Anthropology, Princeton University
FELICE J. LEVINE, American Educational Research Association
ROBERT J. LEVINE, Department of Internal Medicine and Center for Bioethics, Yale University
BRADLEY A. MALIN, Department of Biomedical Informatics, Vanderbilt University
RICHARD E. NISBETT, Department of Psychology, University of Michigan, Ann Arbor
CHARLES R. PLOTT, Department of Economics and Political Science, California Institute of Technology
MARGARET FOSTER RILEY, School of Law, University of Virginia
YONETTE F. THOMAS, Association of American Geographers and Department of Public Health Sciences, Miller School of Medicine, University of Miami
DAVID R. WEIR, Survey Research Center, University of Michigan, Ann Arbor

JEANNE C. RIVARD, *Study Director*
JENNIFER DIAMOND, *Program Associate* (prior to June 2013)
JATRYCE JACKSON, *Program Associate*

COMMITTEE ON POPULATION

LINDA J. WAITE (*Chair*), Department of Sociology, University of Chicago
CHRISTINE BACHRACH, School of Behavioral and Social Sciences, University of Maryland, College Park
JERE R. BEHRMAN, Department of Economics, University of Pennsylvania
JASON H. BOARDMAN, Department of Sociology, University of Colorado at Boulder
PETER J. DONALDSON, Population Council, New York, NY
KATHLEEN MULLAN HARRIS, Carolina Population Center, University of North Carolina at Chapel Hill
MARK D. HAYWARD, Population Research Center, University of Texas, Austin
CHARLES HIRSCHMAN, Department of Sociology, University of Washington
HILLARD S. KAPLAN, Department of Anthropology, University of New Mexico
WOLFGANG LUTZ, World Population Program, International Institute for Applied Systems Analysis, Laxenburg, Austria
ROBERT D. MARE, Department of Sociology, University of California, Los Angeles
SARA MCLANAHAN, Center for Research on Child Wellbeing, Princeton University
BARBARA B. TORREY, Guest Researcher, National Institute on Aging, National Institutes of Health
MAXINE WEINSTEIN, Center for Population and Health, Georgetown University
DAVID R. WEIR, Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor
JOHN R. WILMOTH, Population Division/DESA, United Nations

THOMAS J. PLEWES, *Director*

Acknowledgments

This report has been reviewed in draft form by individuals chosen for their diverse perspectives and technical expertise, in accordance with procedures approved by the National Research Council's (NRC's) Report Review Committee. The purpose of this independent review is to provide candid and critical comments that will assist the institution in making its published report as sound as possible and to ensure that the report meets institutional standards for objectivity, evidence, and responsiveness to the study charge. The review comments and draft manuscript remain confidential to protect the integrity of the deliberative process. We wish to thank the following individuals for their review of this report: George Alter, Inter-university Consortium for Political and Social Research, University of Michigan, Ann Arbor; Cynthia M. Beall, Department of Anthropology, Case Western Reserve University; Laura J. Bierut, School of Medicine, Washington University in St. Louis; Christine L. Borgman, Information Studies, University of California, Los Angeles; James M. DuBois, Bander Center, Albert Gnaegi Center for Health Care Ethics, St. Louis University; Daniel Gilbert, Department of Psychology, Harvard University; Jonathan B. Imber, Department of Sociology, Wellesley College; Alan F. Karr, Director's Office, National Institute of Statistical Sciences; Randall Lutter, Frank Batten School of Leadership and Public Policy, University of Virginia; and Monika S. Markowitz, Office of Research Integrity and Ethics, Office of the Vice President for Research, Virginia Commonwealth University.

Although the reviewers listed above have provided many constructive comments and suggestions, they were not asked to endorse the conclusions or recommendations, nor did they see the final draft of the report before

its release. The review of this report was overseen by Matthew Rizzo, University of Iowa, Department of Neurology, and Lawrence D. Brown, Department of Statistics, The Wharton School, University of Pennsylvania. Appointed by the NRC, they were responsible for making certain that an independent examination of this report was carried out in accordance with institutional procedures and that all review comments were carefully considered. Responsibility for the final content of this report rests entirely with the authoring committee and the institution.

The second, and current, phase of this project was sponsored by the Bill & Melinda Gates Foundation, the Alfred P. Sloan Foundation, and the National Academy of Education. The committee would first like to extend a special thanks to Ed Dieterle, Daniel Goroff, and Gregory White in particular for their assistance as the program officers within the respective foundations. The committee would also like to express its appreciation to the sponsors of the first phase of this project, the workshop, for their participation and ongoing collaboration. The phase one sponsors included the National Science Foundation, American Academy of Political and Social Science, American Economic Association, American Sociological Association, NORC at the University of Chicago, Population Association of America, Russell Sage Foundation, University of Michigan Institute for Social Research, and Westat.

The committee also wishes to thank a number of individuals who presented important content and contextual information for our consideration as speakers in the phase one workshop. These speakers included George Alter of the University of Michigan; Susan Bouregy of Yale University; Lois Brako of University of Michigan, Ann Arbor; Steven Breckler of the American Psychological Association; Richard Campbell of the University of Illinois at Chicago; Constance F. Citro of the National Research Council; Thomas J. Coates of the University of California, Los Angeles; Roxanne Cohen Silver of the University of California, Irvine; Celia B. Fisher of Fordham University; Rena Lederman of Princeton University; Taylor Martin of Utah State University; Brian Mustanski of Northwestern University, Feinberg School of Medicine; Pearl O'Rourke of Partners HealthCare; Charles R. Plott of the California Institute of Technology; Sally Powers of the University of Massachusetts, Amherst; Jeffery W. Rodamar of the U.S. Department of Education; and Laura Stark of Vanderbilt University. This committee is also grateful to Thomas J. Coates for contributing his time and critical participation as a committee member for the first phase of this project.

Appreciation is also extended to Barbara Wanchisen, director of the Board on Behavioral, Cognitive, and Sensory Sciences, and Robert M. Hauser, executive director of the Division of Behavioral and Social Sciences and Education, for their leadership, guidance, and oversight of and

support for the study; and program assistants, Kelly Arrington and Jatryce Jackson, who provided administrative and logistic support over the course of the study. We wish to extend our appreciation as well to Robert Katt for his extensive assistance in editing multiple drafts of the report. Finally, we thank the executive office reports staff of the Division of Behavioral and Social Sciences and Education, especially Yvonne Wise and Eugenia Grohman, who provided valuable help with the editing and production of the report, and Kirsten Sampson Snyder, who managed the report review process.

Contents

Summary

INTRODUCTION AND BACKGROUND

The ethics of human-subjects research has captured scientific and regulatory attention for half a century. Honoring the Belmont Report's principles—respect for persons, beneficence, and justice—ought to mean keeping abreast of the universe of changes that factor into the ethical conduct of research today. The U.S. Department of Health and Human Services (HHS) took a giant step in this direction with the publication of an Advance Notice of Proposed Rulemaking (ANPRM) in July 2011, a plan for the first general overhaul of 45 C.F.R. § 46 since it was first promulgated in 1981, followed by issuing Subpart A as the Common Rule in 1991. The committee applauds and supports the issuance of the ANPRM. This committee's review—concerning how updated human subjects protections regulations can effectively respond to current research contexts and methods—counts the ANPRM as a major stimulus.

COMMITTEE CHARGE AND SCOPE

To respond to the need for additional clarification regarding human subjects protection and the promotion of research in the social and behavioral sciences, the Division of Behavioral and Social Sciences and Education of the National Research Council (NRC) carried out a two-phase project. In the first phase, now completed, a workshop was held to gather information about proposed revisions to the federal regulations and alternative ways of

implementing the new regulations. The summary of that workshop is now published.

In the second, current phase, the NRC-appointed committee that designed and led the workshop used the workshop proceedings, previous NRC reports, and the empirical literature to prepare a consensus report with recommendations to inform the issuance, interpretation, and implementation of the new regulations. The committee's charge was to inform the current efforts of the federal government to update the Common Rule (45 C.F.R. § 46), last revised in 1991. Specifically it was tasked with the following objectives:

- Identify issues raised in the proposed rulemaking which the panel identifies as critical and feasible for the federal government to address for the protection of participants and for the advancement of the social and behavioral sciences.
- For each issue, provide guidance for institutional review boards (IRBs) as needed to include techniques for addressing issues, specific examples, and best practice models to illustrate how the techniques would be applied to different behavioral and social sciences research procedures.
- Identify topics for research emerging from the proposed rulemaking that will assist in developing best practices for implementing the new human research protections and assessing the effectiveness of the rules and their implementation by IRBs and researchers.

Consistent with prior NRC reports, the committee includes as disciplines in social and behavioral sciences the following: anthropology, cognitive science, communication and information sciences, economics, education research, demography, geography, health services research, history, political science, psychology, social work, sociology, statistics, and related fields.

Through review of prior NRC reports on the topic of human subjects protections, reports of federal advisory bodies on human subjects protections, papers of professional associations that responded to the ANPRM, and the evidence from the empirical literature, and using the committee's deliberations and expertise in these areas, the report provides, and supports, the rationale for committee recommendations in the following areas.

RATIONALES, DEFINITIONS, AND PROCEDURES RELATED TO RESEARCH NOT INVOLVING HUMAN SUBJECTS AND THE PROPOSED NEW CATEGORY OF EXCUSED RESEARCH

The committee considers the definition of human-subjects research and the risk-based regulatory framework proposed in the ANPRM, then turns to research that the ANPRM defines as "excused" from IRB review, a proposed new regulatory category. Determining what types of research require what levels of IRB oversight is a complex issue deeply affected by 21st century transformations in social and behavioral science research and the accompanying challenges to the ethical, efficient, and effective conduct of research. Some of these changes reflect concomitant changes in the risks of everyday life that humans face. The following committee recommendations were made to

- redefine "human-subjects research," to provide criteria for what types of research should be considered as not human-subjects research, and to provide examples of social and behavioral science that could be considered as not human-subjects research;
- endorse the adoption of a new category of "excused" research, to provide criteria for what types of research should be considered "excused," and to provide examples of social and behavioral sciences that could be considered in this excused category; and
- operationalize procedures for implementing the new category of excused research.

Recommendation 2.1: HHS should revise the Federal Regulations so as to combine explicitly the definition of "research" (45 C.F.R. § 46.102(d)) and the definition of "human subject" (45 C.F.R. § 46.102(f)). "Human-subjects research" is systematic investigation designed to develop or contribute to generalizable knowledge by obtaining data about a living individual directly through interaction or intervention or by obtaining identifiable private information about an individual. HHS should revise the Common Rule to clarify that only "human-subjects research" falls within the scope of this regulation.

Recommendation 2.2: HHS should revise the Federal Regulations to clarify that many forms of scholarship that are widely labeled "research" should be considered as not human-subjects research because they are not covered by the intent or spirit of the term "human-subjects research."

Recommendation 2.3: HHS should revise the Federal Regulations to make clear that investigator use of only publicly available information, information in the public domain, or information that can be observed in public contexts is not human-subjects research and thus is outside of 45 C.F.R. § 46, whether or not the information is identifiable, as long as individuals whose information is obtained have no reasonable expectation of privacy. New forms of large-scale data should be included as not human-subjects research if all information is publicly available to anyone (including for purchase), if persons providing or producing the information have no reasonable belief that their private behaviors or interactions are revealed by the data, and if investigators have no interaction or intervention with individuals. Investigators must observe the ethical standards for handling such information that guide research in their fields and in the particular research context.

Recommendation 2.4: HHS should revise the Federal Regulations to classify as not human-subjects research public-use data files that have been extracted from research data as long as the data files have been de-identified and certified as protected against disclosure.

Recommendation 2.5: HHS should expand the Federal Regulations to include a new category of human-subjects research termed "excused" that would (a) not be reviewed by an IRB or any other form of human-subjects research review, except in the limited oversight function to be specified in the revised regulation, and (b) require the investigator to register the study with an IRB. Research should qualify as excused if the only risks of harm to participants posed by the study procedures themselves are informational (that is, the only plausible harm posed by the study procedures themselves involve the possible disclosure of personally identifiable information) and such risks are not at a greater than minimal level (defined as risks of disclosure of personal information not exceeding those encountered in daily life).

Recommendation 2.6: HHS should specify in the revised Federal Regulations that excused research covers studies where the research procedures involve informational risk that is no more than minimal (when appropriate data security and information protection plans are in place). The revised regulations should explicitly state that the excused category includes use of pre-existing research and non-research data that contain private information; or benign interactions or interventions that involve methodologies or activities that are very familiar to people in everyday life and in which verbal, behavioral, or physiological responses would

be the research data collected, such as educational tests, surveys, focus groups, interviews, and similar procedures.

Recommendation 2.7: HHS should make clear in the revised Federal Regulations that excused research includes research that has no more than minimal risk, even if the information being gathered addresses questions about human subjects' physical or psychological well-being.

Recommendation 2.8: HHS should explicitly address in the revised Federal Regulations the relationship between the consent of human subjects and excused research, with consent required in all excused research that directly involves human subjects through interaction or intervention.

Recommendation 2.9: HHS should revise the Federal Regulations to include the procedures under which research is excused from IRB review. The revised regulations should stipulate that research can begin 1 week after registering a form that briefly describes the purpose of the research, the activities to be engaged in by research subjects, the subject population, consent procedures, and a data protection plan. During (and only during) that in 1-week period, IRBs may review a small proportion of registrations to determine whether investigators have properly classified their study as excused or should instead have submitted it for an expedited or full board review. Finally, each year, a random audit of a small proportion of registrations should be performed by a designated institutional office to ensure that investigators meet the standards for research that should properly be excused. Investigators should be informed when their research is part of an examination or audit sample and, if issues are identified, they should be granted an appropriate period of time to make adjustments or submit a protocol for IRB review.

DETERMINING MINIMAL RISK IN SOCIAL AND BEHAVIORAL RESEARCH

The committee examines two core issues bearing on IRB decision making: minimal risk determinations and their role in expedited review. Recommendations are offered on how best to ensure

- that the definition of "minimal risk" is appropriate for the full range of current social and behavioral research;
- that IRBs and investigators have adequate guidance for avoiding under- and overestimations of minimal risk; and

- that types of research that may be reviewed by IRBs through expedited review appropriately reflect the conditions needing expedited review, based on the characteristics of the research procedures and of the subject population (i.e., in contrast to studies that may be *excused from IRB review*, or that require *full IRB review*).

The committee also recommends guidance that should be issued by the HHS Office for Human Research Protections (OHRP) to assist in operationalizing the definition of minimal risk and to assist in distinguishing between vulnerabilities in participants' lives and their vulnerability to research risks. The committee also offers elements of OHRP guidance statements that would help investigators and IRBs distinguish among research that would be excused from IRB review, research requiring expedited review, and research requiring full review.

The committee made the following recommendations for HHS to consider in revising aspects of the Common Rule that deal with minimal risk and expedited and full IRB review.

Recommendation 3.1: HHS should adopt the following definition of minimal risk under the Common Rule: "Minimal risk means that the probability and magnitude of physical or psychological harm does not exceed that which is ordinarily encountered in daily life or in the routine medical, psychological, or educational examinations, tests, or procedures of the general population."

Recommendation 3.2: To ensure just distribution of research benefits and risks across diverse populations and to avoid subjective overestimations of potential research harms, HHS should eliminate current regulatory language at 45 C.F.R. § 46.111(b) identifying certain populations as "vulnerable to coercion and undue influence" and requiring additional but unspecified human subjects protections.

Recommendation 3.3: HHS should harmonize regulations such that decisions regarding the level of potential informational, physical, and psychological research harms must take into account whether reasonable and appropriate protections will be implemented to reduce the probability and magnitude of harm or discomfort to no more than minimal.

Recommendation 3.4: HHS should clarify in regulations the conditions under which research methods that might otherwise be classified under the new excused category are appropriate for expedited review because the specific nature of the research procedures and/or the characteristics

of the subject population require consideration of human subjects protections beyond those normally applied for excused research, in order to ensure that harm or discomfort created solely by the research procedures are not greater than minimal risk.

Recommendation 3.5: To streamline expedited and full board review and procedures, HHS should eliminate the requirement for continuing review for expedited research.

The committee also pointed to corresponding research that is needed to

- build a stronger evidence base for identifying the probability and magnitude of risks in daily life and the nature of age-indexed routine medical, psychological, or educational examinations, tests, or procedures of the general population;
- develop and assess appropriate algorithms for calculating risk from both the probability and magnitude of harm and determining when this calculated risk meets minimal risk criteria;
- encourage and provide empirical evidence for effective procedures for minimizing potential physical and psychological research harms to no more than minimal risk levels; and
- study the effects of social and behavioral research on research participants so that evidence-based assessments of "known and foreseeable" risk are more feasible. In particular, research is needed to properly address nonphysical risks of research and the methods that create them.

INFORMED CONSENT

The committee also considers another core issue—that of informed consent practices, including questions of flexibility and efficiency in the process of gaining consent, waivers of consent, informing participants about risks of participation, informed consent in the context of special populations such as adolescents and subjects with impaired decisional capability, and informed consent in extended research contexts. The committee recommends several best practices that would streamline human subjects protection, including best practices relating to full IRB review.

The committee also recommends that OHRP issue guidance to encourage IRBs to emphasize the consent process over documentation, assess the realistic magnitude and probability of risks and benefits of research described for potential participants, facilitate the use of waiver of guardian permission for minimal risk research with adolescents, and facilitate the consent process for children's participation in research.

The committee made the following recommendations for HHS to consider in revising the regulations concerning informed consent in the Common Rule.

Recommendation 4.1: HHS should eliminate regulatory language that suggests certain formats or elements are a default in all situations and focus instead on tailoring consent to be appropriate to the situation and population. This revision should include eliminating ambiguous language currently in 45 C.F.R. § 46.116(d) that has caused IRBs to include consent information that may be irrelevant to adequate human subjects protection.

Recommendation 4.2: HHS should eliminate language in the regulations suggesting that written informed consent disclosures and written documentation that consent has been obtained are the preferred norm and include language permitting informed consent by nonwritten means when appropriate, without requiring action by the IRB to grant a waiver of documentation.

Recommendation 4.3: HHS should revise regulations to require that statements relating only to institutional or sponsor liability be clearly separated from the informed consent information directly related to the research participation.

Recommendation 4.4: The committee does not endorse the ANPRM restriction to "competent adults" for the proposed new excused classification. Instead, the committee recommends that the OHRP provide guidance for investigators and for the final mechanism of oversight for this category, with the aim of fitting the information required for obtaining consent for the new excused category to the population characteristics and specific research context.

Recommendation 4.5:[1] HHS should not introduce a requirement for re-consent for future use of pre-existing, de-identified non-research or research data. When investigators wish to link pre-existing identifiable data to the collection of new data from human subjects, consent should be obtained for the new data collection and linking to the archival identifiable dataset.

[1]This recommendation was made by the committee in response to an ANPRM-***proposed*** revision to the current regulations, page 44,519. Recommendation 4.5 in the prepublication copy erroneously implied that the recommendation was being made to ***change*** current regulations.

INFORMATIONAL RISK IN THE SOCIAL AND BEHAVIORAL SCIENCES

Crosscutting issues related to protecting human-subjects research data in the information age are examined by the committee, as well as questions posed by the ANPRM related to methods that would work best for the social and behavioral sciences. The committee pays special attention to new privacy concerns in the context of informational risk and public information used for research. The following recommendations are made for HHS and investigators concerning data protection plans and approaches for providing IRBs and researchers with information technology expertise.

Recommendation 5.1: HHS should not mandate HIPAA as the standard for data security and information protection.

In recommending that HIPAA not be mandated as the data protection and security standard, the committee is not suggesting that another particular set of standards be mandated for social and behavioral sciences, but rather that there be an array of data protection approaches that best fit the data protection needs. These can include

- planning data protection with the concept of a portfolio approach considering safe people, safe projects, safe data, safe settings, and safe outputs;
- utilizing a wide range of statistical methods to reduce risk of disclosure;
- consulting resources and data protection models to help researchers and IRBs such as university research data management service groups, individual IT/protection experts, and specialized institutions such as the Inter-university Consortium for Political and Social Research at the University of Michigan, Ann Arbor, and NORC at the University of Chicago;
- existing standards for data protection promulgated by the National Institute of Standards and Technology; and
- developing a future national center to define and certify the levels of informational risk of different types of studies and corresponding data protection plans to ensure risks are minimized.

Recommendation 5.2: In light of rapid changes in data of scientific value and in technologies that can be harnessed to reduce or increase informational risk, HHS should consider developing an institutional or organizational entity such as a national center to define and certify the

levels of information risk of different types of studies and corresponding data protection plans to ensure risks are minimized.

Recommendation 5.3: As a condition of undertaking **secondary research on public-use or restricted-access data**, investigators have the responsibility to protect the confidentiality of the data and honor the data protection plan and other agreements with the data provider, whether the data provider is the primary researchers involved in the study, an agency or institution, or a data distribution organization. The revised regulations and OHRP guidance on data use should make clear that secondary users must honor confidentiality agreements but that no further consent from human subjects is needed to use such data. The revised regulations should also make clear that data providers may share data without consent of human subjects as long as users adhere to the original confidentiality agreements and other conditions of use.

Recommendation 5.4: If investigators collected data from human subjects (i.e., **primary data collection**), their additional consent is not necessary to subsequently link to other pre-existing data, except under circumstances where human subjects are being asked to participate further in the research or if their original consent prohibited future data linkage. The fact that additional consent is not required to link data does not reduce the responsibility of investigators to modify and register their data protection plans.

Recommendation 5.5: Investigators using **non-research private information (e.g., student school or health records)** need to adhere to the conditions for use set forth by the information provider and prepare a data protection plan consonant with these conditions, calibrated to the level of risk, and sufficient to reduce risk through disclosure. Further consent is not required from individuals as long as investigators pledge to adhere to confidentiality agreements.

The committee concludes that, in the rapidly changing environment of information and information technology, an ongoing research program is needed to ensure that regulation of informational risk is adequate and appropriate. In particular research is needed on topics such as

- innovations in the data use of non-research information and records,
- new ways of collecting and linking data, and
- new methods for measuring and quantifying informational risk and risk reduction techniques.

Since it is increasingly unknowable whether existing disclosure limitation mechanisms sufficiently balance disclosure risks and the utility inherent in social and behavioral research datasets, the committee recommends that (a) disclosure limitation mechanisms be tested against actual datasets to determine which methods are appropriate to develop best practices, and (b) federal science and statistical agencies sponsor the development of disclosure risk assessment and risk mitigation strategies that are consistent with the needs of "big data" used in the social and behavioral sciences.

IMPROVEMENT IN IRB PROCESSES

All of the report incorporates committee suggestions on how IRB procedures might be improved. Where possible the committee also provides examples on how these improvements might be made. In the final chapter, the committee presents broader procedural issues not covered in prior chapters and provides guidance on improving the IRB process through the efforts of IRB staff, members, and institutional officials. Recommendations are made in areas related to ANPRM proposals to expand the scope of the Common Rule and to establish a single IRB of record for multisite studies. The committee also offers recommendations for establishing appeals processes for IRB decisions.

Recommendation 6.1: In revising the Common Rule, HHS should keep the scope of coverage by the Common Rule within the present boundaries: "all research involving human subjects conducted, supported or otherwise subject to regulation by any federal department or agency which takes appropriate administrative action to make the policy applicable to such research" (45 C.F.R. § 46.101(a)).

Recommendation 6.2: HHS should adopt the proposal set forth in the ANPRM to establish single IRBs of record for multisite studies, with some conditions. These conditions might include the following:

(a) The establishment of single IRBs of record should be voluntary rather than mandatory.
(b) Any requirement to use a single IRB of record for multisite studies should be phased in gradually so that individual IRBs and human research protection programs will have time to make necessary changes to adapt to this new system.
(c) The charge to the single IRB of record should be limited to making determinations and meeting the responsibilities set forth in the Common Rule. There are other locally specific functions commonly carried out by IRBs such as specifying (i) who should be contacted

in case a participant believes his or her rights have been violated and (ii) where and when to go to participate in various components of the research. Such matters should remain the responsibility of the local institution's human research protection program.

(d) Approval by the single IRB of record should suffice to inform the sponsor that the proposal has been approved.

(e) However, participating institutions should not be allowed to begin their research activities until they have met their local responsibilities; such delays in local participation should not be imposed on those other participating institutions that have already met their own local responsibilities.

Recommendation 6.3: In each institution in which research involving human participants is carried out, a system should be developed for the appeal of IRB decisions.

Finally in order to assist in developing best practices for implementing the new human research protections and assessing the effectiveness of the rules and their implementation, the committee recommends that research be conducted on the costs and benefits for institutions, IRBs, investigators, and sponsors of regulating social and behavioral research on human subjects.

1

Introduction and Background

INTRODUCTION

The ethics of human-subjects research has captured scientific and regulatory attention for half a century. Honoring the Belmont Report's principles (U.S. Department of Health and Human Services, 1979)—respect for persons, beneficence, and justice—ought to mean keeping abreast of the universe of changes that factor into the ethical conduct of research today. The U.S. Department of Health and Human Services (HHS) took a giant step in this direction with the publication of an Advance Notice of Proposed Rulemaking (ANPRM) in July 2011,[1] a plan for the first general overhaul of the human subjects protection regulations (45 C.F.R. § 46) since they were first promulgated in 1981, followed by the revisions referred to as the "Common Rule" in 1991. Box 1-1 below provides a brief description of the Common Rule; a more lengthy explanation is provided in Appendix A.[2]

This committee applauds and supports the issuance of the ANPRM, and the committee's review—concerning how updated human subjects protections regulations can effectively respond to current research contexts and methods—counts the ANPRM as a major stimulus. The committee takes this opportunity seriously and has engaged a wide variety of researchers and human-subjects regulatory experts in its process.

[1]See U.S. Department of Health and Human Services (2011) for the ANPRM; for the commentary portal, see http://www.hhs.gov/ohrp/humansubjects/anprm2011page.html [December 2013].

[2]For background and links to the regulations, see http://www.hhs.gov/ohrp/humansubjects/commonrule/index.html [December 2013].

BOX 1-1
The "Common Rule"

The Federal Policy for the Protection of Human Subjects or the "Common Rule" was published in 1991 and codified in separate regulations by 15 Federal departments and agencies. . . . The HHS regulations, 45 CFR part 46, include four subparts: subpart A, also known as the Federal Policy or the "Common Rule"; subpart B, additional protections for pregnant women, human fetuses, and neonates; subpart C, additional protections for prisoners; and subpart D, additional protections for children. Each agency includes in its chapter of the Code of Federal Regulations [CFR] section numbers and language that are identical to those of the HHS codification at 45 CFR part 46, subpart A. For all participating departments and agencies, the Common Rule outlines the basic provisions for institutional review boards (IRBs), informed consent, and Assurances of Compliance.

SOURCE: U.S. Department of Health and Human Services Office for Human Research Protections. Available: http://www.hhs.gov/ohrp/humansubjects/commonrule/index.html [November 2013].

The aims of this National Research Council (NRC) consensus report align with the central aims of the ANPRM. With a specific focus on social and behavioral sciences, this report addresses the dramatic alterations in the research landscapes that institutional review boards (IRBs) have come to inhabit over the past 40 years. Like the ANPRM, it strives to balance respect for the individual persons whose consent to participate makes research possible and respect for the social benefits that productive research communities make possible. Recognizing that widespread technological and societal transformations have occurred in the contexts for and conduct of human research since the passage of the National Research Act of 1974,[3] the ANPRM revisits the regulations mandated by that statute in a correspondingly comprehensive manner. Its proposals seek to modernize the Common Rule and to improve the efficiency of the work conducted under its auspices. Against that background, the ANPRM solicited "comment on how to better protect human subjects who are involved in research, while facilitating valuable research and reducing burden, delay, and ambiguity for investigators" (76 Fed. Reg. 44,512). That is, the ANPRM's intent is to reconcile two social goods: defense of the rights of individual research

[3]See http://history.nih.gov/research/downloads/PL93-348.pdf [December 2013].

participants[4] and the advancement of knowledge about the human condition, itself often aligned with justice and beneficence.

While the Common Rule has always been applied to behavioral and social sciences, primary attention in the design of the regulations was given to biomedical procedures and dilemmas, as is evident in their heavy use of biomedical language and examples.[5] However, these examples and language are treated as generic and as exemplars applicable beyond biomedicine to behavioral and social science. The inadequacy of this framework for ethical behavioral and social science research was articulated forcefully by social scientists in the late 1970s (Beauchamp et al., 1982; National Research Council, 2013, Session 1; Schrag, 2010), and the arguments have persisted (National Research Council, 2003). Fortunately, the ANPRM opens the door to acknowledge and address these differences in research fields. It states

> Questions have been raised about the appropriateness of the review process for social and behavioral research. The nature of the possible risks to subjects is often significantly different in many social and behavioral research studies as compared to biomedical research, and critics contend that the difference is not adequately reflected in the current rules. While physical risks generally are the greatest concern in biomedical research, social and behavioral studies rarely pose physical risk but may pose psychological or informational risks. Some have argued that, particularly given the paucity of information suggesting significant risks to subjects in certain types of survey and interview based research, the current system over-regulates such research. Further, many critics see little evidence that most IRB review of social and behavioral research effectively does much to protect research subjects from psychological or informational risks. Over-regulating social and behavioral research in general may serve to distract attention from attempts to identify those social and behavioral research studies that do pose threats to the welfare of subjects and thus do merit significant oversight. (76 Fed. Reg. 44,513)

[4]This report uses a variety of terms for the people who provide data. The U.S. federal regulations and all international codes of research ethics use the word "subjects." Use of "subjects" reflects the historical importance of biomedical experts in drafting the U.S. regulations and international codes. Although experimentalists in several fields use "subjects" or derivative terms (e.g., "Ss"), the committee considers "participants" to be a more discipline-neutral compromise term. Consider, for instance, that survey researchers often use "respondents," oral historians refer to "narrators," and ethnographers use "informants," while anthropologists have been shifting to "interlocutors" and other terms.

[5]For example, five of the seven "research categories" listed as expeditable on the Office for Human Research Protections website (http://www.hhs.gov/ohrp/policy/expedited98.html [February 2014]) provide explanations and examples relevant to biomedicine, whereas the remaining two categories list a grab bag of social and behavioral research methods without equivalent insight and detail. The wording of the expeditable "continuing review" categories also treats biomedicine as the generic model for research activity.

This report seeks to advise HHS concerning the revision of the Common Rule as sought by the ANPRM, with a specific focus on the social and behavioral sciences.

Purpose of the Report and Scope of Task

While the Common Rule regulations started from and emphasize biomedical models of research, the ANPRM did point to the needs of social and behavioral science research models in asking how proposed procedures would work for these sciences. To respond to the need for additional clarification regarding human subjects protection and the promotion of research in the social and behavioral sciences, the Division of Behavioral and Social Sciences and Education of the NRC sought support for a two-phase project. In the first phase, now completed, a workshop was held to "gather information about proposed revisions to the federal regulations and alternative ways of implementing the new regulations." The summary of that workshop is now published (National Research Council, 2013).

In the second, current phase, the committee that designed and led the workshop used the workshop proceedings, previous NRC reports, and the empirical literature to prepare a consensus report with recommendations to inform the issuance, interpretation, and implementation of the new regulations. The complete Statement of Task to the committee for both phases is shown in Box 1-2.

Although other study committees of the NRC have produced consensus reports on human subjects research ethics in the past (see National Research Council, 2013, Session 1), the ANPRM provides an opportunity for revisiting these issues in the context of 21st century social and behavioral sciences. Changing technology and increasingly blurred boundaries among social, behavioral, economic, and education sciences, as well as between these sciences and the biomedical sciences, necessitate new approaches to protecting human subjects and promoting research. The committee's view is that, in order to respond effectively to current research approaches, the revised Common Rule needs to be less static and more contextual, dynamic, and self-renewing. The ANPRM indeed begins to work out how these goals might be achieved.

With regard to the scope of the committee's task and the recommendations forthcoming in this report, it is the committee's assumption that the regulatory changes that will result—from the ANPRM issued by the HHS Office for Human Research Protections (OHRP), the many organizations that responded to the ANPRM, and the efforts of the present committee—will take the form of one set of revised Common Rule regulations governing both biomedical and social and behavioral sciences. Because the federal regulations for protecting human subjects have tended historically to use

BOX 1-2
Committee's Statement of Task

This project will be conducted in two phases. In Phase I, an ad hoc committee will plan and conduct a public workshop, following which a designated rapporteur will prepare an individually authored summary of the event. In Phase II the committee will gather additional data, conduct analyses, and prepare a report with findings, conclusions, and recommendations. The workshop summary and report will address prospective revisions to the Common Rule for the protection of human subjects in research of particular relevance to the behavioral and social sciences. The work of the committee is intended to inform the current efforts of the federal government to update the Common Rule (45 C.F.R. 46), last revised in 1991.

The Phase II portion of the project and report will address the following objectives:

- Identify issues raised in the proposed rulemaking which the panel identifies as critical and feasible for the federal government to address for the protection of participants and for the advancement of the social and behavioral sciences.
- For each issue, provide guidance for IRBs as needed to include techniques for addressing issues, specific examples, and best practice models to illustrate how the techniques would be applied to different behavioral and social sciences research procedures.
- Identify topics for research emerging from the proposed rulemaking that will assist in developing best practices for implementing the new human research protections and assessing the effectiveness of the rules and their implementation by IRBs and researchers.

biomedical sciences as the reference discipline for examples, with the social and behavioral sciences in the background, this consensus study provides an opportunity for the social and behavioral sciences to take the foreground in offering strategies and examples of how the revisions to the Common Rule could best fit social and behavioral science research methods. It is the committee's hope that its input, through this consensus report, will influence the final regulations for the benefit of social and behavioral sciences and for the biomedical sciences as well.[6]

Besides largely affirming the efforts of OHRP to update the Common Rule, the report strives to assist other key stakeholders. It aims to support IRBs in best practices, under not only the existing regulations and the potential changes proposed by the ANPRM but also in light of other changes

[6]The ANPRM was issued in July 2011, but there has not yet been a Notice of Proposed Rulemaking (a required prerequisite to promulgation of regulations) as of the writing of the committee's report in December 2013.

recommended here. The report suggests methods for prioritizing, streamlining, and focusing IRB activities on those most central to their mission. It offers institutions that employ human-subjects researchers strategies to increase the efficiency and effectiveness of human subjects protection, while reducing burden overall. Finally, it seeks to provide investigators who conduct such research with clarification concerning regulations and procedures. Overall, the report's twin goals for all these audiences are to protect human subjects and to facilitate research that benefits society.

Key Challenges that Drive the Report

This report's focus on 21st century social and behavioral sciences aims to balance human subjects protection—which encompasses respect, justice, and beneficence—with advancing the societal utility of research. It documents the dramatic transformations in the social and behavioral science research landscape, as well as increases in the diversity and volume of social and behavioral science research activity. This introductory chapter provides background (a) describing the scope of social and behavioral sciences as they are referred to in the report, (b) discussing the definition of research and generalizable knowledge in the social and behavioral sciences, (c) explaining how social and behavioral sciences' specific benefits, burdens, and costs matter to revising the Common Rule, and (d) situating the report in the changing nature of social and behavioral science research.

Chapter 2 considers the definition of human subjects research and the risk-based regulatory framework proposed in the ANPRM; it then turns to research that the ANPRM defines as *excused* from IRB oversight, a new regulatory category. How determinations are made regarding levels of IRB oversight required is a complex issue deeply affected by 21st century transformations in social and behavioral science research and the accompanying challenges to the ethical, efficient, and effective conduct of research. Some of these changes reflect concomitant changes in the risks of everyday life that humans face. Chapter 2 also describes the widening array of kinds of research that IRBs are presently reviewing, with special attention to new technological conditions of research, as well as to emergent sociocultural norms concerning large-scale data management and sharing.

Chapter 3 considers core issues and challenges bearing on IRB decision making: defining "minimal risk" for the full range of current social and behavioral research, ensuring that IRBs and investigators have adequate guidance for avoiding under- and overestimations of minimal risk, and distinguishing between vulnerabilities in participants' lives and their vulnerability to research risks. The chapter also offers elements of guidance statements that would help investigators and IRBs distinguish between

research that would be excused from IRB review, research requiring expedited review, and research requiring full review.

Chapter 4 addresses informed consent practices, including questions of flexibility and efficiency in the process of gaining consent, waivers of consent, informing participants about risks of participation, informed consent in the context of special populations such as adolescents and subjects with impaired decisional capability, and informed consent with pre-existing data. To HHS and IRBs, this report recommends several best practices that would streamline human subjects protection, including best practices relating to full IRB review, the prototypic IRB activity.

Chapter 5 examines crosscutting issues related to protecting human-subjects research data in the information age and addresses questions posed by the ANPRM related to methods that would work best for social and behavioral sciences. Special attention is paid to heightened privacy concerns in the context of informational risk and public information used for research. The chapter covers data protection plans for data collected in individual studies and for shared data, including the ANPRM proposal to make the Health Insurance Portability and Accountability Act of 1996 the mandated standard for data security and protection, which the committee does not endorse. It also considers approaches that would facilitate suggestions in the ANPRM to provide IRBs and researchers with information technology expertise.

Chapter 6 addresses best practices to improve IRB processes, one of the committee's charges under its Statement of Task.

Throughout this report, the committee has been mindful of the Belmont Report's principles of respect for persons, beneficence, and justice in its assessment of the empirical evidence for the degrees of risk for different populations associated with potential harms that may be posed by social and behavioral science research. With these principles in mind, recommendations are made in each chapter to improve the risk-based regulatory framework and how it is implemented to ultimately improve IRB protection of human subjects and the promotion of research. In making recommendations, the committee has been keenly aware and sought not to recommend changes that would increase burdens on IRBs or to transfer burdens onto their larger parent institutions. Some of the recommendations are intended to transfer existing IRB responsibilities onto investigators and their obligations to adhere to professional ethics. However, recognizing that institutions might react by adding their own requirements if they do not feel that the recommendations are robust enough, the committee has also made accompanying recommendations for OHRP to provide guidance for IRBs and researchers in implementing the changes. For example, the committee provides examples of social and behavioral sciences research that would be outside of the purview of the IRB because they are not considered to

be "human-subjects research," types of research that would fall into the new category of "excused" research, and illustrations of how to distinguish between research that can be excused from IRB review (but have IRB oversight) versus those that should undergo expedited IRB or full review. The committee then urges OHRP to provide supplemental guidance with these types of examples for IRBs and researchers.

BACKGROUND

Scope of Social and Behavioral Sciences

It is important at the outset to define the terms and scope of the social and behavioral sciences as they are referenced throughout the report. The National Institutes of Health Office of Behavioral and Social Science Research defines social and behavioral sciences this way:[7]

> The term "behavioral" refers to overt actions; to underlying psychological processes such as cognition, emotion, temperament, and motivation; and to bio-behavioral interactions. The term "social" encompasses sociocultural, socioeconomic, and socio-demographic status; biosocial interactions; and the various levels of social context from small groups to complex cultural systems and societal influences.

The committee adopts this definition of behavioral and social sciences for the purposes of this report.

In line with other NRC reports, the committee also includes as disciplines and fields in social and behavioral sciences the following: anthropology, cognitive science, communication and information sciences, demography, economics, education research, geography, health services research, history, political science, psychology, social work, sociology, and statistics (National Research Council, 1982, 2003). Note that the research methods in these disciplines are commonly used in many other disciplines (including the biomedical fields). Throughout the report, the committee uses the term "social and behavioral science" to refer to this broad and diverse spectrum of research disciplines and related fields.

Social and behavioral science research has long respected the rights and welfare of human research participants. Early on, a broad shift occurred in the climate of ethical awareness within the varied social and behavioral research communities. Even before IRBs were formed—in the wake of the Nuremberg trials and especially in the context of 1960s social movements—social and behavioral science professional associations began paying closer

[7]See http://obssr.od.nih.gov/about_obssr/BSSR_CC/BSSR_definition/definition.aspx [October 2013].

critical attention to the ethical conduct of research and developing explicit ethics codes and expectations.[8]

Two examples are the ethics codes of the American Anthropological Association (AAA) and the American Psychological Association. Since at least 1949, the AAA has sought to ensure that "the interests of the persons and communities or other social groups studied are protected" (Beals and The Executive Board, 1967). Intensive discussion in the mid-1960s led the AAA to form an ethics committee and to publish its Principles of Professional Responsibility in 1971, amended and revised several times since then, most recently in 2012.[9] The American Psychological Association's ethics code dates to 1953 and has been revised regularly since then. For example, intensive discussion in the mid-1960s led the American Psychological Association to form a commission that surveyed the membership; its 1972 statement of Ethical Principles was based in part on membership experience (Rosnow, 1997). Similarly, the American Political Science Association formed a committee in 1967 that published a report the next year, which resulted in the association's first written code.[10] The Oral History Association has likewise had an active commitment to professional ethics since its founding: like the American Political Science Association, it adopted a first statement of "goals and guidelines" in 1968.[11] The American Sociological Association published its first ethics code in 1970.[12]

Since the 1970s, they have also developed and expanded ethics education resources,[13] just as universities—where most researchers are trained and many are employed—have likewise strengthened their internal mechanisms for reviewing academic ethics cases and for cultivating ethical awareness in their students.

Defining Research and Generalizable Knowledge in the Social and Behavioral Sciences

This report concurs with the ANPRM concerning the basic goal of reducing administrative burden on both IRBs and investigators, while

[8]See Levine and Skedsvold (2008) for a brief history of the development of ethics programs in professional societies.

[9]See, for example, http://www.aaanet.org/profdev/ethics/ [December 2013].

[10]See http://www.apsanet.org/content_9350.cfm [December 2013].

[11]See http://www.oralhistory.org/wp-content/uploads/2009/10/History-of-the-Evaluation-Guidelines.pdf [December 2013].

[12]See http://www2.asanet.org/taskforce/ethics/detail.cfm?id=36 [December 2013].

[13]For the Oral History Association, see http://www.oralhistory.org/about/principles-and-practices/ [February 2014]. For the AAA, see http://www.aaanet.org/cmtes/ethics/Ethics-Resources.cfm [February 2014]. For the American Sociological Association, see http://www.asanet.org/ethics/detail.cfm?id=all [February 2014]. For the American Psychological Association, see http://www.apa.org/pubs/books/4311504.aspx [December 2013].

promoting the ethical treatment of research participants. The big question, however, is how to achieve this goal. A number of observers have singled out the definition of "research" itself as an important source of burden. Indeed, a lack of clarity concerning the term's range of reference and the meaning of its components may be one of the reasons why the quantity and variety of protocols reviewed by IRBs have expanded over the past decades.[14]

As noted in Chapter 2's section, "Redefining Human-Subjects Research," clarifying the ambiguity of some key regulatory definitions may help IRBs focus their oversight responsibilities. For example, the IRB should review *only* activities that conform to the regulatory definition of research, but even within research activities, not all should be reviewed by an IRB. The ANPRM has listed many of these activities in a proposed new "excused" category (76 Fed. Reg. 44,517). Under the proposed rule, research in this category would be subject to regulation but would not be required to undergo IRB review. In Chapter 2, the committee clarifies the types of social and behavioral sciences that would fit under the proposed "excused" category.

The definition of "research" contained in the Belmont Report and in 45 C.F.R. § 46 includes the word "generalizable," which has been one source of confusion.[15] Some of the terms in the definition of research require clarification to make the definition more clearly relevant to social and behavioral science research and helpful to IRB administrators. "Generalizable" should be understood to mean that the results of the research are intended to apply to persons who are not participants in the research, through contributing to the development of new knowledge or applications, thereby extending the understanding of human behavior, context, or biology. "Systematic" should be understood to mean that the work is carried out according to a plan that is intended to contribute to the development

[14]The ANPRM identifies "a marked increase in the volume of research" (76 Fed. Reg. 44,513) as an important reason for the expansion in IRB workloads. While the committee agrees that this is partially true, another contributing factor, particularly over the past decade, has been the tendency for IRBs to interpret their charge increasingly broadly; "human subjects research" has been interpreted to encompass oral history interviewing, linguistic elicitation, and even occasionally the activities of creative writing instructors and students (e.g., Wright, 2004). Also see the ANPRM commentaries, available: http://www.regulations.gov/#!searchResults;rpp=50;po=0;s=HHS-OPHS-2011-0005;dct=PS [December 2013], by the American Historical Association, the Oral History Association, and the Linguistics Society of America.

[15]Several professional groups attempted to address this confusion by proposing new definitions of research. Such groups include quality assurance/quality improvement, public health, and other professions. Several of these proposals excluded activities of the group that proposed the definition while including activities that other groups had excluded from their definitions. While there may be merit to some of these ideas, conceptual clarity will remain elusive so long as such efforts at innovation are uncoordinated.

of generalizable new knowledge. The methodology of the design should be judged by the standards established by the investigators' field of study. Participants in some types of research may indeed benefit from their participation, but this is not a defining attribute of research.

Specific Benefits, Burdens, and Costs of the Social and Behavioral Sciences Matter to Revising the Common Rule

Generalizable knowledge resulting from social and behavioral science research benefits society. Most scientists conduct research—and sponsors fund them—for the purpose of advancing knowledge. Regulations that govern the conduct of such research need to be examined, as the ANPRM notes (76 Fed. Reg. 44,513), and modified as needed to make them more effective and less burdensome. This report endorses the necessity and value of IRBs as part of the regulatory process and seeks to support efforts of IRBs and regulators in increasing their effectiveness and reducing their costs to institutions, sponsors, and researchers alike.

The human subjects protection principle of beneficence as stated in the Belmont Report asserts that the ethical treatment of persons is achieved "not only by respecting their decisions and protecting them from harm, but also by making efforts to secure their well-being."[16] Research contributes to human flourishing not just because of its specialized knowledge outcomes but also because of short- and long-term contributions to physical and mental health, education, and public policy (see Box 1-3 for examples).

The work of IRBs supports and facilitates the conduct of research in which people participate. How have the bureaucratic burdens of IRBs evolved, and what is the added value of the increased burden versus its cost? Over the 40 years since institutional review became a requirement,[17] the field of research involving human subjects has become larger and more complex and its review by IRBs has become much more detailed and meticulously documented. The numbers of IRBs within institutions have proliferated, and the size of their staffs has enlarged greatly (Catania et al., 2008). Cross-pressures result from the expansion and professionalization of IRB staff, and a narrow focus on harm prevention that sometimes conflicts with social and behavioral science researchers' focus on the efficient conduct of their research for human well-being (Fiske, 2009). From these cross-pressures emerge both costs and benefits. The regulatory costs of IRBs

[16]See part B.1. of the 1979 U.S. Department of Health and Human Services' Belmont Report at http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html [November 2013].

[17]See *National Research Act of 1974*, Public Law 93-948 (July 1974), at http://history.nih.gov/research/downloads/PL93-348.pdf [October 2013].

BOX 1-3
Benefits of Social and Behavioral Science Research: Lives, Health, Environment, Improved Ways of Life

Social and behavioral science research contributes to the solution of pervasive social problems through a deeper understanding of patterns of learning, cognition, brain function, and social behavior. It affects Americans' way of life through its impact on policies regarding health and longevity, pollution, economic competition, and trade.

- The contributions from the social and behavioral sciences save lives. Tens of thousands of elderly people die every year—and tens of thousands of diabetics die or lose limbs[a]—because they do not follow their medical regimens (Beck et al., 2002; Hojat et al., 2011; Stewart, 1995; Street et al., 2009; Tarn et al., 2006). A substantial proportion of the tragedies can be traced to difficulties communicating with physicians and failures to understand instructions about treatment regime including the use of medicines (Haynes et al., 2008; Kripalani et al., 2007). Behavioral scientists have found many ways to increase understanding and compliance (Easthall et al., 2013; Heron and Smyth, 2010).
- Social and behavioral science research develops and evaluates the effectiveness of interventions. Researchers have found ways to reduce alcoholism and alcohol abuse, especially among young people who often engage in dangerous binge drinking (Prentice and Miller, 1993). Researchers in these disciplines have identified procedures that can make organ and blood donation far more common than is currently the case (Thaler and Sunstein, 2008). They have found ways of reducing the likelihood of unprotected sex and teen pregnancy (Allen et al., 1997; Dal Cin et al., 2006; O'Donnell et al., 2002; Stone et al., 1994). Effective ways to reduce crime for all age groups have been discovered (Wilson, 2011). Conversely, as research progresses, it has helped to identify unintended consequences of social policies. For example, some programs developed to help trauma victims have been shown to be iatrogenic, worsening the degree and duration of suffering (Wilson, 2011). In contrast, techniques developed by behavioral scientists genuinely do reduce suffering from trauma (Pennebaker, 1993). Interventions designed to reduce delinquency in teenagers, sometimes actually increase juvenile crime rates (Dodge et al., 2006; Lilienfeld, 2005; Petrosino et al., 2002). Crimes have been committed that could have been avoided, had those programs never been implemented (Sherman et al., 1998; Wilson, 2011).

- Social and behavioral science research reduces costs for society. Basic research detailing when and how social norms guide human conduct led to the establishment of a firm (Opower) that partners with utility companies to send households information about their energy consumption relative to that of their closest neighbors. In less than 5 years of operation, that partnership has reduced U.S. energy consumption by nearly 3 billion kilowatt-hours, cut carbon dioxide emissions by more than 4 billion pounds, and saved residents nearly $330 million in energy costs.[b]
- Research in the social and behavioral sciences increases the efficiency of technology use. It provides the perceptual, motor, and cognitive underpinnings assuring safety for many systems such as nuclear power plants and jet airplane cockpits (McCormick and Sanders, 1982; Roscoe and Williams, 1980; Wickens and Hollands, 2000). The value of technologies supporting kidney transfers was increased dramatically through the development of a kidney exchange that facilitates multilateral exchanges. This exchange optimizes the process in the organ transplant "market."
- Social and behavioral science research reduces air pollution and protects the environment. Designs for emissions permits markets have proved successful in reducing nitrogen oxide (NO_x) pollution in major problem areas such as California and Virginia. Ten northeastern states from Maryland to Maine launched the Regional Greenhouse Gas Initiative, which produced revenues of approximately $1.5 billion. The impact of research in the social and behavioral sciences was a key part of the testing, design, and implementation of the Kyoto protocols for international emissions trading and reductions of worldwide carbon dioxide emissions (Baron, 2001).
- Research results from the social and behavioral sciences can improve Americans' way of life. Such research contributed to changes in the communications industry through the creation of an efficient process for allocating the electromagnetic spectrum for cell phone use (McMillan, 1994). Early Federal Communication Commission auction architectures, based on considerable experimental work, produced $60 billion in revenues in the United States. Replications around the world produced over $200 billion in revenues.[c] Auction innovations continue, with a new form of auction, which the Federal Communication Commission used in the most recent spectrum auction, resulting in increased efficiency and approximately $19 billion in revenues (Goeree and Holt, 2010).

---

[a]See http://www.cdc.gov/diabetes/pubs/estimates11.htm [December 2013].
[b]See http://opower.com/impact [December 2013].
[c]See http://www.nsf.gov/about/congress/reports/sbe_research.pdf [December 2013].

must be weighed against the enhanced protection they provide for the rights and welfare of human research subjects.

What have been the demonstrable benefits of IRB review? Assessing the benefits of IRB review might take the form of a before-and-after comparison; however, the committee recognizes that such a comparison would be difficult to design because the sociocultural contexts of social and behavioral research before and after the introduction of IRB reviews include many factors beyond the presence or absence of IRBs. The pervasiveness of IRBs makes an exploration of the counterfactual condition—a comparison of the current situation with one in which IRBs are absent—a theoretical exercise that, although difficult, is not impossible to design. Measuring the benefits of IRB review in terms of unethical studies that were prevented has obvious drawbacks: proving the influence of one factor in preventing an event requires ruling out a myriad of other factors potentially at play. A systematic review of the empirical literature evaluating IRBs concluded that much research needs to be undertaken to "understand how IRBs accomplish their objectives, what issues they find important, what quality IRB review is, and how effective IRBs are at protecting human research participants" (Abbot and Grady, 2011, p. 3).

The expansion of the IRB system, embedded within each institution's Human Research Protection Program, has become increasingly expensive, costing as much as $400-$600 per protocol in medical schools, by one estimate (Wagner et al., 2010).[18]

The costs also include the burden on researchers.[19] A study by the Federal Demonstration Partnership on administrative burden reported that, of the time faculty spent on federal research, 42 percent was devoted to pre- and post-award administrative activities (16% of their average workweek) (Decker et al., 2007). The top burdens reported by faculty included grant progress reports, personnel hiring, project revenue management, equipment and supply purchases, IRB protocols and training, training personnel and students, and personnel evaluations. When including in the analysis only those who indicated that the task took at least "a little" time away from their active research or more, two of the five perceived greatest burdens on researchers concerned dealings with their IRB (Decker et al., 2007):

1. IRB protocols.

[18]Even this may be a substantial underestimate. Estimates available in the early 1980s were considerably higher (Levine, 1988, pp. 360-361), and those estimates did not include the cost of the investigator's time or that of the IRB members.

[19]One epidemiologist (cited in Levine, 1988, p. 346) estimated that the investigator hours required to secure all necessary IRB approvals to initiate a large-scale epidemiological study is the equivalent of 3 percent of an epidemiologist's active career.

2. Institutional Animal Care and Use Committee protocols and training.
3. Training personnel and students.
4. Grant report submissions.
5. IRB compliance issues.

Critics have described the contemporary Human Research Protection Plan system as "a crisis in confidence" (Levine, 2001), the "dysregulation of human subjects research" (Fost and Levine, 2007), "breaking the camel's back" (Burman et al., 2001), and "mission creep" (White, 2007). Some commentators have described the current system as an immense bureaucracy engaged excessively in correcting minor flaws in research protocols and documentation of having done so (Hamburger, 2007; Jacob and Riles, 2007). From the perspective of these critics, IRBs are so overburdened by meticulous attention to details that they have little time or energy left to attend to their primary mission: addressing and resolving ethical issues that arise in the design and execution of research involving human subjects.

Part of this committee's charge is to propose relevant research topics, so research that documents support for IRBs lies specifically within the committee's scope.

Research Needed: Research is needed on the regulatory costs and benefits of human-subjects research in the social and behavioral sciences, including the costs and benefits for institutions, IRBs, investigators, and sponsors. Some of this research can be done as part of the monitoring registries proposed in Chapter 2.

Much of this report concerns reducing the burdens on both IRB staff and members. The following chapters consider means to that end. In part, the report focuses on the argument for narrowing the domain of the IRB system to only those types of research in which IRB review yields important benefits, especially when the necessary protections of subjects' rights and welfare cannot be provided as well or better by other entities.

Situating the Report in the Changing Nature of Social and Behavioral Science Research

Large changes have occurred in social and behavioral science research since the Common Rule was applied to these disciplines. These changes occurred because knowledge in these fields has evolved (thereby blurring the lines between biomedical and social science research) and through the emerging ubiquity of digital record systems in all sectors of society, the rise of the Internet and digital connectivity in general, and more specifically the

related expansion in production of real-time data on most aspects of human behavior. In addition, the establishment of datasets shared among students and researchers in data archives has revolutionized the empirical social sciences. The informational risks of shared research data are themselves a research focus in social sciences, computer science, and statistics. To be current, a revision of the Common Rule needs to take into account these changes in society and research tools.

The Internet has altered everyday lives of all potential human participants in social and behavioral science research. Most of the records kept by institutions have been digitized, making them easy to analyze for research purposes with modern software. Massive datasets assembled by commercial firms store information on each person in American households. These datasets have combined economic transaction data, such as retail purchase data, loan and payment data, and property ownership data. Facebook, Google, and Twitter data are publicly available, sometimes personally identifiable. The risks of personal harm in everyday life have radically changed, and "it is increasingly appropriate to include the risk of computer-related harms, such as hacking, phishing, breach, lack of appropriate security measures as among those risks encountered in daily life."[20] Harms could possibly result from disclosure of health, financial, educational, or reputational information. Chapter 5 argues that these changes in the probability and magnitude of harm from use of personal information demand new guidance to IRBs.

The social and behavioral sciences have developed procedures for sharing research data among researchers. The research data are routinely stripped of all direct personal identifiers in an attempt to eliminate the probability of harm from knowledge of attributes of individual subjects. As the availability of data with personal identifiers has increased, social scientists, statisticians, and computer scientists have determined that merely deleting direct personal identifiers from a data record does not eliminate the ability to indirectly identify a person through combining datasets. This realization has spurred a rapidly evolving research area to measure disclosure risk and reduce it, develop more robust methods to de-identify data that protect against inadvertent disclosure, and expand institutional mechanisms for use of data under restricted conditions. Chapter 5 argues that guidance to IRBs must acknowledge the complex and rapidly changing techniques to reduce the probability of revealing research data about participants and the evolving protections to minimize the reputational or psychological harm from such knowledge.

[20]Secretary's Advisory Committee on Human Research Protections (2013, p. 15).

CONCLUSION

In striving to balance the benefits of social and behavioral science research, the necessary burdens and costs of the infrastructure for protecting human participants, and the rapidly changing research context, this report affirms the need, recognized in the ANPRM, to reconsider what facilitates the ethical conduct of research and what creates barriers. The report specifically considers the responsible conduct of researchers and recommends ways to move toward efficient and effective human subjects protection.

REFERENCES

Abbot, L., and Grady, C. (2011). A systematic review of the empirical literature evaluating IRBs: What we know and what we still need to learn. *Journal of Empirical Research on Human Research Ethics, 6*(1):3-19.

Allen, J.P., Philliber, S., Herrling, S., and Kuperminc, G.P. (1997). Preventing teen pregnancy and academic failure: Experimental evaluation of a developmentally based approach. *Child Development, 68*(4):729-742.

Baron, R. (2001). *International Emission Trading: From Concept to Reality*. Paris, France: International Energy Agency, OECD.

Beals, R.L., and The Executive Board. (1967). Background information on problems of anthropological research and ethics. *American Anthropological Association Fellow Newsletter, 8*(l):1-13.

Beauchamp, T.L., Faden, R.R., Wallace, R.J., and Walter, L. (Eds). (1982). *Ethical Issues in Social Science Research*. Baltimore, MD: Johns Hopkins University Press.

Beck, R.S., Daughtridge, R., and Sloane, P.D. (2002). Physician-patient communication in the primary care office: A systematic review. *The Journal of the American Board of Family Practice, 15*(1): 25-38.

Burman, W., Reves, R., Cohn, D.L., and Schooley, R.T. (2001). Breaking the camel's back: Multicenter clinical trials and local institutional review boards. *Annals of Internal Medicine, 134*(2):152-157.

Catania, J.A., Lo, B., Wolf., L.E., Dolcini, M.M., Pollack, L.M., Barker, J.C., Wertlieb, S., and Henne, J. (2008). Survey of U.S. human research protection organizations: Workload and membership. *Journal of Empirical Research on Human Research Ethics, 3*(4):57-69.

Dal Cin, S., MacDonald, T.K., Fong, G.T., Zanna, M.P., and Elton-Marshall, T.E. (2006). Remembering the message: The use of a reminder cue to increase condom use following a safer sex intervention. *Health Psychology, 25*(3):438-443.

Decker, R.S., Wimsatt, L., Trice, A.G., and Konstan, J.A. (2007). *A Profile of Federal-Grant Administrative Burden among Federal Demonstration Partnership Faculty*. Washington, DC: Federal Demonstration Partnership.

Dodge, K.A., Lansford, J.E., and Dishion, T.J. (Eds.). (2006). *Deviant Peer Influences in Programs for Youth*. New York: Guilford Press.

Easthall, C., Song, F., and Bhattacharya, D. (2013). A meta-analysis of cognitive-based behaviour change techniques as interventions to improve medication adherence. *BMJ Open, 3*(8).

Fiske, S.T. (2009). Institutional review boards: From bane to benefit. *Perspectives on Psychological Science, 4*(1):30-31.

Fost, N., and Levine, R.J. (2007). The dysregulation of human subjects research. *Journal of American Medical Association, 298*(18):2196-2198.

Goeree, J.K., and Holt, C.A. (2010). Hierarchical package bidding: A paper and pencil combinatorial auction. *Games and Economic Behavior*, *70*(1):146-169.

Hamburger, P. (2007). Getting permission. *Northwestern University Law Review, 101*(2): 405-492.

Haynes, R.B., Ackloo, E., Sahota, N., McDonald, H.P., and Yao, X. (2008). Interventions for enhancing medication adherence. *Cochrane Database of Systematic Reviews, 2*(2).

Heron, K.E., and Smyth, J.M. (2010). Ecological momentary interventions: Incorporating mobile technology into psychosocial and health behaviour treatments. *British Journal of Health Psychology, 15*(1):1-39.

Hojat, M., Louis, D.Z., Markham, F.W., Wender, R., Rabinowitz, C., and Gonnella, J.S. (2011). Physicians' empathy and clinical outcomes for diabetic patients. *Academic Medicine, 86*(3):359-364.

Jacob, M.A., and Riles, A. (2007). The new bureaucracies of virtue: Introduction. *PoLAR: Political and Legal Anthropology Review, 30*(2):181-191.

Kripalani, S., Yao, X., and Haynes, R.B. (2007). Interventions to enhance medication adherence in chronic medical conditions: A systematic review. *Archives of Internal Medicine, 167*(6):540-550.

Levine, F.J., and Skedsvold, P.R. (2008). Behavioral and social science research. Pp. 336-355 in E.J. Emanuel, C. Grady, R.A. Crouch, R.K. Lie, F.G. Miller, and D. Wendler (Eds.), *The Oxford Textbook of Clinical Research Ethics*. New York: Oxford University Press.

Levine, R.J. (1988). *Ethics and Regulation of Clinical Research*. 2nd ed. New Haven, CT: Yale University Press.

Levine, R.J. (2001). Institutional review boards: A crisis in confidence. *Annals of Internal Medicine, 134*(2):161-163.

Lilienfeld, S.O. (2005). Scientifically unsupported and supported interventions for childhood psychopathology: A summary. *Pediatrics, 115*(3):761-764.

McCormick, E.J., and Sanders, M.S. (1982). *Human Factors in Engineering and Design*. New York: McGraw-Hill.

McMillan, J. (1994). Selling spectrum rights. *The Journal of Economic Perspectives, 8*(3):145-162.

National Research Council. (1982). *Behavioral and Social Science Research: A National Resource, Part I*. Committee on Basic Research in the Behavioral and Social Sciences. R. McC. Adams, N.J. Smelser, and D.J. Treiman (Eds). Commission on Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.

National Research Council. (2003). *Protecting Participants and Facilitating Social and Behavioral Sciences Research*. Panel on Institutional Review Boards, Surveys, and Social Science Research. C.F. Citro, D.R. Ilgen, and C.B. Marrett (Eds.). Committee on National Statistics and Board on Behavioral, Cognitive, and Sensory Sciences. Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

National Research Council. (2013). *Proposed Revisions to the Common Rule: Perspectives of Social and Behavioral Scientists: Workshop Summary*. Committee on Revisions to the Common Rule for the Protection of Human Subjects in Research in the Behavioral and Social Sciences. R. Pool (Rapporteur). Board on Behavioral, Cognitive, and Sensory Sciences. Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

O'Donnell, L., Stueve, A., O'Donnell, C., Duran, R., San Doval, A., Wilson, R.F., and Pleck, J.H. (2002). Long-term reductions in sexual initiation and sexual activity among urban middle schoolers in the reach for health service learning program. *Journal of Adolescent Health, 31*(1):93-100.

Pennebaker, J.W. (1993). Putting stress into words: Health, linguistic, and therapeutic implications. *Behavioral Research and Therapy, 31*(6):539-548.

Petrosino, A., Turpin-Petrosino, C., and Buehler, J. (2002). "Scared Straight" and other juvenile awareness programs for preventing juvenile delinquency. *Campbell Systematic Reviews,* (2), CD002796. Available: http://summaries.cochrane.org/CD002796/scared-straight-and-other-juvenile-awareness-programs-for-preventing-juvenile-delinquency [February 2014].

Prentice, D.A., and Miller, D.T. (1993). Pluralistic ignorance and alcohol use on campus: Some consequences of misperceiving the social norm. *Journal of Personality and Social Psychology, 64*(2):243-256.

Roscoe, S.N., and Williams, A.C. (1980). *Aviation Psychology*. Ames: Iowa State University Press.

Rosnow, R.L. (1997). Hedgehogs and foxes and the evolving social contract in psychological science. *Psychological Methods, 2*(4):345-356.

Schrag, Z.M. (2010). *Ethical Imperialism*. Baltimore, MD: Johns Hopkins University Press.

Secretary's Advisory Committee on Human Research Protections. (2013). *Considerations and Recommendations Concerning Internet Research and Human Subjects Research Regulations, with Revisions*. (White paper approved, SACHRP meeting March 12-13.) Available: http://www.hhs.gov/ohrp/sachrp/mtgings/2013%20March%20Mtg/internet_research.pdf [February 2014].

Sherman, L.W., Gottfredson, D.C., MacKenzie, D.L., Eck, J., Reuter, P., and Bushway, S.D. (1998). *Preventing Crime: What Works, What Doesn't, What's Promising Report to the U.S. Congress*. Washington, DC: U.S. Department of Justice. Available: https://www.ncjrs.gov/pdffiles/171676.PDF [October 2013].

Stewart, M.A. (1995). Effective physician-patient communication and health outcomes: A review. *CMAJ: Canadian Medical Association Journal, 152*(9):1423-1433.

Stone, J., Aronson, E., Crain, A.L., Winslow, M.P., and Fried, C.B. (1994). Inducing hypocrisy as a means of encouraging young adults to use condoms. *Personality and Social Psychology Bulletin, 20*(1):116-128.

Street, R.L., Jr., Makoul, G., Arora, N.K., and Epstein, R.M. (2009). How does communication heal? Pathways linking clinician-patient communication to health outcomes. *Patient Education and Counseling, 74*(3):295-301.

Tarn, D.M., Heritage, J., Paterniti, D.A., Hays, R.D., Kravitz, R.L., and Wenger, N.S. (2006). Physician communication when prescribing new medications. *Archives of Internal Medicine, 166*(17):1855-1862.

Thaler, R.H., and Sunstein, C.R. (2008). *Nudge: Improving Decisions about Health, Wealth, and Happiness*. New York: Penguin Books.

U.S. Department of Health and Human Services. (1979). *The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research*. The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. Washington, DC: U.S. Department of Health and Human Services. Available: http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html [October 2013].

U.S. Department of Health and Human Services. (2011). Human subjects research protections: Enhancing protections for research subjects and reducing burden, delay, and ambiguity for investigators. *Federal Register, 76*(143):44,512-44,531. Throughout this report, specific text references to the ANPRM are cited using the standard legal format for *Federal Register* citations, namely: 76 Fed. Reg.

Wagner, T.H., Murray, C., Goldberg, J., Adler, J.M., and Abrams, J. (2010). Costs and benefits of the National Cancer Institute Central Institutional Review Board. *Journal of Clinical Oncology, 28*(4):662-666.

White, R.F. (2007). Institutional review board mission creep: The Common Rule, social science, and the nanny state. *The Independent Review, 6*(4):547-564.

Wickens, C.D., and Hollands, J.G. (2000). *Engineering Psychology and Human Performance*. Upper Saddle River, NJ: Prentice Hall.

Wilson, T.D. (2011). *Redirect: The Surprising New Science of Psychological Change*. New York: Little, Brown.

Wright, D. (2004). Creative nonfiction and the academy: A cautionary tale. *Qualitative Inquiry, 10*(2):202-206.

2

Rationales, Definitions, and Procedures Related to Research Not Involving Human Subjects and the Proposed Excused Category of Research

INTRODUCTION

Two important reviews of the evidence on institutional review boards (IRBs) that were published in 2011 have direct implications for revisions to the Common Rule. Abbott and Grady (2011) examined studies that evaluated different aspects of IRB functioning including structure, review costs, implementation processes, variation in outcomes or processes of IRB review of multicenter research, and outcome studies that examined IRB decisions and deliberation results. No studies were identified that evaluated the effect of IRBs on the human subjects' protection. The studies reviewed covered a broad range of research as far back as 1975, but most studies were conducted in the 2000s. The authors commented that their results supported historical complaints about IRBs being inconsistent, inefficient, redundant in multisite reviews, and burdensome. Differences were found in how federal regulations were interpreted and implemented, in time to complete reviews, and in the decisions made. The authors concluded that measures or metrics are needed to demonstrate the results of IRBs and that research is needed to answer a host of intermediate questions leading to evaluating the effectiveness of IRBs. For example, research is needed to answer questions about how IRBs determine and minimize risk, the quality of IRB review, and the protective effects of IRBs (Abbott and Grady, 2011).

The second review was conducted by Silberman and Kahn (2011), who identified 52 health-related research studies that collected primary data on the costs of IRB review in terms of expenditures of time or money and constraints on the scope of research. The authors were also looking at IRB

performance factors that might be associated with burdens. Most studies were published after 1998. More than half of the studies were focused on multisite research. Similar to Abbott and Grady (2011), Silberman and Kahn (2011) found differences in levels of efficiency, decisions that diverge from regulations and from guidance from the Office for Human Research Protections (OHRP) in the U.S. Department of Health and Human Services (HHS), and lengthy and variable waiting times, often for the same protocol. They also underscored the gap in knowledge between the vitally important research conducted to improve personal and public health and how such research is regulated.

Both of these reviews of the evidence commented on the lack of standard data collected on IRB functioning and costs, which would provide feedback to improve the system. Although not national data sources, two organizations are collecting data from member IRBs across the United States on IRB performance. The Association for the Accreditation of Human Research Protection Programs (2013) collects metrics on institutional and IRB characteristics, types of research conducted, sponsors of research, IRB review times, disapproval of research, IRB resources, audits, protocol deviations, and noncompliance reported to the IRB. The 2013 report of the National Research Network, in which similar types of metrics are collected and reported, uses more of a benchmark structure comparing performance (e.g., turnaround time by type of IRB and level of IRB review). Both of these reports were based on fairly small numbers of IRBs: the Association for the Accreditation of Human Research Protection Programs has 183 member IRBs; the National Research Network reported on 100 randomly selected member IRBs.

The reviews by Abbott and Grady (2011) and by Silberman and Kahn (2011) support the need to revise the regulatory framework both to improve IRB functioning and to reduce burden. Although no generalization can be made about current IRB functioning in the United States based on the new and developing performance databases described above (Association for the Accreditation of Human Research Protection Programs, 2013; National Research Network, 2013), these are important sources of data that can over time provide feedback with implications for improving performance and can inform future policy decisions.

With this brief review of the evidence in mind, in this chapter the committee builds on the intent of HHS and the Office of Science and Technology Policy in issuing the Advance Notice of Proposed Rulemaking (ANPRM) "to enhance the effectiveness of the research oversight system by improving the protections for human subjects while also reducing burdens, delays, and ambiguity for investigators and research subjects" (76 Fed. Reg. 44,516). The ANPRM notes specifically the potential for overregulation of social and behavioral science research, since much of it involves only informational risk that is no more than minimal.

The ANPRM (76 Fed. Reg. 44,514-44,515) describes proposed changes to the Common Rule in the areas shown in Box 2-1. This chapter addresses the first point in the box, on refinements to the risk-based regulatory framework and specifically to the subitems on revising the regulations regarding studies currently considered exempt (subitem d) and establishing mandatory data protection and information security standards (subitem a). Subsequent chapters address these and other topics listed in Box 2-1.

With regard to the regulatory framework itself, the committee started by reexamining the definitions of "human subjects" and "research" upon which the Common Rule is based, and in this chapter we recommend combining the two terms to simplify determinations of whether IRB review is needed and of what type. Building on this base, the committee found that many types of research using publicly available information sources should actually be considered "not human-subjects research," and we provide examples of these for cases where there is no reasonable expectation of privacy.

Exempt research is intended as a class of activities that falls outside of

BOX 2-1
Major Revisions to the Common Rule Proposed by the U.S. Department of Health and Human Services

1. Refinement of the existing risk-based regulatory framework
   a. Establishing mandatory data security and information protection standards for all studies that involve identifiable or potentially identifiable data
   b. Revising the rules for continuing review of studies
   c. Revising the regulations regarding expedited review to provide for mandatory regular updating of the list of categories of research that may be reviewed under this mechanism
   d. Revising the regulations regarding studies currently considered exempt
   e. Requiring written consent for research use of biospecimens collected for clinical purposes and can cover future research
2. Utilization of a single IRB of record for domestic sites of multisite studies
3. Improvement of consent forms and the consent process
4. Establishment of an improved, more systematic approach for the collection and analysis of data on unanticipated problems and adverse events
5. Extension of federal regulatory protections to all research regardless of funding source, conducted at institutions in the United States that receive some federal funding from a Common Rule agency for research with human subjects
6. Improvement and harmonization of regulations and related agency guidance

the scope of the Federal Regulations for the protection of human subjects (45 C.F.R. § 46, Part A, hereafter referred to as "the Common Rule"). However, this term has been among the most confused and debated in the Common Rule with regard to what research is covered under this category and the process of determining what is exempt (Pritchard, 2001). The core dilemma has been that this category of research is considered to be exempt from IRB review, but guidance from OHRP has recommended some form of IRB review. Thus, in most institutions exempt research is considered to require IRB review.

The committee supports the ANPRM's creation of a new category of "excused research" for research activities, formerly considered exempt, in which participants are primarily exposed to informational risk. In this chapter recommendations are offered for defining the new category and examples are provided of social and behavioral science research activities that would fall in the new category. As suggested in the ANPRM, the committee includes in the "excused" category examples of social and behavioral sciences research methods that are essentially benign interventions that would have previously required expedited review. The committee also clarifies the differences between research activities that are excused from IRB review and those that would require expedited IRB review—a topic taken up in more detail in Chapter 3. Although certain research activities are excused from IRB review, the ANPRM suggested procedures for registering excused research, requiring data protection plans, and auditing small samples of the research. The committee offers recommendations for how these types of procedures might be implemented in the context of social and behavioral sciences. Chapter 5 returns to the topic of excused research to address in more detail informational risk and data protection plans.

This chapter also suggests specific guidance that OHRP should provide in support of the regulatory revisions under the ANPRM. To make these recommendations more useful, the chapter includes examples of a wide variety of social and behavioral science research activities that could be used by OHRP to clarify what research comes under the category of "excused."

The net effect of the ANPRM proposed changes to the Common Rule and the committee's refinements to these changes for the social and behavioral sciences is to limit the scope of activities covered under the Common Rule. The framework recommended in this chapter places greater responsibility on investigators for the ethical conduct of research. However, it does so only with careful attention to what constitutes human-subjects research and to the kinds of social and behavioral science research reliably involving no greater than minimal informational risk for participants. It also proposes procedures for research registration and accountability for professional mistakes or misjudgments. Finally, this framework specifies circumstances when consultation or review by an IRB under expedited procedures would be appropriate.

Background on Exempt Research

For many years, ambiguity in the meaning of "exempt research" has been a source of confusion and inconsistent practices on the part of institutions and IRBs. One issue has been who can make the determination about what research is exempt from IRB review under 45 C.F.R. § 46.101(b). Regulations in place since the National Research Act of 1974 were revised and expanded between 1978 and 1981 in light of the Belmont Report (U.S. Department of Health and Human Services, 1979). Since 1981, HHS has recognized that IRBs need to focus their time and energy on research posing greater than a minimal risk and on magnitude of harms greater than those encountered in everyday life.

In January 1981, 6 months before the revised Common Rule went into effect, HHS explained the introduction of broad exemptions for educational, behavioral, and social science research that it described as normally presenting little or no risk of harm to subjects, as follows:

> In taking this step, the Department anticipates that the work load of IRBs will be significantly reduced, as will the paperwork burden on those scientists whose research will be henceforth exempt. Also, since the IRB will be relieved of unnecessary work, research institutions are expected to have less difficulty in recruiting members of IRBs, and the IRBs will be able to concentrate more productively on projects which most deserve IRB attention.[1]

The revised regulations, however, left to institutions to "adopt any administrative procedures relative to exempt categories of research, if they deem them appropriate" (46 Fed. Reg. 8,372). This helps to explain the uncertainty, ambiguity, and overregulation that have been observed in the ensuing years. For example, in 1995, the Office for Protection from Research Risks in HHS found it necessary to restate that there needs to be a policy in place at institutions concerning who can make the determination about what research is exempt from IRB review under 45 C.F.R. § 46.101(b) (U.S. Department of Health and Human Services and Office for Protection from Research Risks, 1995). OHRP, the successor to the Office for Protection from Research Risks, reaffirmed that guidance again in 2002, and it remains current OHRP policy and guidance.[2]

This guidance leaves to institutions the decision on how to make the exempt determination; while it does not rule out an institutional decision to have investigators make that determination themselves, it strongly advises

[1]See the January 26, 1981, "Final Regulations Amending Basic HHS Policy for the Protection of Human Subjects Research," at 46 Fed. Reg. 8,367-8,368.

[2]See "Exempt Research and Research That May Undergo Expedited Review," under OHRP Policy & Guidance, at http://www.hhs.gov/ohrp/policy/hsdc95-02.html [October 2013].

against such a decision because of potential conflicts of interest around implementation. Operationally, most institutions delegate this responsibility to IRBs, which have the authority to determine how broadly or narrowly to use the exempt category or whether to use it at all. Since these determinations are referred to IRBs, there is functionally no scholarship about or involving people that a priori falls outside of IRB oversight or reduces the burden on IRBs to look at all research.

As recently as September 2008, the HHS Secretary's Advisory Committee on Human Research Protections (SACHRP) issued a specific call for a "consolidated, comprehensive guidance document" that is general on the application of the exemption categories and specific for each of the six categories of exemptions.[3] Over half of the SACHRP letter is devoted to the exempt category, with extensive advice for clarifications and guidance. In section IC(1) of that letter, SACHRP particularly emphasized the need for clarification of the relationship between the exemptions and the definitions of "human subject" and "research":

> Institutions and investigators are still confused about the decision steps for determining the applicability of the HHS regulations prior to making exemption determinations. Some activities that do not meet the regulatory definition of "research" (45 CFR 46.102[d]) or "human subject" (45 CFR 46.102[f]) are inappropriately reviewed through use of the exempt categories. The guidance should clearly state the sequence and interrelationships between the definitions of "research" and "human subject" with the exemptions.[4]

Background on Excused Research

The ANPRM offers the kind of fresh ideas called for in the SACHRP letter. In particular, the ANPRM has proposed a new category of "excused" research, applicable to human-subjects research.[5] It is intended to cover research involving only informational risk either (a) where the risk of disclosure and the potential harm from it involve no risk or no greater than minimal risk or (b) where data protection plans and risk reduction mechanisms reduce the risk of disclosure to no greater than a minimal level.

[3]See the SACHRP Letter to HHS Secretary, September 18, 2008 at http://www.hhs.gov/ohrp/sachrp/sachrpletter091808.html [October 2013].

[4]See SACHRP letter at http://www.hhs.gov/ohrp/sachrp/sachrpletter091808.html (p. 1) [December 2013].

[5]The ANPRM introduced the term "excused" but questioned whether it was the best term for characterizing the research so classified. It suggested that "registered" might be a better way to describe these studies since they do come under a "variety of requirements to protect participants." In particular, they are self-classified and registered by investigators and only subject to audit review (76 Fed. Reg. 44,518 and 44,520).

In this chapter, the committee addresses how the addition of an "excused" category can be structured and defined to handle these kinds of minimal-risk research, thereby reducing IRB and investigator burden in research that would come within the definition of human-subjects research.

The recommendations developed in the sections below depart from those of the ANPRM in three important respects: First, whereas the ANPRM rolls all of the former exempt categories into the new excused category, the committee carves out certain types of research activities that could be categorized as "not human-subjects research." Second, the committee recommends that the revised Common Rule not require investigators using pre-existing data (whether collected for *non-research* or *research* purposes) to obtain consent, as long as they adhere to the original terms of consent and use the data with appropriate data protection plans in place.[6] Third, although the committee supports the aims of the ANPRM to reduce informational risk through data protection mechanisms, we believe the ANPRM's reliance on the Health Insurance Portability and Accountability Act of 1996 (HIPAA) is misguided. Consonant with the consensus in the public commentaries on the ANPRM from social and behavioral science professional organizations,[7] the committee has concerns about the use of HIPAA as an appropriate data protection mechanism.

The Privacy Rule under HIPAA aims to protect personally identifiable health information held by covered entities and to specify patients' rights; the Security Rule aims to safeguard the confidentiality, integrity, and availability of electronically protected health information.[8] These rules are directed to protecting and securing administrative health records obtained for non-research purposes. They are not intended to offer a data security and protection structure for the confidentiality of private information while also allowing for appropriate scientific research involving human subjects. The committee therefore outlines a modification that would enable a system for excusal appropriate for research in the social and behavioral sciences while still protecting human subjects of research from greater than minimal informational risk.[9]

Overall, however, the committee's recommendations are consistent with the approach and aims of the ANPRM. Like the ANPRM, the committee outlines a plan that would include in the "excused" category a large

[6]See 76 Fed. Reg. 44,519-44,520. The ANPRM recommends consent as the default, noting that consent requirements may be waived and that generally subjects will have signed a consent form "allowing for broad, future research."

[7]See http://www.regulations.gov/#!searchResults;rpp=50;po=0;s=HHS-OPHS-2011-0005;dct=PS [December 2013].

[8]Further information on these rules can be found at http://www.hhs.gov/ocr/privacy/hipaa/understanding/index.html [December 2013].

[9]Chapter 5 discusses HIPAA and data protection plans in greater detail.

proportion of research that previously came under the "exempt" category. Further, consistent with the thinking in the ANPRM, the committee's plan includes as excused research those types of social and behavioral research that are essentially benign interactions or interventions that are commonly used, involve no risk to subjects, and are essentially informational in nature, through verbal or similar methods familiar to people (76 Fed. Reg. 44,518-44,519). Under this plan, excused research would no longer be reviewed by IRBs. Instead, it would be registered and required to have a data protection plan appropriate to the level of informational risk it poses.

The committee fully supports the ANPRM's underlying objectives—first enunciated by HHS in 1981—namely, to focus IRB review on issues requiring human research protection, to address informational risk more effectively, and to better understand and define the different types of research covered by different levels of IRB oversight or review. The dual aims of the ANPRM are to promote human subjects protection while advancing research and reducing the administrative burden on IRBs so that their time and expertise can be devoted to research that involves forms and levels of risk that would most benefit from their review. The committee shares these goals and offers the recommendations that follow as a better way to achieve them.

CLARIFYING THE SCOPE OF THE REGULATIONS

Redefining Human-Subjects Research

The current regulatory definitions present "research" (45 C.F.R. § 46.102(d)) and "human subject" (45 C.F.R. § 46.101(f)) as distinct. Linking the two so that "human subject" explicitly qualifies "research" would clarify which kinds of research activities are outside the scope of the Common Rule and which are within its scope. Because the Common Rule nowhere explicitly defines "human-subjects research" as a particular kind of research, the committee recommends that it be revised to explicitly take this into account.

Recommendation 2.1: HHS should revise the Federal Regulations so as to combine explicitly the definition of "research" (45 C.F.R. § 46.102(d)) and the definition of "human subject" (45 C.F.R. § 46.102(f)). "Human-subjects research" is systematic investigation designed to develop or contribute to generalizable knowledge by obtaining data about a living individual directly through interaction or intervention or by obtaining identifiable private information about an individual. HHS should revise

the Common Rule to clarify that only "human-subjects research" falls within the scope of this regulation.

Having recommended how to redefine human-subjects research, the next two sections discuss two types of activities that should be considered as "not human-subjects research." These include (1) scholarship activities and (2) gathering or analyzing publicly available information. Box 2-2 provides definitions of terms used to refer to different types of data or data sources as the chapter proceeds.

BOX 2-2
Terminology Used in Referring to Different Types of Data or Data Sources

Data repository—digital data center that supports the preservation, discovery, use, reuse, and manipulation of scientific data.

De-identified data—datasets where all of the identifiers have been removed, and there is no reasonable basis to believe that the remaining information could be used to identify a person.

Pre-existing data—datasets that were previously collected and may be obtained from a researcher or a data repository for secondary analysis.

Publicly available information—information that is publicly available to anyone for free or purchase.

- Publicly available non-research data**—**data not originally collected for research purposes, but for administrative records or other purposes. These could include data that can be obtained from public records or from the internet. See examples in Box 2-3.
- Publicly available research data**—**data that were collected for research purposes, but are publically available either because there are no identifiers in the dataset or the data have been certified for public use (see public-use data files below).

Public-use data files—data that have been extracted from research data and have been de-identified and certified as protected against disclosure.

Restricted access data—data that are made available under stringent, secure conditions and that typically have identifiable, confidential, or sensitive data.

SOURCE: Adapted from definitions available at http://www.icpsr.umich.edu/icpsrweb/content/datamanagement/glossary.html and http://rc.partners.org/edctools [December 2013].

Activities Outside of Human-Subjects Research

Scholarship Activities

The framework for this chapter's recommendations follows from the fundamental point that the Common Rule was intended to apply to human-subjects research specifically in the biomedical, behavioral, and social sciences. From that perspective, the Common Rule does not apply to scientific research that does not meet the definition of human-subjects research. Also, it does not apply to scholarly or investigative activities that are not conventionally considered to be scientific research, even if they involve interaction with people.

Recommendation 2.2: HHS should revise the Federal Regulations to clarify that many forms of scholarship that are widely labeled "research" should be considered as "not human-subjects research" because they are not covered by the intent or spirit of the term "human-subjects research" (see Box 2-3).

Guidance Recommended: OHRP should provide guidance offering examples of forms of scholarship that conventionally fall outside of the definition of human-subjects research, which could help researchers and IRBs in determining whether research activities would be considered as not human-subjects research. For example, historians or nonfiction writers speaking to sources about particular events, or organizations collecting information about preferred benefits packages or studying internal process improvement (that is, self-study) are not engaged in human-subjects research, and such activities are not intended to be covered by 45 C.F.R. § 46.

Publicly Available Information

Also shown in Box 2-3 are examples of publicly available information. While gathering and analysis of publicly available information may meet the definition of research, use of such information, even if identifiable, does not constitute human-subjects research because it does not involve direct intervention or interaction and because the information is not private. The committee therefore concludes that, to clarify its scope, the Common Rule should explicitly classify as "not human-subjects research" those research activities that involve the use or gathering of publicly available information, including observation in public places, whether the information is identifiable or not, recorded or not, or accessible or not through any public medium (virtual, or otherwise). Further discussion follows regarding two

BOX 2-3
Illustrations of Research That Should Be Categorized as Not Human-Subjects Research

Scholarship outside the definition of human-subjects research

1. Interviews with individuals for the purpose of establishing a historical record or supplementing extant historical records (e.g., biographical scholarship)
2. Personal observation and note taking preparatory to composition (e.g., fiction writing, memoir, and related creative or expressive writing)

Publicly available information outside the definition of human-subjects research

1. Observing, coding, or recording the behavior of individuals in public settings where there is no interaction or intervention and no assumption of privacy, such as recording admissions lines to study social interaction in crowds at sporting or cultural events, coding informational content of publicly published Facebook pages, or observing differences in tipping behavior in restaurants
2. Demographic, sociological, or other research that uses publicly available data sources, such as birth or decedent records, home ownership, or court records where the information is public and there is no assumption of privacy
3. Research that uses certified public-use data files;* that is, data files tested to ensure respondents cannot be identified; public-use files available from such studies as the Panel Study of Income Dynamics, Early Childhood Longitudinal Program, National Longitudinal Study of Adolescent Health, among many others

*Some large datasets have files that are certified for public use and other files that are only for restricted access.

types of publicly available data: (1) those which are obtained through non-research venues (e.g., the Internet, administrative records) and (2) those which are obtained through certified public-use research files.

Expansion of Publicly Available Non-Research Data. The ANPRM, at 76 Fed. Reg. 44,519, distinguishes between data originally collected for *non-research* purposes and data collected for *research* purposes. There has been a dramatic explosion in the availability of non-research data for public consumption, profit and nonprofit sector purposes, and research use. In this report, the committee uses the term "publicly available non-research

data" to refer to data, including contents of record systems, on individual humans that can be freely accessed by anyone or can be purchased by non-researchers.

The rise of the Internet and, more generally, the digitization of information have greatly increased the volume of public non-research data available to social and behavioral scientists. Increasingly these researchers are using "found data" or "harvested data" from existing sets of information that were collected by entities in the private and government sectors and that are publicly available. These data have scientific value because they (a) offer timely (often real-time) documentation of behavior; (b) are collected on large populations of individuals or organizations, yielding massive datasets; (c) are relatively inexpensive to acquire; and (d) are relevant to behaviors that are often of interest to social scientists.

Two forces have led to an explosion in digital data on human populations. First, the rise of management information systems (e.g., electronic transaction records for customers and clients, service-sector tracking of client contacts, targeted marketing) and a host of related business practices have led businesses to create and use large amounts of person-level data in their day-to-day activities. Second, the rise of modern information and networking technologies has spawned a wide array of ways to document the behavior of billions of people as they proceed through their daily activities.

For instance, World Wide Web browsers now capture the behavior of people performing search, purchasing, and information-gathering activities on their computers and mobile phones every day throughout the world. Moreover, the Internet has produced an ever-growing collection of platforms for social media networking, which reveal personal information on individuals, their friends, and relatives. New industries have multiplied based on the modern networked society, and many of these businesses actively collect detailed attributes about their customers. Indeed, for many of these businesses the personal data resource *is* their business. Box 2-4 provides a listing of various types of digital data and the technologies that enable their gathering.

With these new data sources has come a new culture regarding what is private and what is public. Details of personal lives are shared publicly on Facebook, MySpace, MeetMe, Twitter, and other social media platforms. However, the rise of digital data being delivered in near real time has created important changes in all persons' lives and makes new forms of data available for research.

Rich research discoveries are now possible with pre-existing data sources available for public use. These same data systems have changed the risks of everyday life for all people, arising from non-research uses of the data. Individuals can be inundated with sales marketing calls and junk mail about products based on their records in commercial datasets sold to

BOX 2-4
Illustrative Types of Digital Data on Human Behavior Now Available for Social Science Study

- Individual subscriber behavior and related social network behavior captured by web-based platforms (Facebook, Twitter, LinkedIn)
- Internet search data (string data entered into search engines)
- E-mail data (metadata and message content data)
- Closed-circuit television (CCTV) data (video image data)
- Sensor data (household utility usage, personal interaction)
- Global positioning system (GPS) location data
- Cellular communication data
- Mouse click data (massive open online course [MOOC] student data, webpage visitor data)
- Massively multiplayer online games and virtual worlds
- Crowd-source reports of behaviors

businesses. People's past life can be fully investigated by purchase of records from financial credit firms. Past relationships can be revealed to those who were unaware of that past. Internet users' past web-based behaviors are used to change what they see on the web.

These features of current life exist irrespective of whether the information is small in scale or enormous in size and scope; whether it is public through administrative databases, Internet interactions or transactions, innovative recording technologies, or place-based image or locational capture; or whether it is collected or harvested at a single point in time or rapidly and continuously. The richness and openness of the world of digital data has as a basic property that it is public, and this digital world has fundamentally changed our everyday lives. At the same time the ethical challenges posed by these new forms of data will demand attention to the ethical obligations of researchers and IRBs. In a report specifically addressing ethical decision making and Internet research, the Association of Internet Researchers describes the tensions between the notions of public and private:

> Individual and cultural definitions and expectations of privacy are ambiguous, contested, and changing. People may operate in public spaces but maintain strong perceptions or expectations of privacy. Or, they may acknowledge that the substance of their communication is public, but that the specific context in which it appears implies restrictions on how that information is—or ought to be—used by other parties. Data aggregators or search tools make information accessible to a wider public than what

> might have been originally intended. In mediated contexts, as Nissenbaum points out, "what people care most about is not simply restricting the flow of information but ensuring that it flows appropriately" (2010, p. 2). As noted in the 2002 version of these AoIR [Association of Internet Researchers] ethics guidelines, privacy is a concept that must include a consideration of expectations and consensus. Social, academic, or regulatory delineations of public and private as a clearly recognizable binary no longer holds in everyday practice. When conducting research within such shifting terrains, when there is no consensus, or even assumption of consensus, Nissenbaum's concept of contextual integrity (2010) is a valuable construct. (Association of Internet Researchers, 2012, p. 6)

Most simply, contextual integrity refers to considering the social norms of privacy in different contexts. How are they different or the same in person, over the telephone, or on the Internet? The report from the Association of Internet Researchers encourages researchers to engage in an informed and collaborative ethical decision-making process in planning the research from design through dissemination phases. For example when studying special interest forums on the Internet, a question that needs to be considered is: what are community and individual norms and expectations for privacy? This process can assist researchers in dealing with the challenges of trying to decide what is a reasonable expectation of privacy. Many of the points related to gathering data from the Internet can apply to other digital data. The issue of when information is public and private has also been addressed in other spheres. For example, in 2003, the Urban and Regional Information Systems Association adopted a code of ethics regarding the use of spatial data available from geographic information systems (Levine and Sieber, 2007).

Private information as defined by the Common Rule means "information about behavior that occurs in a context in which an individual can reasonably expect that no observation or recording is taking place and information which has been provided for specific purposes by an individual and which the individual can reasonably expect will not be made public (for example a medical record)" (45 C.F.R. 46.102(f)). In providing guidance concerning Internet research and human subjects regulations, SACHRP advises that

> If individuals intentionally post or otherwise provide information on the internet, such information should be considered public unless existing law and the privacy policies and /or terms of service of the entities receiving or hosting the information indicate that the information should be considered "private." (Secretary's Advisory Committee on Human Research Protections (2013, p. 5)

The committee makes the following recommendation, taking into consideration the various ethical, regulatory, and legal aspects of the questions of privacy and use of publicly available information in research.

> **Recommendation 2.3:** HHS should revise the Federal Regulations to make clear that investigator use of only publicly available information, information in the public domain, or information that can be observed in public contexts is "not human-subjects research" and thus is outside of 45 C.F.R. § 46, whether or not the information is identifiable, as long as individuals whose information is obtained have no reasonable expectation of privacy. New forms of large-scale data should be included as "not human-subjects research" if all information is publicly available to anyone (including for purchase), if persons providing or producing the information have no reasonable belief that their private behaviors or interactions are revealed by the data, and if investigators using the data have no interaction or intervention with individuals. Investigators must observe the ethical standards for handling such information that guide research in their fields and in the particular research context.

Public-Use Data Files from Research Data. Information that is extracted from research data to provide public-use data files for investigators is also considered to be "not human-subjects research" as long as the public-use data files do not allow for the identification of human subjects and have been certified as such for public use. Investigators using such secondary data have no direct contact with or knowledge of human subjects. Public-use data files may be provided by government agencies, by research investigators seeking to share data from their projects, or by organizations dedicated to distributing data collected by others.

The committee endorses the recommendations of the National Research Council's Panel on Institutional Review Boards, Surveys, and Social Science Research (National Research Council, 2003) and Panel on Data Access for Research Purposes (National Research Council, 2005) and proposes to classify as not human-subjects research public-use datasets that have been certified by statistical agencies or by participating archives as sufficiently protected against the disclosure of human subjects to be acceptable for public access and use.[10] We further recommend that researchers who

[10]Recommendation 2.4 is derived from the recommendation on public-use data files approved by the National Human Subjects Protection Advisory Committee at its January 28-29, 2002, meeting. Public-use data files are data files prepared by investigators or data providers (e.g., data repositories, the federal government) with the intent of making them available for public use. Such files do not contain records that are individually identifiable or maintained in a readily identifiable form.

originally collected the data may release them in public-use form as long as they have similarly met that standard in accord with their IRB.

Recommendation 2.4: HHS should revise the Federal Regulations to classify as not human-subjects research public-use data files that have been extracted from research data as long as the data files have been de-identified and certified as protected against disclosure.

Guidance Recommended: OHRP guidance should be provided to clarify for investigators that, if they use more than one public-use dataset, they should protect against the very rare circumstance when simultaneous use or linkage could lead to re-identification.

Several examples of research that apply under Recommendations 2.2, 2.3, and 2.4, and the associated Guidance Recommended, are provided in Boxes 2-3 and 2-4. The examples were chosen to represent the key ideas embodied in the recommendations.

EXCUSED RESEARCH

Scope of Excused Research

This section builds on the ANPRM proposals for creating a new category of human-subjects research that is excused from IRB determination or review. Consistent with the ANPRM, the scope of excused research covers studies that have minimal informational risk and that involve interaction or intervention with human subjects or use of pre-existing research or non-research data that include private information. The category is tailored to a swath of human-subjects research where the research procedures themselves involve informational risk, but where that risk of disclosure is no more than minimal when appropriate data security and protection plans are in place.

As noted earlier, the committee's recommendations vary in some specifics from the ANPRM. Nevertheless, we support the vision of excusal from IRB review set forth in the ANPRM under the headings of "Ensuring Risk-Based Protections," "Moving Away from the Concept of Exempt," and "Types of Research that Qualify for the Excused Category" (76 Fed. Reg. 44,514-44,520). The committee strongly recommends that a category of excused research be added to 45 C.F.R. § 46.

Recommendation 2.5: HHS should expand the Federal Regulations to include a new category of human-subjects research termed "excused" that would (a) not be reviewed by an IRB or any other form of human-subjects research review, except in the limited oversight function to be

specified in the revised regulation, and (b) require the investigator to register the study with an IRB. Research should qualify as excused if the only risks of harm to participants posed by the study procedures themselves are informational (that is, the only plausible harm posed by the study procedures themselves involve the possible disclosure of personally identifiable information) and such risks are not at a greater than minimal level (defined as risks of disclosure of personal information not exceeding those encountered in daily life).

The following three recommendations describe the scope of excused research, general types of research that would fit into this category, and expectations related to the consent process for these types of research. Additional guidance is provided in Chapter 3 on key elements that need to be considered in determining whether research requires expedited review.

Recommendation 2.6: HHS should specify in the revised Federal Regulations that excused research covers studies where the research procedures involve informational risk that is no more than minimal (when appropriate data security and information protection plans are in place).The revised regulations should explicitly state that the excused category includes use of pre-existing research and non-research data that contains private information[11] or "benign interactions or interventions"[12] that involve methodologies or activities that are very familiar to people in everyday life and in which verbal, behavioral, or physiological responses would be the research data collected, such as educational tests, surveys, focus groups, interviews, and similar procedures.

Recommendation 2.7: HHS should make clear in the revised Federal Regulations that excused research includes research that has no more than minimal risk, even if the information being gathered addresses questions about human subjects' physical or psychological well-being.

Recommendation 2.8: HHS should explicitly address in the revised Federal Regulations the relationship between the consent of human subjects and excused research, with consent required in all excused research that directly involves human subjects through interaction or intervention.

[11]This category (except for observation in public places) is currently categorized as "exempt" at 45 C.F.R. § 46.101(b)(2).

[12]See 76 Fed. Reg. 44,519.

Guidance Recommended: OHRP should issue guidance that includes a list of types of research excused from IRB review under the revised Common Rule, as OHRP already provides in its guidance on expedited research. The list should include illustrations of research using pre-existing research and non-research data that include private information, including linked data; and benign interactions or interventions that involve methodologies or activities that are very familiar to people in everyday life and in which the data consist of verbal, behavioral, or physiological responses, such as educational tests, surveys, focus groups, interviews, and similar procedures. The list of excused studies should include methods that involve withholding or modifying information, but do not induce physical or psychological discomfort.[13]

The list of research activities eligible to be excused from IRB review should set forth examples that embrace the full range of studies contemplated under the excused categories. OHRP guidance should explicitly indicate that such a list is illustrative and not exhaustive of the types of excused research that fit the regulatory definition.

Examples of Excused Research

As stated in Recommendation 2.6, excused research covers studies where the research procedures involve informational risk that is no more than minimal and includes

- use of pre-existing research and non-research data that include private information, including use of extant research data under restricted use provisions or use of non-research data that are accessible but include private information about individuals that they may not expect to be public; or
- benign interactions and interventions[14] that involve methodologies that are very familiar to people in everyday life and in which verbal, behavioral, or physiological responses would be the research data collected.

Although research designated as "excused" would not, under the committee's proposed approach, need to be reviewed by an IRB, the research would be registered and subject to audit; consent procedures would be in

[13] See example #8 in the following section, "Examples of Excused Research"; and for information on deceptive techniques that should receive expedited IRB review, see the section, "Ensuring Adequate Classification of Excused and Expedited Categories," in Chapter 3.

[14] See 76 Fed. Reg. 44,519.

place to inform people about the research and invite them to participate; and a data protection plan would be in place to ensure that the informational risk was no more than minimal. Examples of these two types of excused research follow.

Pre-existing Data with Private Information

One example of data in this category is "restricted-use data." This refers to existing survey and research data containing individually identifiable information, which is confidential and protected by federal law. Special procedures and licensing to use these data files are instituted by providers such as the Inter-university Consortium for Political and Social Research, National Center for Education Statistics, Centers for Disease Control and Prevention, and the U.S. Census Bureau. Examples of these types of data files follow

- Measures of Effective Teaching[15]
- National Survey on Drug Use and Health[16]
- American Community Survey[17]
- Promise Neighborhoods[18]

Benign Interactions or Interventions

The following are examples of studies, predicated on informed consent, which could be designated as "excused" because they primarily involve informational risk that is no more than minimal and the research does not introduce or involve harm by virtue of the study procedures. Examples like these might instead be designated as expedited if the specific nature of the research procedures and/or the characteristics of the subject population suggest a need for special expertise to determine modifications to ensure that harm or discomfort created solely by the research procedures are not greater than minimal risk. These examples are not intended to be exhaustive but merely to illustrate the research methods used in a substantial amount of research that is conducted in the social and behavioral sciences.

1. A study on the nature of price formation in markets and how the prices are influenced by market rules and conditions (number of traders and markets, uncertainty, etc.). Offers, prices, and contracts

[15]See http://www.icpsr.umich.edu/icpsrweb/METLDB/ [December 2013].
[16]See http://www.icpsr.umich.edu/icpsrweb/SAMHDA/ [December 2013].
[17]See https://www.census.gov/acs/www/ [December 2013].
[18]See http://www.urban.org/publications/412909.html [December 2013].

are displayed to adult volunteers who, by computer, select from among various options.

2. A study of the strategic choices of individual adults. Divergent objectives are created with small financial incentives. Strategies available to individuals are dictated by the rules of the game through networked computers.
3. A study of the influence of voting rules in which adult volunteers are asked to choose one option by vote from among a set of options (e.g., letters of the alphabet). Small financial incentives are employed to create divergent interests. The choice resulting from different voting rules are compared.
4. A study of preference for bets that seeks to understand how people balance risks and rewards. Bets of various kinds are described, and adult volunteers say which they would prefer to deal with the uncertainty.
5. A study of learning and distraction in which adult volunteers are asked to memorize nonsense syllables while being distracted by, for example, having to flag particular words among a string of words rapidly presented over earphones.
6. A study of traits characterizing executives in different types of businesses by administering an anonymous standardized test such as the Five Factor Model Personality Test. Feedback to the subjects about their scores would not be provided.
7. A study comparing extrinsic and intrinsic motivation asks adult volunteers to use a new technology typical of one they might use on the job; some are rewarded for using it and some are not. Follow-up questionnaires are administered to see how much they have used the technology on the job.
8. A study in which a healthy adult volunteer plays a cooperative/competition game and is told that a partner in the game is another person, when in fact the participant is playing the game with a computer. Debriefing may be provided.
9. A study of intergroup interactions in which members of two different teams of adult volunteers engage in cooperative or competitive activities and afterward report their impressions of each other. Reactions are not reported back to the groups.
10. A study in which a sociocultural anthropologist lives for 2 years in an East Asian city, focusing on how ordinary rail users, transportation technicians, and transport officials talk about their experiences with high-speed rail travel.
11. A study in which a sociolinguist studying new forms of "reported speech" (that is, phrases in which someone reports what someone said) observes conversational interactions among friends, with

their informed consent, paying special attention to use of certain phrases.

12. A group of college students are given an anonymous survey about their mental health history and beliefs and attitudes toward school health policies.
13. A nationwide random sample of adults is asked about household income, spending practices, and savings for retirement. The data are de-identified following collection.

Procedures for Handling Excused Research

As set forth in the ANPRM, research categorized as excused would not be reviewed by IRBs. Excused research, however, needs to be registered by the investigator. Also, the investigator needs to file a data protection plan as part of the registration process. These plans need to be calibrated to the type and level of informational risk in order to avoid inadvertent disclosure and to reduce the level of any potential risk to no more than minimal. Investigators using restricted data files need to provide approval of use and the conditions under which use is granted as part of the registration process.

Adoption of this new category of research excused from IRB review makes investigators accountable for responsible use of research in the excused category. It could be that some researchers may misclassify research as excused that should instead be classified as expedited. To counter this possibility, the committee recommends that OHRP provide guidance in clarifying these researcher responsibilities (see detailed example of Guidance Recommended on page 54). Universities would likely provide additional clarification and training in distinguishing between research that can be excused versus expedited. (The committee provides examples of excused research in this chapter and then elaborates on the difference between the two categories in Chapter 3.) As stated in the paragraph above, protections are built into the category through requirements for registration of the research and development of data protection plans. In addition, prospective and retrospective audits of small proportions of the registered excused research would also protect against misclassification of research as excused when it should have had expedited review. Finally, this report has underscored the importance of professional ethics as another critical foundation for the protection of human subjects. Although introducing new procedures with the new category of excused research could create some new challenges and workload, the committee views this new category as a viable strategy for reducing IRB burden in the future.

The committee concurs with the ANPRM that IRBs should continue to be responsible for general oversight of the process, but we recommend regulatory safeguards to ensure that IRBs do not lapse into hyper-regulation

that undercuts the very value and purpose of the excused category for IRBs and for investigators.

For excused research, the ANPRM proposes a retrospective audit process for a percentage of the excused studies (76 Fed. Reg. 44,520). The ANPRM also states that IRBs "could choose to review some of the submissions at the time they are filed." While the ANPRM "contemplate[s] that this would only be done in a relatively small percentage of the filings" and suggests limiting the time period for review to 1 week (76 Fed. Reg. 44,519-44,520), the committee strongly believes that, to avert the IRB tendency to increase the level of review, the revised regulations should stipulate the procedures under which review and audit of excused research would occur. We therefore offer the following procedural recommendation for excused research, which allows for monitoring research in the excused category, setting forth the steps required by investigators who undertake excused research, and facilitating the excusal of such research from IRB review. The steps in Recommendation 2.9, combined with the associated Guidance Recommended, outline a plan for setting up a system to manage excusals.

Recommendation 2.9: HHS should revise the Federal Regulations to include the procedures under which research is excused from IRB review. The revised regulations should stipulate that such research can begin 1 week after registering a form that briefly describes the purpose of the research, the activities to be engaged in by research subjects, the subject population, consent procedures, and a data protection plan. During (and only during) that 1-week period, IRBs may review a small proportion of registrations to determine whether investigators have properly classified their study as excused or should instead have submitted it for an expedited or full board review. Finally, each year, a random audit of a small proportion of registrations should be performed by a designated institutional office to ensure that investigators meet the standards for research that should properly be excused. Investigators should be informed when their research is part of an examination or audit sample and, if issues are identified, they should be granted an appropriate period of time to make adjustments or submit a protocol for IRB review.

Guidance Recommended: OHRP should provide guidance in clarifying the responsibilities of investigators in the conduct of excused research and the oversight role and related parameters for IRBs with respect to excused research. This guidance should include

- Explanation and instructions for the completion of an online form for registration of excused research. The information entered in the form should (a) set forth the consent procedures if the research

involves primary data collection, (b) describe briefly what is being studied and what methods will be employed, (c) describe the subject population, (d) indicate that the research procedures only involve informational risk, (e) indicate that the research meets the definition of minimal risk, and (f) describe the data and specify the data protection plan appropriate to the research, if identifiable information is to be retained or recorded. (Annex 2.1 at the end of this chapter contains a possible template for a registration form.)

- Statement that excused research may include several data collections, including a series of studies, whether or not with the same subjects, as long as the entire program of research involves only informational risk and does not introduce risk of harm greater than described in the initial registration.
- Examples of strong data protection plans that do not rely on privacy protection statute such as HIPAA or the Federal Educational Rights and Privacy Act and that were designed to protect access to identifiable private information (such as medical records). Instead, provide guidance and examples that are appropriate to a system that is designed for research in the social and behavioral sciences and that allows for investigator use of private information while protecting its confidentiality and security. (This topic is taken up in greater detail in Chapter 5, which specifically addresses data protection and security while providing for data sharing and data use.)
- Explanation of the penalties for flagrantly misclassifying research as excused.

CLARIFYING THE DISTINCTION BETWEEN EXCUSED AND EXPEDITED RESEARCH

Chapter 2 has thus far focused on categories of activities that the committee proposes should not be reviewed by an IRB either because they are not human-subjects research, and thus outside the scope of the Common Rule, or because they are excused from IRB consideration. Chapter 3 takes up the category of expedited review by IRBs. Adapting a central proposal from the ANPRM, the committee's position is that a key element of excused research is that it presents no, or no greater than minimal, *informational* risk, even if research subjects are asked about physical or psychological well-being. Thus, whereas *excused* activities are those that primarily pose no greater than minimal informational risks to human subjects (either by virtue of the research activities themselves or by virtue of adequate mitigation of risk via a data protection plan), *expedited* activities are those that, because of the specific nature of the research procedures and/or the

characteristics of the subject population, require consideration through IRB review to ensure that harm or discomfort created solely by the research procedures are not greater than minimal risk. Under such circumstances, the investigator would submit the research protocol to the IRB for review.

Chapter 3 discusses the expedited category in much detail and provides criteria to consider when deciding if research can be excused or should receive expedited review by an IRB. Appendix B at the end of the report provides a summary table showing the differences between the categories of "not human-subjects research," research that is "excused" from IRB review, and research that would receive "expedited" IRB review in terms of characteristics of the research, how they would be handled procedurally, and types of studies in each category.

ANNEX 2.1
DRAFT MODEL FOR AN EXCUSED RESEARCH REGISTRATION FORM

The following outline lists suggested information to be included in a registration form for excused research.

1. Name of principal investigator. E-mail address and phone number.
2. Name(s) of primary individual(s) charged with collecting data.
3. Paragraph describing:
   (a) the question(s) being examined by the research,
   (b) the dataset if using pre-existing data,
   (c) the nature of the subject population, and
   (d) the range of tasks in which subjects will be engaged.
4. Manner in which consent is to be obtained (oral or written). If written, provide the consent form. If oral, describe the process. If consent is not required (as in the case of use of pre-existing private data where access has been provided under restricted conditions), the registration form needs to include this information.
5. Is subject identity or other personal identifiable information to be obtained? If so, describe the data protection plan and, even if subjects' identity is not retained, describe how other information will be handled by the investigator (including under restricted access provisions for others' use) to protect any private information from disclosure. The proposed data protection plan must be provided as part of the registration submission.
6. Identify nature of any risks or harms to participants.
7. Provide a starting date and expected date for completion.

Records of personnel and procedures must be maintained in the form of laboratory notes or computer records and will be available for audit.

REFERENCES

Abbott, L., and Grady, C. (2011). A systematic review of the empirical literature evaluating IRBs: What we know and what we still need to learn. *Journal of Empirical Research on Human Research Ethics, 6*(2):3-19.

Association for the Accreditation of Human Research Protection Programs. (2013). *2012 Metrics on Human Research Protection Program Performance*. Available: https://admin.share.aahrpp.org/Website%20Documents/2012%20Metrics%20(2).pdf [December 2013].

Association of Internet Researchers. (2012). *Ethical Decision-making and Internet Research. Recommendations from the AoIR Ethics Working Committee (Version 2)*. Available: http:www.aoir.org/reports/ethics2.pdf [December 2013].

Levine, F., and Sieber, J. (2007). Ethical issues related to linked social-spatial data. Appendix B. In National Research Council, M.P. Gutmann and P.C. Stern (Eds.), *Putting People on the Map: Protecting Confidentiality with Linked Social-spatial Data*. Panel on Confidentiality Issues Arising from the Integration of Remotely Sensed and Self-Identifying Data. Committee on the Human Dimensions of Global Change. Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

National Research Council. (2003). *Protecting Participants and Facilitating Social and Behavioral Sciences Research*. Panel on Institutional Review Boards, Surveys, and Social Science Research. C.F. Citro, D.R. Ilgen, and C.B. Marrett (Eds.). Committee on National Statistics and Board on Behavioral, Cognitive, and Sensory Sciences. Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

National Research Council. (2005). *Expanding Access to Research Data: Reconciling Risks and Opportunities*. Panel on Data Access for Research Purposes. Committee on National Statistics, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

National Research Network. (2013). *National Research Network: 2012 Benchmark Report*. Available: http://www.irbnetresources.org/news/nrnbenchmark_2012.pdf [May 2013].

Nissenbaum, H. (2010). *Privacy in Context: Technology, Policy, and the Integrity of Social Life*. Stanford: Stanford University Press.

Pritchard, I.A. (2001). Searching for "Research Involving Human Subjects": What is examined? What is exempt? What is exasperating? *IRB: Ethics and Human Research, 23*(3):5-13.

Secretary's Advisory Committee on Human Research Protections. (2013). *Considerations and Recommendations Concerning Internet Research and Human Subjects Research Regulations, with Revisions*. Paper prepared for the SACHRP meeting, Washington, DC, March 12-13, U.S. Department of Health and Human Services. Available: http://www.hhs.gov/ohrp/sachrp/commsec/attachmentbsecletter20.pdf [December 2013].

Silberman, G., and Kahn, K.L. (2011). Burdens on research imposed by institutional review boards: The state of the evidence and its implications for regulatory reform. *The Milbank Quarterly, 89*(4):599-627.

U.S. Department of Health and Human Services. (1979). *The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research*. The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. Washington, DC: U.S. Department of Health and Human Services. Available: http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html [October 2013].

U.S. Department of Health and Human Services and Office for Protection from Research Risks. (1995). *Exempt Research and Research That May Undergo Expedited Review*. Number 95-02. Available: http://www.hhs.gov/ohrp/policy/hsdc95-02.html [October 2013].

3

Determining Minimal Risk in Social and Behavioral Research

The Common Rule[1] is frequently described as a risk-based rubric, and a central task of an institutional review board (IRB) is to determine that risks are minimized and that the risks to the subjects are reasonable in relation to the anticipated benefits (45 C.F.R. § 46.111(a)(1) and § 46.111(a)(2)). "Risk" is a word fraught with many connotations, and the way the word is used in a lay context does not necessarily equate with that used in the utilitarian cost-benefit analysis intended by the Common Rule. But there is very little in the Common Rule itself or subsequent guidance that provides help with defining or assessing risk.[2] The only definition of risk in the human subjects protection regulations is for minimal risk (45 C.F.R. § 46.102(i)). Over the past 30 years, this definition has guided IRBs in determining the level of review required by a research protocol. At the same time, there has been widespread inconsistency in IRB application of the minimal-risk criteria, due in part to the ambiguity of regulatory language (e.g., Lidz and Garverich, 2013; Shah et al., 2004). Laudable aims of the changes to the Common Rule proposed in the Advance Notice of Proposed Rulemaking (ANPRM; 76 Fed. Reg. 44,512) were to enhance participant protections

[1]As explained in Chapter 1, "Common Rule" is used throughout this report to refer to 45 C.F.R. § 46, Subpart A.

[2]The Office for Human Research Protection *Institutional Review Board Guidebook* (1993) did define risk as follows: "The probability of harm or injury (physical, psychological, social, or economic) occurring as a result of participation in a research study. Both the probability and magnitude of possible harm may vary from minimal to significant." But neither the human-subjects research regulations nor the formal guidance from the Office for Human Research Protections define risk.

and reduce IRB and investigator burden, delay, and ambivalence (Emanuel and Menikoff, 2011; Fisher et al., 2013, p. 4). The committee strongly supports these aims.

This chapter considers critical issues related to how best to ensure (a) that the definition of "minimal risk" is appropriate for the full range of current social and behavioral science research; (b) that IRBs and investigators have adequate guidance for avoiding underestimation and overestimations of minimal risk; and (c) that categories of research that may be reviewed through an expedited review adequately reflect the broad spectrum of social and behavioral science research. The committee's proposed approach to assessing and minimizing participant risk adheres to the Belmont Report's principles of beneficence, respect, and justice (U.S. Department of Health and Human Services, 1979) and to established canons of scientific and professional knowledge.

In response to the ANPRM, the Society for Research in Child Development (SRCD) convened the SRCD Task Force on Proposed Changes to the Common Rule (hereafter, "SRCD Task Force"). In its published report and commentary on the ANPRM, which addresses many of the issues also addressed in this report, the SRCD Task Force viewed research as "a moral endeavor that seeks to ensure that the welfare, autonomy and privacy rights of infant, child and adolescent research participants are adequately protected and that such protections do not prevent them from equitable sharing of the burdens and benefits of research" (Fisher et al., 2013, p. 4). The committee believes its approach is consistent with this view of research, expanded to apply to all research participants.

DEFINING MINIMAL RISK

As defined at 45 C.F.R. § 46.102(i), "Minimal risk means that the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests." The ANPRM should be applauded for asking the research community to consider whether this definition of "minimal risk" needs revision. In the past 10 years, a number of ethics committees and scholars have grappled with how minimal risk should be delineated, and some consensus has developed (Meyer, 2013; Resnik, 2005; Rid et al., 2010; Wendler et al., 2005). While it is probably impossible—and in fact may be unwise—to completely eliminate variation in interpretation of the term, the regulations and guidance should be revised to reflect the developing consensus.

Whose "Daily Life" and Which Routine Procedures?

One of the most persistent conundrums has been how to compare risks of the research to the risks of daily life or of routine examinations or tests. The question immediately becomes "whose daily life?" Is it the daily life of an average person in the general population or the specific population to be enrolled in the study? Despite recommendations from the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (U.S. Department of Health and Human Services, 1979) that minimal risk refers to a uniform standard based on the daily life and routine procedures experienced by the general population, in response to public comment the U.S. Department of Health and Human Services (HHS), in the Preamble to the Final Rule, articulated a relative standard describing minimal risk as "those risks encountered in the daily lives of the subjects of the research" (U.S. Department of Health and Human Services, 1981). Unfortunately, the final regulatory definition included neither the "general population" nor the "subjects of the research" language, resulting in the ongoing confusion and wide variations in the determination of minimal risk. The 2003 National Research Council report, *Protecting Participants and Facilitating Social and Behavioral Sciences Research,* wrestled with this question but was unable to achieve consensus for a solution. But since then, there has been considerable study of this issue and a consensus has developed that the "special population" approach should be rejected because it can result in an unjust distribution of risks. That is, a population-specific definition unjustly permits individuals to be exposed to higher levels of risk under the minimal risk category, simply because their daily lives are filled with greater risk than healthy individuals or those living in safe environments (Briefel et al., 2002; Fisher et al., 2007; Institute of Medicine, 2004; Kopelman, 2004; Oakes, 2002; Snyder et al., 2011; Wendler et al., 2005).

Defining the General Population Standard

Drawing on recommendations from the Belmont Report and more recent federal committees and independent reviews (Institute of Medicine, 2004; National Human Research Protections Advisory Committee, 2001; Secretary's Advisory Committee on Human Research Protections, 2005, 2008; U.S. Department of Health and Human Services, 2011), the Secretary's Advisory Committee on Human Research Protections (SACHRP) has noted that the definition of minimal risk based on the risks faced in daily life should "reflect 'background risks' that are familiar and part

of the routine experience of life for 'the average person' in the 'general population.'"[3] Although the definition of "general population" requires additional discussion, one starting point is to harmonize the Common Rule minimal risk definition with the "*healthy persons*" standard for minimal risk required for Subpart C, Additional Protections Pertaining to Biomedical and Behavioral Research Involving Prisoners (45 C.F.R. § 46.303(d)).

While the healthy persons standard is a good start for grounding a general population definition, it may not sufficiently protect from unjust exposure to research harms healthy individuals living in unsafe environments in which violence and trauma produced by human or natural causes characterize experiences of daily life. Thus, regulators should consider whether the concept of *safe environments* should be considered along with that of *healthy persons* in creating a uniform minimal risk definition.

An important caveat is that any modification to the definition of minimal risk may have substantial implications for the conduct of social and behavioral science research involving children (as well as for biomedical and educational research involving children) because Subpart D, Additional Protections for Children Involved as Subjects in Research, refers to the Common Rule's minimal risk definition as an anchor for regulations evaluating acceptable research procedures and required human subjects protections (Fisher et al., 2013). For example, the Common Rule minimal risk definition informs the conditions, stated in Subpart D (45 C.F.R. § 46.404 and § 46.405), under which an IRB can approve research that has no prospect of direct benefit to child participants. It also anchors IRB approval of a subset of waivers for parental permission and child assent (45 C.F.R. § 46.408). (Informed consent for research with child participants is addressed in detail below, in Chapter 4.)

As long as the Common Rule minimal risk definition remains the default criterion for risk categorization of research involving children, the Office for Human Research Protections (OHRP) must ensure that the application of the recommended general population standard does not result in the inadvertent application of an adult minimal risk standard to child participants. To address this concern, the committee recommends below that OHRP issue guidance on applying *age-indexed criteria* for application of the minimal risk criteria to risks in daily life and routine examinations (Fisher et al., 2007; Institute of Medicine, 2004; National Human Research Protections Advisory Committee, 2001; Secretary's Advisory Committee on Human Research Protections, 2005).

[3]See the 2008 SACHRP Letter to HHS Secretary at http://www.hhs.gov/ohrp/sachrp/sachrpletter013108.html [December 2013].

Which Tests and Which Routine Procedures?

Any modifications to the definition of minimal risk also need to recognize that social and behavioral research is often conducted in or for educational institutions. Although much educational research involving normal educational practices conducted in educational settings is appropriately exempt from 45 C.F.R § 46, as currently stated under Exemption Category (1), other social and behavioral research conducted outside of educational settings may also include traditional tests of reading, mathematical abilities, problem solving, and other academic skills. For such research, the reference in the current minimal risk definition to routine medical or psychological examinations or tests is insufficient; the definition should be expanded to explicitly include educational examinations or tests. Additionally, the committee believes that restricting the definition of routine "examinations or tests" has caused confusion in IRB evaluation of prevention and intervention research in both biomedical and social and behavioral research contexts. Such research may include both routine medical and psychological examinations and routine medical and mental health procedures. For example, a community-based translational study examining the efficacy of two standard grief counseling techniques for elderly widows and widowers may pose no greater risks than procedures currently available to this population and should be classified as minimal risk. Similarly, a school-based prevention program to reduce interpersonal conflicts among students may use routine conflict-resolution psycho-educational procedures. To appropriately classify minimal prevention and intervention studies, a revised Common Rule could adopt the definition in Recommendation 3.1 below, which includes "procedures" in its definition of minimal risk.

Calculating the Probability and Magnitude of Harm

An objective assessment of minimal research risk is a calculus involving both the magnitude of a potential harmful outcome and the likelihood that the outcome will occur. In particular, just because a risk of high magnitude is *possible* does not make it *probable*. The definition of minimal risk incorporated into the original 1981 federal regulations was designed to reflect the Belmont Report's recommendations on the importance of appropriately weighing probability against magnitude of harm. Although identifying the probability and magnitude of harm may have been more objective when research sponsored by the National Institutes of Health (NIH) was focused on a narrower range of biomedical disorders, over time the expansion of areas covered by both biomedical and behavioral research has left a vacuum in guidance on the knowledge base from which such estimates may be drawn. Consequently, IRBs often evaluate research as greater than minimal risk if

there is a very small probability that the research may produce harm of high magnitude or if there is a high probability that research may produce harms or discomfort of small magnitude. The frequency of such misjudgments has heightened the need for guidance specific to research domains on the most appropriate knowledge bases for determining probability of a harm occurring and the magnitude of the harm if it occurs.

Recommendation 3.1: HHS should adopt the following definition of minimal risk under the Common Rule: "Minimal risk means that the probability and magnitude of physical or psychological harm does not exceed that which is ordinarily encountered in daily life or in the routine medical, psychological, or educational examinations, tests, or procedures of the general population."

Guidance Recommended: OHRP guidance should be issued in the following areas to assist in operationalizing the definition of minimal risk in Recommendation 3.1:

- Clarify that estimates of risk should be uniformly applied across the general population and should not be indexed to the experience of the study population alone, in order to be certain that the benefits and burdens of research are distributed evenly across populations and to avoid an unjust distribution of risks.
- Define the general population standard in terms of healthy persons living in safe environments.
- Apply *age-indexed* criteria for determining the probability and magnitude of harms or discomfort in the daily life of, and in routine medical, psychological, or educational examinations, tests, or procedures of, infants, children, and adolescents (if the Common Rule minimal risk definition remains the default criterion for risk categorization of research involving children).
- Clarify how to calculate appropriately both the probability and magnitude of harm and discomfort, when determining whether research meets minimal risk criteria that include examples from domain-specific areas of research.

Procedural Improvements Needed: To avoid subjectivity and enhance continuity within and across institutions, IRBs could draw on established scientific and professional knowledge in their determination of the probability and magnitude of research harms in daily life and in routine medical, psychological, or educational examinations, tests, or procedures of the general population. However, care is needed to avoid confusing evidence-based probability estimates with the subjective

possibility that harms and discomforts of high magnitude are likely to be produced by the research. For example, IRBs could consider adopting procedures that appropriately balance the probability and magnitude of research harms, in order to avoid subjectively judging research as having a greater than minimal risk in cases where there is a very small probability that the research may produce harm of high magnitude or where there is a high probability that research may produce harms or discomfort of small magnitude.

Research Needed: To build a stronger evidence base, research is needed for identifying the probability and magnitude of harms and discomfort in daily life and the nature of age-indexed, routine medical, psychological, or educational examinations, tests, or procedures of the general population. In addition research is needed to examine appropriate algorithms for determining whether the calculus of probability and magnitude of harms and discomfort meets minimal-risk criteria.

AVOIDING OVERESTIMATION AND UNDERESTIMATION OF HARM

The definition of minimal risk in the Common Rule has confounded the research community since the human subjects protection regulations were first promulgated. The first comments warned that the vagueness of the definition would cause variability and confusion, and this outcome has certainly come to pass (Ceci and Bruck, 2009; Fisher et al., 2007; Wendler et al., 2005; Westra et al., 2011). And there is evidence that it leads to both overestimation and underestimation of risk (Wendler et al., 2005). This vagueness has been especially problematic for the conduct of research in the social and behavioral sciences, due in large part to (1) the lack of specificity in examples provided for minimal risk under the expedited risk category, (2) difficulty distinguishing research risks from participant vulnerabilities, and (3) the tendency of some IRBs to apply subjective overestimations of the level of harms that may be incurred through social and behavioral science research methods (Green et al., 2006).

Moreover, there may be little awareness by IRBs and investigators of the growing body of published empirical evidence describing participant perspectives on research risks and benefits of social and behavioral research, as well as biomedical research (Fendrich et al., 2007; Fisher et al., 2008; Langhinrichsen-Rohling et al., 2006; Lazovski et al., 2009; Leykin et al., 2011; McDonald et al., 2008; Pearlman et al., 2013). This increase is due in part to several NIH-sponsored funding initiatives supporting research on the responsible conduct of research (e.g., the NIH-wide Program Announcement, Research on Ethical Issues in Biomedical, Social and

Behavioral Research) and to the growth of journals in the field, including the *Journal of Empirical Research on Research Ethics*, *Ethics & Behavior*, and the *American Journal of Bioethics: Primary Research, and Narrative Inquiry in Bioethics*.

In addition, there is evidence that many IRBs, regardless of whether their purview is mostly biomedical or social and behavioral science, tend to focus more on the magnitude of a harmful outcome, should it occur, and not on the likelihood that it will occur (National Research Council, 2003). This can result in what has been called concern for "the eggshell participant": an IRB may come to focus on any conceivable risk for any conceivable participant and proceed "as if the risk faced by this 'eggshell' participant were the risk faced by all (or even the modal) prospective participant"(Meyer, 2013, p. 39).

This tendency to overestimation of risk has important and widespread consequences. It means that much research that currently fits within the current exempt category is subjected to expedited review, while minimal-risk research appropriate for expedited review is sometimes inappropriately viewed by an IRB as requiring full board review (Freundschuh, 2012; Petersen et al., 2012). At a minimum, overestimation of social and behavioral science research risk has slowed the review process. But more critically it has also resulted in IRBs requiring changes to minimize remote risks—changes that can compromise the scientific validity of the research or pose insurmountable barriers to studies essential for understanding social, behavioral, cognitive, and emotional influences affecting public health and well-being. If not adequately addressed through regulation or OHRP guidance, this problem may persist and extend to IRB evaluation of the ANPRM's newly proposed "excused" category (76 Fed. Reg. 44,518-44,520). Indeed, mission creep has persisted in IRB review despite statements throughout the *Final Regulations Amending Basic HHS Policy for the Protection of Human Research Subjects* that the exempt and expedited categories were specifically included to help reduce IRB burden in reviewing social science research that poses no risk, low risk, or minimal risk (U.S. Department of Health and Human Services, 1981).

Distinguishing Research Vulnerability from Social Vulnerability

One reason for the overestimation of harm in social and behavioral research, as well as in biomedical research, is the vague regulatory requirement to provide special protections for "vulnerable" populations under 45 C.F.R. § 46.111(b):

> When some or all of the subjects are likely to be vulnerable to coercion or undue influence, such as children, prisoners, pregnant women, mentally

> disabled persons, or economically or educationally disadvantaged persons, additional safeguards have been included in the study to protect the rights and welfare of these subjects.

The current wording of § 46.111(b), while well intentioned, is too broad to provide a useful metric for determining when and under what circumstances research would pose greater than minimal risk for any specific population. At the same time, this wording inadvertently encourages IRBs to apply subjective estimations of the nature, magnitude, and probability of the research harms faced by any population assumed to be vulnerable. In the absence of guidance to distinguish social vulnerability from research vulnerability, this wording appears to have inadvertently led IRBs to overestimate research risks for these populations, a particular problem for social and behavioral research studies. For example, there is an abundance of investigator reports of survey studies for research on sexuality, drug use, and other health-relevant behaviors in which IRBs have created barriers to research implementation based on the empirically unsupported claim that surveys or interviews on such topics may harm participants by encouraging them to engage in the behaviors being studied (Fendrich et al., 2007; Fisher, 2002, 2003; Fisher et al., 2013, p. 5; Langhinrichsen-Rohling et al., 2006; Mustanski, 2011).

Many social and behavioral science studies are designed to observe, survey, assess, or evaluate prevention or intervention programs designed to address vulnerabilities and protective factors associated with health disparities among socially vulnerable populations: for example, individuals with learning problems, substance abuse disorders, sexual and other health compromising behaviors, or a history of interpersonal violence or racial or sexual discrimination. However, just because the life histories of these individuals are characterized by higher levels of psychological and other harms than the general population does not mean that they are more susceptible to research risks (DuBois et al., 2012). As proposed in her model of Goodness-of-Fit Ethics, Fisher has argued that research vulnerability should be defined not by participant characteristics but as the joint product of the fit between participant characteristics and the specific research context (Fisher, 2002; Fisher and Goodman, 2009; Fisher and Ragsdale, 2006; Masty and Fisher, 2008). Thus, in assessing risk, it is crucial to distinguish between harm that may be caused by the research participation itself and harms that may be caused by the life situation or characteristics of the research participants. The latter harms, while real, are not caused by the research. For example, members of historically oppressed racial/ethnic minority groups in the United States may be subject to higher levels of psychological stress associated with explicit and implicit social, economic, and other forms of discrimination. But that fact alone does not raise to above minimal risk levels

of psychological harm their participation in a survey study on frequency of, and their emotional responses to, everyday discrimination.

Failure to distinguish between vulnerabilities in participants' lives and their vulnerability to research risks can also lead to erroneous greater-than-minimal-risk classifications in IRB evaluations of prevention programs based on social and behavioral research results. Take, for example, a study designed to use a peer-education model to increase participants' knowledge about, and motivation to get tested at, local clinics for HIV, in which the participants are economically disenfranchised persons who inject drugs. The outcome measures include pre- and post-intervention surveys and individual interviews on drug use, HIV risk behavior, frequency of HIV testing, and, with written permission of participants, access to clinic information on their HIV testing. Although there are health risks of potentially high magnitude associated with injection drug use, HIV risk behaviors, and reactions to HIV testing, these risks are not produced by the educational prevention format; the survey and interview questions; or the adequacy of HIV testing, counseling, and treatment provided by local clinics. No evidence-based rationale exists for assuming the study procedures themselves exacerbate or create the risks faced by the study population.

In addition, since Subparts B, C, and D of Part 46 are specifically designed to provide adequate additional protections for pregnant women, prisoners, and children, respectively, asking IRBs to consider these populations at risk not covered by these subparts places an undue barrier to research critical in enhancing understanding and promotion of health and well-being in these populations. The committee believes the regulatory language of § 46.111 should be eliminated and replaced by guidance (discussed in greater detail below) on (a) distinguishing between vulnerabilities in participants' lives and their vulnerability to research risks and (b) procedures for assessing the extent to which the fit between participant characteristics and research procedures adequately minimizes research harms and discomforts.

With respect to a related issue, even though considering the long-range effects of applying knowledge gained in research is currently outside an IRB's purview (45 C.F.R. § 46.111(a)(2)), some IRBs have included in their evaluation of social harm the consequences for the entire group of conducting social and behavioral research studies involving members of populations suffering from current and historical discrimination, if the study includes collection of data on socially stigmatizing topics such as substance abuse or antisocial behavior. The ethical relevance of considering group consequences will differ depending on the extent to which an individual person or a community is the focus of research. Risks to groups in community-engaged research may arise from transferring, for example, disease study results for an individual to a group, or stigma from a group causing harm

to an individual (Anderson et al., 2012). For example, in some instances the needs of the community may not coincide with the needs of less powerful individuals who are the focus of an investigation (Fisher et al., 2002). Investigator and IRB decision making regarding research involving individual members of social minorities' communities and that involving the community itself will benefit from identifying and communicating with the stakeholders to whom human subjects protections are directly applicable (DuBois et al., 2012).

The committee believes that Subpart D of Part 46 already includes sufficient provisions for protecting the rights and welfare of child populations, and we endorse the recommendation of the SRCD Task Force that OHRP provide explicit guidance indicating that research involving children as a class should not by default be required to undergo full board review (Fisher et al., 2013, p. 4).

Consideration of Steps Taken to Reduce Risk in the Assessment of Minimal Risk

Under current OHRP guidance, research posing what in the current ANPRM is labeled "informational risk" can be considered minimal-risk research if reasonable and appropriate protections are implemented so that disclosure risks are no greater than minimal.[4]

> The expedited review procedure may not be used where identification of the subjects and/or their responses would reasonably place them at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, insurability, reputation, or be stigmatizing, unless reasonable and appropriate protections will be implemented so that risks related to invasion of privacy and breach of confidentiality are no greater than minimal.

In its response to the ANPRM, SACHRP noted that an IRB's evaluation of whether the harms and discomforts of research subject to expedited review meet minimal risk standards should take into account steps taken to minimize risk.[5] The committee agrees with this SACHRP recommendation that regulations harmonize criteria for evaluating the level of risk for informational and other types of research harms by requiring consideration of the adequacy of steps taken to minimize risk in the calibration of magnitude and probability of harm. In Recommendation 3.3, below, we recommend

[4]Quoted text is from "Categories of Research That May be Reviewed by the Institutional Review Board (IRB) through an Expedited Review Procedure," condition 3 under "Applicability." See http://www.hhs.gov/ohrp/policy/expedited98.html [November 2013].

[5]See the 2011 SACHRP Letter to the HHS Secretary at http://www.hhs.gov/ohrp/sachrp/commsec/sachrpanprmcommentsfinal.pdf.pdf [November 2013].

that any changes to regulations expand this statement beyond informational risks to require IRBs to consider appropriate procedures for minimizing all categories of risk.

Drawing on the National Bioethics Advisory Commission's report on Ethical and Policy Issues in Research Involving Human Participants, a 2003 National Research Council report described the types of harms that may occur to subjects in social and behavioral science studies: namely, physical, psychological, social, economic, legal, and dignitary harms (National Research Council, 2003, pp. 46-47). (Dignitary harms were an added category that was absent in the Advisory Commission's analysis.) These categories continue to be useful ways to discuss potential harm, but only if they are embedded within a framework more conducive to assessing minimal risk within the context of risk-minimizing procedures and distinguishing between the harms produced by the experimental methods and informational risk. The next sections of this chapter discuss traditional categories of harm within an experimental method/participant protections framework, with special emphasis on both ensuring adequate protections against greater than minimal risk and reducing overestimation of harm for social and behavioral research.

Avoiding Overestimations of Psychological Harm in Social and Behavioral Research

Traditionally, psychological harm has been viewed as the most probable (although still unlikely) type of harm to result from social and behavioral research. It may include negative self-perception, stress, anxiety, or an exacerbation of psychiatric symptoms. It may be momentary and of very limited impact, or it can be long-lasting and intense. Subjective evaluations and overestimation of psychological harm are seen by many social and behavioral researchers as a significant and unfair barrier to the conduct of their research (Fisher et al., 2013; Klitzman, 2011; Mustanski, 2011; Pritchard, 2011). One source of this overestimation of risk may be the diffuse nature of psychological reactions. Biomedical procedures pose specific risks of harms or discomfort, the probability and magnitude of which can be easily circumscribed. For example, under the current expedited research category 2, federal regulations specifically identify venipuncture as a minimal risk. In healthy participant populations, venipuncture poses a high probability of pain of minor magnitude and brief duration and, in less probable cases, of excessive bleeding. For some participants, it may cause dizziness of moderate magnitude, which can be rapidly reversed. For participant populations with hemophilia or other such disorders, there is sufficient scientific data on the increased probability and magnitude of the same harms to allow IRBs to determine whether sufficient participant protections

are in place to minimize risk. IRBs are also unlikely to overestimate the risk of venipunctures. For example, although a serious infection can result any time skin is broken, the probability is rare; following the HHS list of procedures, an IRB would typically classify venipuncture as a minimal risk.

By contrast, participants can have a wide range of psychological reactions to any research method, whether the method is in the social, behavioral, or biomedical disciplines. Reactions can be positive (for example, feelings of altruism in contributing to scientific knowledge, pleasure in solving math or verbal problems, appreciation of the knowledge gained from surveys or interviews on health topics) or negative (for instance, anxiety in anticipation of having a blood draw or answering survey questions about sexual behavior, frustration in response to participating in a difficult or boring task, anger at learning one has been deceived, emotional discomfort describing family conflict or peer bullying). Such reactions are probable but of small magnitude, short duration, transient, and reversible; in the majority of cases, the probability and magnitude of these reactions is not intrinsically different from similar reactions experienced in daily life or during the performance of routine physical or psychological examination or tests.

Dignitary harm may be considered within the class of psychological harms. It can result when research procedures create a violation of privacy or do not provide individuals with the opportunity to make an informed and voluntary choice to participate in research. Difficulties in distinguishing between public and private behaviors often create dilemmas for determining appropriate human subjects protections. For example, drawing on public death notices to contact surviving relatives to participate in a suicide autopsy study may be experienced as an invasion of privacy by those contacted, despite the fact that the information is public. Invasion of privacy may also be experienced by participants if informed consent procedures do not adequately describe the nature of survey or interview questions that would be included in the study. However, as detailed in the discussion of informed consent in Chapter 4, any such potential harms can be mitigated through appropriate risk-minimizing recruitment and informed consent procedures. Dignitary harms may also emerge in studies using deception, as there is some likelihood that some participants could be highly embarrassed or deeply insulted by the deception. However, the committee asserts that these reactions are rare, and deception per se should not be regarded as involving more than minimal risk.

Avoiding Overestimations of Physical Harm in Social and Behavioral Research

Misconceptions regarding physical harms have also created barriers to appropriate estimation of minimal risk levels for social and behavioral

research designed to inform interventions and policies directed toward improving health and reducing health disparities. Human subjects protections for physical harm caused directly by research methods, while appropriate for the regulation of invasive biomedical research, rarely apply to social and behavioral research. In the rare situations that physical harm may be associated with research procedures in the social and behavioral sciences, the risk of harm is usually not a direct result of the experimental procedures. For example, in highly circumscribed situations physical harm may be an indirect risk of participating in behavioral intervention studies on mental disorders associated with self-harm. However, potential harms may be reduced to minimal levels if appropriate risk-minimizing procedures are integrated into the research design. Such procedures could involve trained personnel who would (a) conduct continual assessment and monitoring of self-harm ideation and behaviors and (b) implement specifically designed interventions for emergency treatment.

In rare cases, social and behavioral research methods themselves can increase the probability of high-magnitude physical harms. For example, in some contexts a study on conflict resolution involving a group of individuals previously diagnosed with explosive anger disorder may reasonably be associated with a higher-than-minimal probability that physical violence among participants may arise. However, such risks may be reduced to minimal if the research design has built in research staff procedures for recognizing evidence-based thresholds of anticipatory behaviors preceding aggression and methods for preventing these behaviors from escalating into actual aggression.

As discussed in the next section, physical harm may also be an indirect result of inadequate confidentiality protections in social and behavioral research. At present, IRBs do not have sufficient guidance in distinguishing among physical harms that may be the consequence of inadequate disclosure protections, indirect harms associated with an ineffective intervention, and the very small number of direct physical harms that may be induced by the research procedures themselves.

Potential Harms Resulting from Inadequate Confidentiality Protections for Social-Behavioral Research

The ANPRM devotes considerable attention to issues of informational risk, which it contends represents one of three relevant categories of potential harm: "physical, psychological and informational" (76 Fed. Reg. 44,515). It defines informational risk as resulting from harms that "derive from inappropriate use or disclosure of information, which could be harmful to the study subjects or groups. For instance, disclosure of illegal behavior, substance abuse, or chronic illness might jeopardize current or future

employment, or cause emotional or social harm" (76 Fed. Reg. 44,516). The topic of informational risk will be discussed in greater detail in Chapter 5, but these potential harms are addressed in this section by using the term "confidentiality risk" to distinguish the ethically relevant issues of breach of confidentiality that could result in the potential harm to study participants.

Confidentiality Risk Minimization

Social and behavioral science investigators will face unnecessary barriers to excused and expedited review if IRBs overestimate the confidentiality risks described below by focusing on all possible harms that might arise from a breach of confidentiality rather than following current regulatory language on the HHS website, which directs IRBs to classify as minimal risk protocols that include "reasonable and adequate [investigator implemented] protections" that would ensure that "risks related to invasion of privacy and breach of confidentiality are no greater than minimal." The committee believes the final regulations should reaffirm this directive and incorporate it directly into the Common Rule.

Confidentiality Risk and Physical Harm

Social and behavioral research may involve populations who live in unsafe environments where disclosure of research participation may result in physical retaliation from family members or peers. For example, failing to take adequate precautions to protect public disclosure of a woman's participation in a study on interpersonal violence might increase the risk of partner abuse. Similarly, recruitment procedures for a study on gang member violence that fail to protect the identity of those recruited may result in participants being subjected to retribution by other gang members who perceive such participation as a betrayal. The risks of such harms are serious and are best evaluated in terms of the adequacy of the recruitment and confidentiality protections to minimize such risk.

Confidentiality Risk and Social Harm

Social harms may involve negative effects on relationships or in interactions with other people if an individual's research participation or responses become available to the public. For example, sexual minorities (LGBTQ—lesbian, gay, bisexual, transgender, questioning) currently suffer from social and legal discrimination both within the United States and internationally. They are thus vulnerable to social, economic, and legal harms if their participation and/or responses in a study focused on sexual minority health were publicly disclosed. In this example, the potential

social harms of study participation are not a consequence of the research procedures themselves but would result from inadequate confidentiality and data security protections.

Confidentiality Risk and Economic Harm

Economic harm involves financial loss, loss of employment opportunity, increase in health care or other insurance costs, or other consequences with a negative monetary value that result from public disclosure of an individual's research participation or individual data (e.g., organizational studies on job behaviors or attitudes undesirable to employers, studies on cheating among college students). As in the case of social harms, these potential harms are not a consequence of the research's experimental methods but would result from inadequate confidentiality and data security protections.

Confidentiality Risk and Legal Harm

Legal harm can include arrest, conviction and incarceration, loss of probation or parole, and civil lawsuits. Such harm can result when research recruitment procedures create risks for public disclosure of illegal behavior. For example, street recruitment for participation in ethnographic or other studies of illegal drug activities or gang-related behaviors could lead police to identify and arrest individuals approached by research staff. While participants need to be protected from such harms, the legal liability in such cases arises not from the types of questions and interviews that might be conducted as part of the research but from inadequate privacy protections instituted during the recruitment phase.

There are, however, social-behavioral research studies in which the design of the study has a high probability of producing data that may require mandatory disclosures, such as situations in which state law requires that certain types of researchers report particular activities, such as child or elder abuse. The legal harms to participants posed by these studies are a function of these reporting responsibilities, and these harms should be distinguished from harms produced from the experience of answering questions about these issues. In such circumstances, investigators need to know their legal reporting responsibilities and those of their research staff, determine evidence-based criteria for determining that a legally reportable disclosure has occurred, and ensure that informed consent procedures adequately describe these reporting obligations, to ensure participants make an informed participation choice (Fisher and Goodman, 2009; Fisher et al., 2002).

Recommendation 3.2: To ensure just distribution of research benefits and risks across diverse populations and to avoid subjective

overestimations of potential research harms, HHS should eliminate current regulatory language at 45 C.F.R. § 46.111(b) identifying certain populations as "vulnerable to coercion and undue influence" and requiring additional but unspecified human subjects protections.

Guidance Recommended: To ensure adequate subject protections as well as fair access to the benefits of research, OHRP guidance should be provided to assist in distinguishing between vulnerabilities in participants' lives and their vulnerability to research risks.

Procedural Improvements Needed: IRBs could take steps to avoid confusing the risks participants may face in their daily lives from the risks of potential harms produced solely by their participation in research.

Recommendation 3.3: HHS should harmonize regulations such that decisions regarding the level of potential informational, physical, and psychological research harms must take into account whether reasonable and appropriate protections will be implemented to reduce the probability and magnitude of harm or discomfort to no more than minimal.

Guidance Recommended: OHRP guidance should be issued to assist in

- determining whether steps to minimize risk are sufficient for research designs to be categorized as minimal risk; and
- distinguishing between physical and psychological harms associated with informational risk (e.g., the harm derives from inappropriate use or disclosure of information, which could be harmful to the study subjects or groups) and those caused by the research procedures themselves.

Procedural Improvements Needed: In decisions regarding level of risk, IRBs could consider

- avoiding overestimation of research harms by ensuring that their members consider the extent to which risk-minimizing procedures reduce the probability and magnitude of physical and psychological harms to not more than minimal risk; and
- avoiding erroneous judgments that research that may elicit negative psychological reactions of low magnitude in some participants is by default greater than minimal risk.

Reactions, such as anxiety in anticipation of having a blood draw or answering questions about health-compromising behaviors, may be probable but of small magnitude, short duration, transient, and reversible. In the majority of cases, the probability and magnitude of such reactions is not intrinsically different from similar reactions experienced in daily life or during the performance of routine physical or psychological examination or tests.

Research Needed: Research is needed to provide empirical evidence for effective procedures for minimizing potential physical, psychological, and informational research risks to no more than minimal risk levels.

EXPEDITED REVIEW

The ANPRM has proposed to (a) expand the category list for expedited review, (b) provide a default presumption in the regulations that a study which includes only activities on the list is a minimal risk study, (c) eliminate the requirement of routine annual continuing review of research that has been approved under the expedited procedure, and (d) appoint a standing federal committee to periodically review and update the expedited review list, based on a systematic, empirical assessment of the levels of risk (76 Fed. Reg. 44,516-44,517). The committee concurs with these proposals and offers recommendations in this section to ensure that social and behavioral research receives equitable consideration in IRB review.

Including Social and Behavioral Science in the Expanded List for Review Categories of Research

The committee welcomes the ANPRM proposal to expand the list of research categories appropriate for expedited review. Although the current category 7 list of expedited research includes a wide range of social and behavioral research methods,[6] IRBs too often use intuition rather than scientific data to classify social and behavioral research studies as greater than minimal risk and to either require that the protocol undergo full board review or require the research investigators to modify their protocols to address psychological reactions of high magnitude but very low probability. We believe that a more specific breakdown in the category list of social and behavioral research procedures, perhaps equivalent to the category 1 through 4 examples of biomedical methods, may assist investigators and IRBs in identifying when a protocol merits expedited review. We also

[6]See the OHRP directive, Categories of Research That May Be Reviewed by the Institutional Review Board (IRB) through an Expedited Review at http://www.hhs.gov/ohrp/policy/expedited98.html [November 2013].

applaud the ANPRM recommendation for a standing committee for timely updating of the expedited list. We note that this standing committee needs sufficient representation from social and behavioral science disciplines, including researchers with expertise in studying a wide range of populations.

Expedited Review of Research Involving Children

Commenting on the ANPRM, the SRCD Task Force concluded that, historically, the perception of children as a population vulnerable to research harms has denied them the full benefits of scientific knowledge and evidence-based interventions essential to their health and well-being:

> IRB reviews have often subjected research involving children to over-zealous protectionism (Hoagwood et al., 1996). The 1998 NIH mandate for the inclusion of children in research created a sea change in the interests of government and industry to fund pediatric and developmental research. This increase was not however matched by sufficient reassessment of whether existing ethical frameworks and regulations were appropriately calculated to the twin goals of access to and protection governing the responsible conduct of pediatric and developmental research (Kodish, 2005). (Fisher et al., 2013, p. 13)

To date, pediatric and developmental research scientists still encounter obstacles to scientifically valid and socially valuable research as a result of beliefs that all research involving children must be subject to full board review or to risk/benefit assessments that overestimate the harms and discomforts of procedures meeting expedited review criteria (Fisher et al., 2013, p. 3; Shah et al., 2004). These beliefs persist despite the fact that the current categories for expedited review explicitly state that, with few exceptions, "the categories in this list apply regardless of the age of subjects":[7]

> IRB decisions are often motivated by value-laden concepts of vulnerability in areas such as adolescent sexuality research, resulting in institutional barriers to the quality and conduct of socially critical research that has the potential to improve the health and welfare of children and youth (Mustanski 2011; [Wendler et al.] 2005). One reason for this over-protective IRB stance is that Common Rule regulation § 46.111a[3] refers to children as a "vulnerable" population requiring additional protections—but the regulation neither defines vulnerability nor references the additional protections provided in Subpart D. . . . In some cases, paternalistic protections that discourage research involving children create a population of "therapeutic

[7]See the OHRP directive, Categories of Research That May Be Reviewed by the Institutional Review Board (IRB) through an Expedited Review at http://www.hhs.gov/ohrp/policy/expedited98.html [November 2013].

> orphans," unable to accrue the benefits derived from scientific advances (Leonard et al. 1996). (Fisher et al., 2013, pp. 3-4)

To help remove these unsupported obstacles to valuable research, the committee has recommended, in its Guidance Recommended, that OHRP underscore the applicability of the expedited categories to research involving children and provide specific age-indexed examples.

Risk Equivalence and Expedited Review

No list can adequately include all the variations in minimal-risk research procedures that should be eligible for expedited review. And waiting for the list to be updated may result in unnecessary barriers to responsible science. There are many ways to judge the risk equivalence of research procedures including the duration and frequency of the procedure, the cumulative risk posed by a set of procedures, and the degree to which any harms, if they do occur, are transient and reversible. OHRP thus needs to make clear that the list of expedited review categories is an example rather than an exhaustive, limited set of procedures. Further, procedures not specifically listed in the expedited categories should be considered minimal risk if their risks can be determined to be functionally equivalent or less in probability and magnitude of harms and discomforts to listed procedures.

Ensuring Adequate Classification of Excused and Expedited Categories

The committee welcomes the current ANPRM proposal to classify surveys, educational tests, interviews, focus groups, and specified types of benign interventions used in social and behavioral research as excused if they only present informational risk (see Chapter 2). However, additional guidance is needed to help investigators and IRBs appropriately distinguish between minimal risk procedures that are appropriately classified under the excused versus the expedited review categories. For example, under current conditions IRBs have had difficulty distinguishing social and behavioral research procedures, such as surveys that meet criteria for exemption, from those that should undergo expedited review. Without explicit guidance, this confusion may extend to instances in which research that should be classified under the new proposed category of excused research is erroneously subjected to expedited review.

In its response to the ANPRM, SACHRP noted that evaluation of the harms and discomforts of the research should take into account (a) the nature of the study procedures; (b) other study characteristics; (c) characteristics of subjects to be enrolled in the research, including an evaluation of subject susceptibility, vulnerability, resilience, and experience in relation to

the procedures; and (d) steps taken to minimize risk.[8] Research appropriate for expedited review includes studies that, because of the specific nature of the research procedures and/or the characteristics of the subject population, require consideration of human subjects protections beyond those normally applied, in order to ensure that harm or discomfort created solely by the research procedures are not greater than minimal risk.

Recommendation 3.4: HHS should clarify in regulations the conditions under which research methods, that might otherwise be classified under the new excused category, are appropriate for expedited review because the specific nature of the research procedures and/or the characteristics of the subject population require consideration of human subjects protections beyond those normally applied for excused research, in order to ensure that harm or discomfort created solely by the research procedures are not greater than minimal risk.

Guidance Recommended: The committee offers below elements of a guidance statement that would help investigators, IRBs, and research and academic institutions understand when studies implementing the methods described under the excused category require expedited review. Such guidance, if issued by OHRP, would assist investigators and IRBs in developing risk-minimizing human subjects protections appropriate for the following special situations, in which protections are needed beyond those required to minimize informational risk:

a. The participant population is known to have decisional vulnerabilities empirically established to require enhanced informed consent protections for the type of study to be conducted.
b. The study is designed to produce clinical changes in health, health-related behaviors or symptomology, and includes identifiable information.
c. Public awareness of recruitment procedures can jeopardize participant physical safety or reveal criminal behavior.
d. The nature of the research data collected requires specific plans for reporting illegal behaviors, providing emergency treatment, or protecting a participant or third party from physical harm.
e. Use of deceptive techniques includes procedures that are specifically designed to induce psychological, social, or physical discomfort.

[8]See the 2011 SACHRP Letter to the HHS Secretary at http://www.hhs.gov/ohrp/sachrp/commsec/sachrpanprmcommentsfinal.pdf.pdf [November 2013].

f. Additional protections are necessary to avoid harms produced by an existing professional or service relationship with research staff that would compromise voluntary participation.

Below are some examples of research, keyed to the special situations listed in the Guidance Recommended above, for which it would be appropriate to assign the research protocol to expedited review:

a. A study involving individuals diagnosed with obsessive-compulsive disorder and a nonclinical population designed to assess the validity of a scale to detect malingering.
b. A survey study asking adults with intellectual disabilities about their adaptation to independent living housing.
c. Research comparing the effectiveness of a peer- versus counselor-led education program to reduce alcohol consumption among college students found in violation of institutional rules against drinking on campus.
d. A study recruiting street-drug users in public spaces that has the potential to alert local police to prospective participants' illegal behaviors.
e. A focus group study on parenting styles that asks for specific examples of physical discipline that may elicit reports meeting criteria of child abuse that an investigator is required by law to report.
f. A deception study using a confederate to assess participants' emotional reactions to peer rejection.
g. A study on nursing aides' attitudes toward patients hospitalized for HIV-related infections, conducted by a senior psychologist on staff.

Guidance Recommended: The following actions would facilitate the adequate classification of excused and expedited risk categories:

- OHRP should expand the list of research eligible for expedited review to include additional specific examples of social and behavioral research to assist investigators and IRBs in identifying when a protocol should be submitted for expedited review.
- The standing committee appointed by OHRP to review and update categories for expedited review should have sufficient representation from researchers with expertise in social and behavioral research involving a wide range of populations.
- OHRP should take steps to ensure that investigators and IRBs appropriately apply categories for expedited review to research involving children and adolescents and do not by default require research involving children to undergo full board review.

- OHRP should clarify that the types of research listed in the expedited category are examples rather than an exhaustive, limited set of procedures. Further, it should be clarified that procedures not specifically listed in the expedited categories should be considered minimal risk if their risk can be determined to be functionally equivalent or less in probability and magnitude of harms and discomforts to listed procedures. In addition, to ensure equal protection and opportunities for participation for all populations, equivalent risk evaluations should not be based solely on the content area covered by an examination or test (e.g., health behaviors) but on whether the content, method, and language of inquiry is population-appropriate and whether the investigator has the training required to treat participants with sensitivity and respect.

Procedural Improvements Needed: Investigators and IRBs might consider for expedited review research protocols whose risks can be determined to be functionally equivalent to research methods specifically described in current expedited review categories. Estimates of risk equivalence can include the duration and frequency of the procedure, the cumulative risk posed by a set of procedures, and the degree to which any harms, if they do occur, are transient and reversible.

Individuals who are vulnerable to risks in their daily lives should not be considered by default to be more susceptible to greater than minimal research risks than other populations. Rather, established scientific knowledge or professional expertise should be considered that indicates which specific types of research procedures are associated with an increase in the probability and/or magnitude of harms for specific participant populations.

RESEARCH INVOLVING GREATER THAN MINIMAL RISK AND REQUIRING FULL BOARD REVIEW

As discussed above, the majority of social and behavioral science research methods pose harms of no greater than minimal risk either in and of themselves or once appropriate human subjects protections are instituted that ensure the probability and magnitude of harm posed by research participation are minimal. Rare instances of greater-than-minimal-risk social and behavioral research might occur, for example, when a psychological or behavioral intervention study involving individuals with serious mental health disorders includes treatments that have a reasonable possibility of exacerbating distressful or maladaptive psychological or behavioral symptoms (for instance, a study testing effectiveness of exposure therapy for

severe phobias). A second example might include the potential for physical harm indirectly associated with assertiveness training for victims of interpersonal violence who are still living with their abusive partners. A third example might include studies involving institutionalized individuals with declining or persistent neurocognitive or affective disorders whose ability to understand or assert their right to refuse or withdraw from participation may be compromised by the research context.

> **Guidance Recommended:** To avoid overestimation of risk, OHRP guidance is recommended to clarify that expedited review should be considered the default procedure for evaluating social and behavioral science research that is not excused. In addition, decisions to require full board review should be based on established scientific or professional knowledge indicating a significant probability that participants will experience a magnitude of risk that is greater than minimal and that cannot be adequately reduced through risk-minimizing procedures.

OHRP guidance is also recommended to clarify that research involving children, prisoners, persons from economically or socially disenfranchised groups, individuals with mental disorders, those engaged in illegal activities, or other social groups traditionally labeled as "vulnerable" should not by default require full board review. IRBs should be directed to only assign such studies for full board review if the research procedures pose greater than minimal risk and appropriate human subjects protections may not be sufficient to reduce such risks to the level of minimal risk.

> **Procedural Improvements Needed:** In determining whether research poses greater than minimal risk, investigators and IRBs should draw on established scientific or professional knowledge to help determine whether the probability and magnitude of harms associated with the research procedures themselves pose greater than minimal risk and that appropriate human subjects protections may not be sufficient to reduce them to minimal risk levels.

STREAMLINING EXPEDITED AND FULL BOARD REVIEW

The committee endorses the ANPRM recommendation that research approved under expedited review should not require continuing review (76 Fed. Reg. 44,517). However, this recommendation alone does not adequately address the problem of lengthy delays for IRB review of research in the expedited category (Gordon, 2003; Koski, 2002). We therefore recommend below that OHRP guidance to IRBs specify time limits in processing research under expedited review.

There will be instances in which a protocol submitted includes new research methodologies, population characteristics, or research contexts for which established scientific and professional evidence, the investigator's previous research experience, or clear guidance on human subjects protections may require full board review to ascertain whether or not the research presents no greater than minimal risk. To ensure appropriate human subjects protections, flexibility in assignment to expedited or full board review is required in such situations. Timeliness of review is also required to ensure that the need for IRB deliberation does not cause delays that create undue barriers to the conduct of socially significant research and ethically responsible research. Consequently, regulations should specify time limits on the IRB processing of research under full board review, the time permitted to elapse before communicating a decision to the investigator, and, if the protocol is not approved, the specific nature of information communicated to the investigator to facilitate timely re-review.

Recommendation 3.5: To streamline expedited and full board review and procedures, HHS should eliminate the requirement for continuing review for expedited research.

Guidance Recommended: OHRP should offer specific guidance on time limits for conducting expedited reviews and processing research under full board review. For example, with rare exception, a decision on expedited review by the IRB should be communicated to the investigator within 2 business weeks. If the review does not result in an approval, the IRB should provide a specific rationale and directives for the specific information required for the review to proceed in a timely manner via deferral, specific directive comments, or a decision to submit the protocol for full board review.

Full board meetings would reasonably be scheduled approximately once a month to ensure timely review of research protocols. With rare exception, a decision by the IRB should be communicated to the investigator within 10 business days of the full board meeting. If the review does not result in an approval, the IRB should provide a specific rationale and directives for the specific information required for the review to proceed in a timely manner.

ESTABLISHING AN EMPIRICAL KNOWLEDGE BASE FOR LEVEL OF RISK

IRBs should recognize that daily life is not a risk-free affair. For example, car trips and sports have risk and are a part of daily life (Wendler

et al., 2005). But even those normal daily risks may be context-specific, and the related benefits of the activities in context must be considered in assessing the risk. Moreover, there is limited empirical data about the risks of daily life (Fisher et al., 2007). Thus, even if there is consensus that a "general population" standard should be used for assessment of minimal risk, there will be continued disagreement as to what constitutes "routine experiences ordinarily encountered." For much research, a better standard for comparison may be routine tests and examinations, especially when those routine tests are contextually similar to the research under consideration (Fisher et al., 2007; Resnik, 2005).

The committee does not take a position on whether the daily-life risks or those of routine tests or examinations should take precedence. Both aspects can help IRBs consider levels of risk. What is clear, however, is that those standards alone are not sufficient to guide IRBs. More empirical research is needed on the relative risks of the various bases used to assess a minimal level of risk. IRBs need concrete contextual examples to guide their deliberation. While greater clarity in regulatory language would no doubt be helpful, it does not eliminate the need for continued research and guidance.

Research Needed: Research is needed to study the effects of social and behavioral science research on research participants so that evidence-based assessments of "known and foreseeable" risk are more feasible. In particular, research is needed to properly address nonphysical risks of research and the methods that create them, rather than having IRBs rely on anecdote or moving to make drastic changes based on efficiency. Research is also needed on the effectiveness of confidentiality strategies in reducing risks of physical, social, economic, and legal harm.

REFERENCES

Anderson, E., Solomon, S., Heitman, E., DuBois, J.M., Fisher, C.B., Kost, R.G., Lawless, M.E., Ramsey, C., Jones, B., Ammerman, A., and Ross, L.F. (2012). Research ethics education for community-engaged research: A review and research agenda. *Journal of Empirical Research on Human Research Ethics, 7*(2):3-19.

Briefel, G., Stiff, J., and Nelson, R. (2002). Nontherapeutic research and minimal risk. *IRB: Ethics and Human Research, 24*(3):14-15.

Ceci, S.J., and Bruck, M. (2009). Do IRBs pass the minimal harm test? *Perspectives in Psychological Science, 4*(1):28-29.

DuBois, J.M., Beskow, L., Campbell, J., Dugosh, K., Festinger, D., Hartz, S., James, R., and Lidz, C. (2012). Restoring balance: A consensus paper on the protection of "vulnerable" research participants. *American Journal of Public Health, 102*(12):2220-2225.

Emanuel, E.J., and Menikoff, J. (2011). Reforming the regulations governing research with human subjects. *New England Journal of Medicine, 365*(12):1145-1150.

Fendrich, M., Lippert, A., and Johnson, T.P. (2007). Respondent reaction to sensitive questions. *Journal of Empirical Research on Human Research Ethics, 2*(3):31-37.

Fisher, C.B. (2002). Participant consultation: Ethical insights into parental permission and confidentiality procedures for policy relevant research with youth. Pp. 371-396 in R.M. Lerner, F. Jacobs, and D. Wertlieb (Eds.), *Handbook of Applied Developmental Science* Vol. 4. Thousand Oaks, CA: Sage.

Fisher, C.B. (2003). A goodness-of-fit ethic for child assent to nonbeneficial research. *American Journal of Bioethics, 3*(4):27-28.

Fisher, C.B., and Goodman, S.J. (2009). Goodness-of-fit ethics for non-intervention research involving dangerous and illegal behaviors. Pp. 25-46 in D. Buchanan, C.B. Fisher, and L. Gable (Eds.), *Research with High-Risk Populations: Balancing Science, Ethics, and Law*. Washington, DC: APA Books.

Fisher, C.B., and Ragsdale, K. (2006). A goodness-of-fit ethics for multicultural research. Pp. 3-26 in J. Trimble and C.B. Fisher (Eds.), *The Handbook of Ethical Research with Ethnocultural Populations and Communities*. Thousand Oaks, CA: Sage.

Fisher, C.B., Hoagwood, K., Boyce, C., Duster, T., Frank, D.A., Grisso, T., Macklin, R., Levine, R.J., Spencer, M.B., Takanishi, R., Trimble, J.E., and Zayas, L.H. (2002). Research ethics for mental health science involving ethnic minority children and youth. *American Psychologist, 57*(12):1024-1040.

Fisher, C.B., Kornetsky, S.Z., and Prentice, E.D. (2007). Determining risk in pediatric research with no prospect of direct benefit: Time for a national consensus on the interpretation of federal regulations. *American Journal of Bioethics, 7*(3):5-10.

Fisher, C.B., Oransky, M., Mahadevan, M., Singer, M., Mirhej, G., and Hodge, G.D. (2008). Marginalized populations and drug addiction research: Realism, mistrust, and misconception. *IRB: Ethics and Human Research, 30*(3):1-9.

Fisher, C.B., Brunnquell, D.J., Hughes, D.L., Liben, L.S., Maholmes, V., Plattner, S., Russell, S.T., and Sussman, E.J. (2013). Preserving and enhancing the responsible conduct of research involving children and youth: A response to proposed changes in federal regulations. *Social Policy Report, 27*(1):1, 3-15.

Freundschuh, S.M. (2012). Institutional review for research in the social sciences from the federal perspective. *Professional Geographer, 64*(1):43-48.

Gordon, E. (2003). Trials and tribulations of navigating IRBs: Anthropological and biomedical perspectives of 'risk' in conducting human subjects research. *Anthropological Quarterly, 76*(2):299-320.

Green, L.A., Lowery, J.C., Kowalski, C.P., and Wyszewianski, L. (2006). Impact of institutional review board practice variation on observational health services research. *Health Services Research, 41*(1):214-230.

Hoagwood, K., Jensen, P.S., and Fisher, C.B. (1996). Towards a science of scientific ethics in research on child and adolescent mental disorders. Pp. 3-14 in K. Hoagwood, P. Jensen, and C.B. Fisher (Eds.), *Ethical Issues in Mental Health Research with Children and Adolescents*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Institute of Medicine. (2004). *Ethical Conduct of Clinical Research Involving Children.* M.J. Field and R.E. Behrman (Eds). Washington, DC: The National Academies Press.

Klitzman, R. (2011). The myth of community differences as the cause of variations among IRBs. *AJOB Primary Research, 2*(2):24-33.

Kodish, E. (2005). *Ethics and Research with Children: A Case-Based Approach*. New York: Oxford University Press.

Kopelman, L. (2004). Minimal risk as an international ethical standard in research. *Journal of Medicine and Philosophy, 29*(3):351-358.

Koski, G. (2002, April 17). *An Open Letter to the Human Research Community*. Available: http://archive.hhs.gov/ohrp/humansubjects/qip/oltr.pdf [December 2013].

Langhinrichsen-Rohling, J., Arata, C., O'Brien, N., Bowers, D., and Klibert, J. (2006). Sensitive research with adolescents: Just how upsetting are self-report surveys anyway? *Violence and Victims, 21*(4):425-444.

Lazovski, J., Losso, M., Krohmal, B., Emanuel, E. Z., Grady, C., and Wendler, D. (2009). Benefits and burdens of participation in a longitudinal clinical trial. *Journal of Empirical Research on Human Research Ethics, 4*(3):89-97.

Leonard, H., Jensen, P.S., Vitiello, B., Ryan, N., March, J., Riddle, M., and Biederman, J. (1996). Ethical issues in psychopharmacological treatment research with children and adolescents. Pp. 73-88 in K. Hoagwood, P. Jensen, and C.B. Fisher (Eds.), *Ethical Issues in Mental Health Research with Children and Adolescents*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Leykin, Y., Christopher, P.P., Holtzheimer, P.E., Appelbaum, P.S., Mayberg, H.S., Lisanby, S.H., and Dunn, L.B. (2011). Participants' perceptions of deep brain stimulation research for treatment-resistant depression: Risks, benefits, and therapeutic misconception. *AJOB Primary Research, 2*(4):33-41.

Lidz, C., and Garverich, S. (2013). What the ANPRM missed: Additional needs for IRB reform. *Journal of Law, Medicine and Ethics, 41*(2):390-396.

Masty, J., and Fisher, C.B. (2008). A goodness-of-fit approach to parent permission and child assent pediatric intervention research. *Ethics and Behavior, 18*(2-3):139-160.

McDonald, M., Townsend, A., Cox, S., Paterson, N., and Lafrenière, D. (2008). Trust in health research relationships: Accounts of human subjects. *Journal of Empirical Research on Human Research Ethics, 3*(4):35-47.

Meyer, M.N. (2013). Regulating the production of knowledge: Research risk-benefit analysis and the heterogeneity problem. *Administrative Law Review, 65*(237). Available: http://ssrn.com/abstract=2138624 or http://dx.doi.org/10.2139/ssrn.2138624 [December 2013].

Mustanski, B. (2011). Ethical and regulatory issues with conducting sexuality research with LGBT adolescents: A call to action for a scientifically informed approach. *Archives of Sexual Behavior, 40*(4):673-686.

National Human Research Protections Advisory Committee. (2001). *Children's Workgroup Report: April 2001 Meeting*. Available: http://www.hhs.gov/ohrp/archive/nhrpac/mtg04-01/child-workgroup4-5-01.pdf [December 2013].

National Research Council. (2003). *Protecting Participants and Facilitating Social and Behavioral Sciences Research*. Panel on Institutional Review Boards, Surveys, and Social Science Research. C.F. Citro, D.R. Ilgen, and C.B. Marrett (Eds.). Committee on National Statistics and Board on Behavioral, Cognitive, and Sensory Sciences. Washington, DC: The National Academies Press.

Oakes, J.M. (2002). Risks and wrongs in social science research: An evaluator's guide to the IRB. *Evaluation Review, 26*(5):443-479.

Office for Human Research Protection. (1993). *Protecting Human Research Subjects: Institutional Review Board Guidebook*. Washington, DC: U.S. Government Printing Office. Available: http://www.hhs.gov/ohrp/archive/irb/irb_guidebook.htm [December 2013].

Pearlman, R.A., Cohen, J.H., Foglia, M., and Fox, E. (2013). Perceptions of research ethics practices: Integrated ethics™ staff survey data from the VA health care system. *AJOB Primary Research, 4*(1):34-43.

Petersen, L.A., Simpson, K., SoRelle, R., Urech, T., and Chitwood, S.S. (2012). How variability in the institutional review board review process affects minimal-risk multisite health services research. *Annals of Internal Medicine, 156*(10):728-735.

Pritchard, I.A. (2011). How do IRB members make decisions? A review and research agenda. *Journal of Empirical Research on Human Research Ethics, 6*(2):31-46.

Resnik, D.B. (2005). Eliminating the daily life risks standard from the definition of minimal risk. *Journal of Medical Ethics, 31*(1):35-38.

Rid, A., Emanuel, E.J., and Wendler, D. (2010). Evaluating the risks of clinical research. *Journal of the American Medical Association, 304*(13):1472-1479.

Secretary's Advisory Committee on Human Research Protections. (2005, April 18-19; November 1). *Meeting Presentations and Reports.* Available: http://www.hhs.gov/ohrp/archive/sachrp/mtgings/mtg04-05/present.htm [December 2013].

Secretary's Advisory Committee on Human Research Protections. (2008, January 21). *SACHRP Letter to HHS Secretary.* Available: http://www.hhs.gov/ohrp/sachrp/sachrpletter013108.html [October 2013].

Shah, S., Whittle, A., Wilfond, B., Gensler, G., and Wendler, D. (2004). How do institutional review boards apply the federal risk and benefit standards for pediatric research? *Journal of the American Medical Association, 291*(4):476-482.

Snyder, J., Miller, C.L., and Gray, G. (2011). Relative versus absolute standards for everyday risk in adolescent HIV prevention trials: Expanding the debate. *American Journal of Bioethics, 11*(6):5-13.

U.S. Department of Health and Human Services. (1979). *The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research*. The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. Washington, DC: U.S. Department of Health and Human Services. Available: http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html [October 2013].

U.S. Department of Health and Human Services. (1981). Final regulations amending basic HHS policy for the protection of human research subjects. *Federal Register*, *46*(16):8366-8391.

U.S. Department of Health and Human Services. (2011). Department's recent Advance Notice of Proposed Rulemaking (ANRM) protection subjects and reducing burden, delay, and ambiguity for investigators. *Federal Register, 76*(143):44512-44531. Available: http://www.gpo.gov/fdsys/pkg/FR-2011-07-26/html/2011-18792.htm [December 2013].

Wendler, D., Belsky, L., Thompson, K., and Emanuel, E. (2005). Quantifying the federal minimal risk standard: Implications for pediatric research without a prospect of direct benefit. *Journal of the American Medical Association, 294*(7):826-832.

Westra, A.E., Wit, J.M., Sukhai, R.N., and de Beaufort, I.D. (2011). How best to define the concept of minimal risk. *The Journal of Pediatrics, 159*(3):496-500.

4

Informed Consent

The Common Rule provides basic information about the required elements of informed consent for all research with human subjects. These elements include not only consent documentation but also consent alteration and waivers of consent. The Advance Notice of Proposed Rulemaking (ANPRM; 76 Fed. Reg. 44,512-44,531) contains an extensive list of suggested changes to these requirements for informed consent, many of which respond to prior criticisms regarding the length, legibility, and content relevance of consent forms; the time institutional review boards (IRBs) take to edit and revise forms; ambiguity and inflexibility in IRB waivers for informed consent; and adequacy in addressing consent related to re-use or additional analysis of existing data and biospecimens (Fisher et al., 2013, p. 9). The importance of informed consent in the protection of human subjects is without dispute. It is one of the "bedrock principles of ethical research with human participants" (National Research Council, 2003; Nuremberg Military Tribunals, 1949).

The committee recognizes that respecting persons, and respect for autonomy and voluntariness, requires that informed consent be obtained from people asked to participate in research, regardless of the level of risks of participation, unless the research meets certain criteria that render consent unwarranted. But changes in the regulations and additional guidance are necessary if the process of informed consent is to be meaningful. Over time, the process has in many cases devolved to focus on the creation of a complicated legal document rather than to deliver the purpose of informed consent: informing potential subjects that research is taking place and

providing them with the actual information that they require to make an informed decision about whether to participate.

In the decades following the promulgation of the regulations for human-subjects research, there has been considerable confusion about the requirements for informed consent in the context of the social and behavioral sciences and about how much flexibility is permissible in the process of obtaining informed consent (Burgess, 2007; Capron, 1982; Elms, 1982; Macklin, 1982; National Research Council, 2003). This uncertainty is even greater with the expanding use of large-scale digital databases where the focus cannot be on the transaction of consent alone but also on the ethical, legal, and other legitimate claims and ground upon which they rest. The importance of supporting an informed consent process that is meaningful, ongoing, and flexible when applied to studies that range from nonsensitive, anonymous surveys to those that might pose significant informational or psychological risk or involve populations with questionable consent capacity cannot be overstated. IRBs struggle to understand how to apply informed consent regulations to many of these studies. As the ANPRM notes, current regulations on informed consent are confusing and inflexible and may require inclusion of inappropriate content. Moreover, IRBs may read the regulatory requirements in a way that limits what flexibility is now permissible.

The 2003 National Research Council (NRC) report, *Protecting Participants and Facilitating Social and Behavioral Sciences Research,* provided an expansive review of issues in the informed consent process for IRBs reviewing social and behavioral research proposals and provided yet-to-be adopted guidance for helping IRBs and researchers apply the Common Rule provisions in the process of obtaining informed consent. The ANPRM addresses some of those recommendations, but many of its solutions do not fit well for the social and behavioral sciences, and there are wide gaps in applicable guidance. In this chapter, the committee updates and expands upon the recommendations of the 2003 NRC report. We discuss the importance of flexibility in the informed consent process, propose that issues of institutional liability be separated from requirements for informed consent, and provide suggestions for informed consent relating to data collection.

The purpose of informed consent is to inform potential participants about the study's purpose, harms, risks, benefits, and other information that allows the person to make an informed decision about participation. Even a no-risk study requires consideration of informed consent out of respect for personhood and the right to self-determination. Consent may legitimately take many forms and should be tailored to the requisites of the study and the characteristics and needs of the study population. As many have said before, consent is a process, not a document (Oakes, 2002). Thus, this committee agrees with the Secretary's Advisory Committee on Human

Research Protections and others that the ANPRM continues to have regulatory focus on the form rather than the process (Secretary's Advisory Committee on Human Research Protections, 2011). While the elements of informed consent listed in current regulations[1] are important to ensuring the informed, rational, and voluntary nature of consent, they may not all be necessary in the context of a given study, and a documented form may not be required at all.

FLEXIBILITY IN INFORMED CONSENT

Flexibility and Inclusion of Protocol-Relevant Elements of Informed Consent Is Essential for Social and Behavioral Research

The committee supports the ANPRM's efforts to shorten the length of consent forms. We also agree with the ANPRM that the length and assumed reading levels of current forms increase the likelihood that participants do not fully comprehend what they are consenting to (76 Fed. Reg. 44522). Given the diversity of participants with respect to cultural, educational, and mental health and developmental levels, a standard informed consent form seems unlikely to improve participant comprehension of consent in practice. Social and behavioral research involves many research contexts and many different populations—and therefore many different specific requirements for informed consent (Sieber et al., 2002).

The focus of the ANPRM was primarily aimed at changes that would (1) improve comprehension in informed consent and (2) increase efficiency in the research process. While the committee agrees that both aims are important, we believe that changes to the regulations and accompanying guidance should more explicitly target the flexibility afforded to IRBs, while still maintaining appropriate subject protections and accountability in the informed consent process. In developing flexible consent procedures fitted to the consent needs of the participant population, the U.S. Department of Health and Human Services (HHS) can draw on a framework that conceptualizes participant respect and protections in terms of the goodness of fit among the current cognitive and health status of the participant, the education and experience of the participant, the cultural context required to understand the nature of the specific research protocol, and participants' rights (Fisher and Goodman, 2009; Flory and Emanuel, 2004; Kiguba et al., 2012). The goodness-of-fit framework calls for scientists to construct informed consent procedures guided by (1) the moral principles of respect, care, and justice; (2) responsiveness to the abilities, values, and concerns of

[1]For a summary list of elements of informed consent, see National Research Council (2003, p. 82, Box 4-1).

participants and their surrogates; and (3) awareness of the scientists' own competencies and obligations (Fisher, 2002, 2003a, 2003b; Masty and Fisher, 2008). This framework provides a better focus than do either current regulations or the ANPRM on the context of research and the actual needs of potential participants. Instead of simply checking off the required elements of informed consent, researchers and IRBs would assess which elements are required and how best to convey that information to participants.

Emphasizing Process over Documentation

The regulations should eliminate language suggesting that written informed consent disclosures and written documentation that consent has been obtained are the preferred norm. Rather, language should stress that informed consent is a process of communication that provides investigators with the flexibility to tailor the content and modality of disclosures to the specific research context and the information needs of prospective participants, including the opportunity for a prospective participant to ask questions to enhance understanding. Informed consent should be viewed not as a point in the research but rather as a continuing iterative process.

While the committee supports the ANPRM goal of streamlining the documentation requirements for informed consent, we do not believe that goal is sufficient. Regulatory changes should concentrate instead on increasing flexibility in the informed consent process. That flexibility can enhance the informed, rational, and voluntary requirements for consent, not simply its expediency. The aim of regulatory reform should be to give IRBs the freedom to be flexible without diminishing human subjects protection, while being supportive of researchers.

Flexibility in Timing of Approval of Informed Consent Processes

Many IRBs require social and behavioral researchers to finalize their informed consent process before they start research, as is the norm with biomedical research. Before the research can commence, the IRB requires approval of an informed consent form. But some types of social and behavioral research, especially ethnographic research, involve research where the researcher cannot predict how the research will evolve and may not even be able to identify all participants until some data have been collected (Lederman, 2006; Murphy and Dingwall, 2007; Simpson, 2011; Thorne, 1980; Yanow and Schwartz-Shea, 2008). If the ANPRM's proposals for new categories of research are adopted, much of this research may fall into the new "excused" category. In that case, the researcher should apply good professional judgment to tailor informed consent to the situation at hand.

However, where more than minimal risks are involved, or where the research may be no greater than minimal risk but requires additional protections to maximize benefits and minimize harms, IRBs and researchers should have the flexibility to work together to allow the informed consent disclosures' timing to be appropriately fitted to participant characteristics and the research context. The researcher should not be required to come back to the IRB for approval of every revision in the informed consent process. Instead, alternative possibilities should be discussed and approved at the outset, with the researcher selecting among those approved alternatives as the reality of the research evolves. For situations where IRB action is required but it can be anticipated that quick approval will be necessary, prior arrangements should be made between the researcher and the IRB that allow for this process of discussion and approval of alternatives. An example of this was provided by Silver in describing how to work with IRBs in facilitating the review of trauma research during disasters (National Research Council, 2013).

Restructuring the Concept of "Waiver of Consent"

The current regulations already offer a great deal of opportunity for flexibility (45 C.F.R. § 46.116(c)). As cited in the 2003 NRC report, many or most IRBs do not use this flexibility for a variety of reasons (Puglisi, 2001). While the regulations allow for alteration as well as waiver, some IRBs ignore opportunities for appropriate alteration and instead debate waivers of consent or waivers of consent documentation. In light of the flexibility proposed by the ANPRM and recommended in this report, the language of 45 C.F.R. § 46.116(c) and § 46.116(d) needs to be reconsidered. As the ANPRM suggests, the regulations might go further in considering a restructuring of the process of "waiving" requirements.

For example, the requirement to demonstrate that the research cannot "practicably" be carried out without the waiver or alteration places an undue burden on IRBs to include consent information that may be irrelevant to adequate human subjects protections simply because a longer, more burdensome, and possibly less comprehensible form could conceivably be implemented by the researchers. Similar problems may arise in asking investigators and IRBs to actively demonstrate that waiver of specific elements of consent "will not adversely affect rights and welfare of the participant," as well as to document that the research could not "practicably" be done without the waiver, a word that is confusing and variously interpreted by IRBs (Secretary's Advisory Committee on Human Research Protections, 2011). Requiring IRBs to affirm this statement about what is "practicable" makes many IRBs cautious about granting such allowances because they feel that they are assuming a risk in granting the waiver, even when that risk

is benign or nonexistent. In addition, IRBs may face institutional pressures not to take on any such risk (Klitzman, 2013).

The current language thus results in informed consent forms or procedures that are long, overly complex, and confusing (Albala et al., 2010; Klitzman, 2013; Stunkel et al., 2010). For example, as others have pointed out (Secretary's Advisory Committee on Human Research Protections, 2011), the required element to discuss alternative procedures with a prospective participant is typically not applicable in nonclinical studies and should not be an element that needs active defense to remove it from the consent process or form. Fitting the consent disclosures to the specific research procedures, population, and context should not cause IRBs any hand wringing but rather should simply be one of an *equally valid* set of alternatives in the informed consent process.

The 2003 NRC report's chapter, Enhancing Informed Consent, addressed the issue of what elements should be required in informed consent; that report's Recommendation 4.5 states: "The Office for Human Research Protections should develop detailed guidance for IRBs and researchers, including specific examples, on when it is acceptable to omit elements of informed consent in social, behavioral, and economic sciences research" (National Research Council, 2003, p. 108). This process itself is also problematic, in that IRBs are given a "full basket" of requirements for the informed consent process and form; they then have to document and defend any decisions to allow for removal of any requirement by "granting a waiver or alteration." If the process were instead one where elements were listed as considerations, rather than required as standard elements, the IRB could start with an "empty basket" and add in those elements that were necessary, appropriate, and warranted for informed consent in the research context. This solution does not address the problem of reviewers who may be overly risk-averse, but it is a step in the right direction: reforming the approach IRBs should take and allowing more flexibility.

OHRP guidance could also advise IRBs that shorter informed consent processes communicate better to participants than do overloaded processes (Martin and Marker, 2007). In addition, OHRP could provide IRBs with assurance that they do not bear increased risk by requiring only the elements warranted by the research.

Critical criteria to consider for which elements of consent information to include are the following: (1) What disclosures are essential to ensure that members of the population to be recruited can reasonably determine whether or not they would find participation in the specified study to be a desirable or undesirable experience? (2) What disclosures are essential to ensure that members of the population to be recruited are aware of the extent and limits of human subjects protections most relevant to the personal consequences of their participation in the specified study? For each

research proposal, answers to these questions should be calibrated to both the probability and magnitude of harm posed by the proposed research procedures, the adequacy of data protections, and the characteristics of the population or research setting that might compromise the informed and voluntary nature of consent.

Relatively simple, low-risk studies may convey the information essential for informed consent in a couple of sentences of text at the top of the survey or at the start of a brief telephone interview. For example, a survey study on cigarette smoking behaviors and attitudes involving a community sample of healthy and cognitively competent adults may only require a few sentences describing the purpose and nature of the study, confidentiality protections, and investigator contact information. If the study involves no or low risk, a superficial statement regarding research risks and benefits would not be required.

For other populations and in certain contexts, additional elements may also be appropriate. In some contexts, for example, it may be important to include a statement that deciding not to participate results in no penalty or other consequence. In many studies, it may be important to discuss confidentiality or data security and to inform prospective subjects about who will see their information or who will know they participated. For instance, a similar smoking survey that is conducted in a hospital setting with patients admitted for treatment of lung cancer would require additional consent disclosure to ensure that patients understand that refusal to participate will not jeopardize their treatment. Disclosure would also be needed to inform patients about whether or not their survey responses will be included in their health records.

Flexibility in Form and Documentation of Consent

The ANPRM sought to clarify regulatory requirements and remove barriers to more flexible and diverse consent processes and documentation. The committee agrees with these aims and offers here some specific suggestions for increased flexibility.

The current regulations put too much emphasis on documentation. In many cases, a written signature indicating participant consent should not be necessary. Moreover, in some situations, documentation might actually increase risk (Cardon, 1984; Elliott, 2002) or bias samples (Singer, 1978; Trice, 1987). Many researchers, and even IRBs, are not aware that many research projects have a valid option of gathering verbal consent from individuals without having them sign a written consent form. Thus, researchers and IRBs may not be comfortable permitting the elimination or alteration of the consent form. However, providing potential subjects with a one- to two-page "fact sheet," writing a letter of introduction to the study that is

attached to a questionnaire, and/or gathering verbal consent to participate in a study are appropriate forms of informed consent for many research studies. Similarly, some forms of "implied consent" should be expressly permitted by the regulations. When someone reads a letter outlining the elements of consent, then proceeds to complete a questionnaire and return it, there is neither "written consent" nor "oral consent," but the subject has still consented by continuing with the research. This should be a valid and clear option not necessitating any action on the part of the IRB to "grant a waiver," which is how many IRBs currently interpret the regulations. This confusion may be exacerbated by current guidance, which may confound the form of the consent with the requirement of the necessary elements (U.S. Department of Health and Human Services, 2011).

The informed consent should be tailored to the context of the research and the needs of the potential participants (Burgess, 2007). In some cases, the consent disclosure information may be better communicated through nonwritten means. A conversation may be appropriate, conveying what is needed to ensure a participant's informed consent. Sometimes emails or notices may be all or part of the informed consent. For example, an anonymous, brief, one-time survey might warrant the researchers simply telling potential participants that they are researchers, their affiliation, and what participation entails, with no written information conveyed nor any documentation required. In more complex research, multiple formats such as visual aids and video may improve communication and understanding (Moseley et al., 2006). In other studies, the subjects may need to have some written information to take with them or to comprehend what is being asked of them (Cameron et al., 2011).

The committee believes that 45 C.F.R. § 46.117 should be revised to encourage oral consent in appropriate situations. Oral consent may greatly enhance communication in many more contexts than those in which it is currently permitted (Dawson and Kass, 2005). One option would be to extend the oral plus brief written statement recommended by the Office for Human Research Protections (OHRP) for research involving participants who do not speak English, in order to provide full informed consent in many contexts.[2] This may provide the most ethically appropriate approach to ensuring clear understanding and voluntary participation decisions across a broad range of populations. IRBs should be encouraged to apply the flexibility afforded by this policy for research involving individuals (a) with limited reading ability, (b) for whom English is a second language, (c) who have minor cognitive deficits, or (d) who live in war-torn

[2]See the 1995 OHRP directive, Obtaining and Documenting Informed Consent of Subjects Who Do Not Speak English, at http://www.hhs.gov/ohrp/policy/ic-non-e.html [November 2013].

or other dangerous environments in which a document of consent or other records of participation may jeopardize physical safety. Other contexts in which oral consent plus a brief written statement may be appropriate include (1) research settings (e.g., hospitals, business organizations) that promote a deference to authority that is potentially coercive, (2) research settings where a written document may jeopardize participant safety, or (3) settings where research is conducted solely through telephone contact or via mail or Internet. This approach of oral consent plus short written form is also appropriate for assent procedures involving children and adolescents (Fisher et al., 2013, p. 10).

Recommendation 4.1: HHS should eliminate regulatory language that suggests certain formats or elements are a default in all situations and focus instead on tailoring consent to be appropriate to the situation and population. This revision should include eliminating ambiguous language currently in 45 C.F.R § 46.116(d) that has caused IRBs to include consent information that may be irrelevant to adequate human subjects protection.

Guidance Recommended: OHRP guidance should be provided to help IRBs and investigators in emphasizing process over documentation and encouraging flexibility in consent methods, including processes that enable consent to evolve to ensure the quality of the informed consent process.

OHRP should also provide guidance on how to determine what elements to include in consent information, which should be calibrated to both the probability and magnitude of harm posed by research procedures, the adequacy of data protections, and characteristics of the population or research setting that might compromise the informed and voluntary nature of consent.

Recommendation 4.2: HHS should eliminate language in the regulations suggesting that written informed consent disclosures and written documentation that consent has been obtained are the preferred norm and include language permitting informed consent by nonwritten means when appropriate, without requiring action by the IRB to grant a waiver of documentation.

Distinguishing Participant Risk from the Risk of Institutional Liability

The ANPRM includes changes to the Common Rule intended to separate a research institution's concerns for limiting institutional liabilities unrelated to human-subjects research protections from informed consent

to being a participant (or subject) in the research. The committee fully supports the position stated by the SRCD Task Force on this differentiation of participant risk and institutional liability (Fisher et al., 2013, pp. 9-10), although the committee would widen the focus of the Task Force on children and adolescents to include any individual unfamiliar with the research process:

> We [the SRCD Task Force] agree with ANPRM recommendations to improve consent forms in ways that enhance prospective participant (and guardian) understanding of their research rights and procedures. In particular we appreciate the ANRPM's willingness to address the problem of over-inclusion of institutional-liability clauses in informed consent. In many instances statements regarding an institution's lack of legal liability refers to risks outside of the research procedures themselves (e.g., falling while walking down a hall) and thus do not belong in the informed consent [form].[3] In addition, liability waivers included in an informed consent document clearly violate the regulatory language in § 46.116, which states that no informed consent "may include any exculpatory language through which the subject or representative is made to waive or appear to waive any of the subject's legal rights or appears to release the investigator, the sponsor, the institution or its agents from liability for negligence." This is particularly relevant to assent procedures for children and adolescents[4] who may interpret such language as a prohibition against alerting adults to harms incurred during research participation. We strongly recommend that (a) institutional liability statements be removed from informed consent documents for research participation and (b) institutions that wish to notify prospective participants or their guardians about limits to the institution's legal liability do so in a separate document. (Fisher et al., 2013, pp. 9-10)

In support of this position, the committee makes the following recommendation in favor of removing institutional liability statements from informed consent forms and presenting them to prospective participants (or their guardians) in a separate document.

> **Recommendation 4.3:** HHS should revise regulations to require that statements relating only to institutional or sponsor liability be clearly separated from the informed consent information directly related to the research participation.

[3]The committee adds that inclusion of such statements limiting institutional liability may also lead to bias in recruitment in some social science research. See, for example, Trice and Ogden (1986).

[4]The committee would broaden this reference to include not only "children and adolescents" but also all individuals who, due to lack of education or experience, are unfamiliar with the research process. See Fisher and Wallace (2000) and Dawson and Kass (2005).

Describing Probable Research Risks and Benefits

As Chapter 3 notes in the section, "Avoiding Overestimation and Underestimation of Harm," IRBs without experience with social and behavioral research have a tendency, because of concern about adherence to regulations, to inflate potential risks in such studies without grounding their estimations in established scientific or professional knowledge. For their part, researchers may sometimes inflate potential scientific, social, or direct participant benefits. Both of these tendencies are understandable, but efforts are needed to ensure that the attribution of risks and benefits to proposed research are appropriate, accurate, reasonable, and evidence-based when possible.

In its response to the ANPRM, the SRCD Task Force complained of the tendency of IRBs to require statements on risks of stress or discomfort to participants, without scientific evidence for such harms:

> For minimal risk research, too often in the absence of empirical or clinical evidence IRBs require investigators to include informed consent statements of "stress" or "discomfort" as a research risk when the probability and magnitude of such a risk is small or non-existent. Such statements can be deceptive and threaten scientific validity by unduly creating participant expectations of distress or harm. (Fisher et al., 2013, p. 9)

Although the committee would describe such statements as "misleading or inaccurate" rather than "deceptive," we agree with the Task Force's concern about unduly alarming participants without evidence for harm. More generally, descriptions of research risks and potential benefits should not include low-magnitude/low-probability risks and benefits. Doing so may misinform prospective participants, which is contrary to the legitimate goals of informed consent. Rather, consent disclosures should focus on those risks and benefits of reasonable probability that an individual would need to know to make an informed, rational, and voluntary decision to participate.

> **Guidance Recommended:** OHRP guidance should clarify for IRBs that informed consent does not include risks and benefits low in magnitude and low in probability. Description of potential research risks and benefits should be limited to those that might *reasonably* occur and those risks that would cause substantive harm if they occurred.

Waivers and Research Involving Adolescents

Any proposed changes to the Common Rule sections on informed consent have particular relevance to research involving children and adolescents because Subpart D (Additional Protections for Children Involved as

Subjects in Research), § 46.408, refers investigators and IRBs to Common Rule § 46.116 for information that must be considered when developing guardian permission and child assent procedures. Of particular concern for pediatric and developmental scientists conducting social and behavioral research are the significant barriers to the waiver of guardian permission that permeate IRB evaluations of requests for waiver of guardian permission for adolescent health research. For research involving no more than minimal risk, guardian permission can be waived under the current regulations (45 C.F.R. § 46.116). However, there has been widespread inconsistency in IRB application of these regulations to protocols surveying smoking behavior, alcohol and drug use, sexual behaviors, and other health-related attitudes and behaviors involving adolescents. One reason for this inconsistency is the lack of age-indexed guidance on evaluating the minimal risk criteria (Fisher et al., 2007; National Human Research Protections Advisory Committee, 2001; Secretary's Advisory Committee on Human Research Protections, 2005), a topic this report addresses in greater detail in Chapter 3. Another barrier is failure of IRBs to consider the large body of empirical data summarized by the Institute of Medicine (2004) and the Society for Adolescent Medicine (Santelli et al., 2003) demonstrating that, starting at 14 years of age, adolescents' understanding of the nature of medical and mental health treatment and research and rights-related concepts, such as confidentiality and voluntary assent or dissent, are similar to the ability of adults.

As the Common Rule is revised to provide greater specificity on requirements for informed consent, HHS has an opportunity to clarify and emphasize the relevance of 45 C.F.R. § 46.116(2) to research involving minors and the provisions of Subpart D. In particular, the committee endorses the approach recommended by the Society for Research in Child Development (SRCD) Task Force (Fisher et al., 2013, p. 11):

> We recommend that in contexts in which waiver of parental permission is appropriate investigators and IRBs be encouraged to: (1) draw on developmental research to ensure consent language is age-appropriate; (2) include educational procedures within the consent process that enhance minors' understanding of research and their research rights; (3) evaluate participant rights and protections within the context of existing empirical evidence on children's developing consent capacity; (4) when appropriate include standardized age-appropriate assessments of prospective participants' consent capacity; and (5) when the first four steps are insufficient, consider the appointment of an independent participant advocate to ensure children's informed and voluntary participation (see Gibson et al., 2011; Masty and Fisher, 2008; Vitiello, 2008).

In addition, the committee offers the following recommendation for guidance from OHRP on waivers of guardian permission:

> **Guidance Recommended:** OHRP should issue guidance to IRBs to facilitate the use of waiver of guardian permission for research involving adolescents that meet the criteria for minimal risk research. In contexts in which waiver of parental permission is appropriate, OHRP should consider providing guidance to require IRBs and researchers to develop informed consent procedures that ensure children's informed and voluntary participation.

Informed Consent to Research and Treatment Involving Adults with Impaired Decisional Capacity

The ANRPM proposes that less oversight is needed when "competent adults" are asked to participate in research, with the exception of when "emotionally charged" research is being conducted. The committee is concerned that these terms have implications for the informed consent process and might lead to both underprotection and overprotection of subjects in terms of having a valid and respectful consent process. The term "competent adult" requires further elaboration, as even the term "adult" would require a federal definition. A full deferral to state law notions of what "adult" means may be necessary, as well as to consider state laws regarding emancipated minors. The definition of and risks associated with "emotionally charged" are also unclear and problematic.

The term "competent adults" is not sufficiently defined and has indeterminate implications for what consent process may be deemed appropriate by IRBs. Thus, an ongoing challenge for informed consent is balancing the obligation to respect the rights of those with impaired decisional capacities to be treated as autonomous members of the community with the need to ensure that ill-informed or incompetent decisions will not place their welfare in jeopardy (Appelbaum et al., 1999; Bersoff et al., 1994; Ellis, 1992).

In 1982, the President's Commission for the Study of Ethical Problems in Medicine and Biomedical Research recommended that scientists avoid determining an individual's incapacity as a decision maker solely on the individual's status as mentally disabled. The National Bioethics Advisory Commission (1998) extended this recommendation by suggesting that investigators study the consent capacity of people with intellectual disabilities and explore techniques to enhance their decision-making performance. Fisher (2003b) argued that such research is critically important because a diagnosis of mental illness or neurological disorders has often justified allowing other people to make decisions for those with mental impairments, especially when the disabled individual disagrees with the risk-benefit

assessment of a research investigator, the cognizant IRB, or the individual's own physician or family members. Some adults with serious mental disorders have been declared legally incompetent to consent. Removal of a person's legal status as a consenting adult does not, however, deprive that person of the moral right to be involved in treatment or research participation decisions (Dresser, 1999; Fisher, 1999, 2003b).

For these adults, the committee recommends that guidance be modeled on the American Psychological Association Ethics Code Standard 3.10b, which requires that psychologists obtain the appropriate permission from a legally authorized person *and* provide an appropriate explanation to the prospective client, patient, or research participant, consider that person's preferences and best interests, and seek the individual's assent (American Psychological Association, 2010; Fisher, 2013).

The implementation of ethically appropriate consent procedures is more complex for the many situations in which individuals with impaired decisional capacities, which could be associated with any type of health condition, retain the legal status of a consenting adult, even when their capacity for making informed, rational, and voluntary decisions may be compromised (Carpenter et al., 2000, Dunn et al., 2006). Sole reliance on a diagnostic label to determine a client's or patient's capacity to make research participation decisions risks depriving persons with mental disorders of equal opportunities for autonomous choice and risks a failure to attend to ethical issues of justice and access to research (Dunn et al., 2006).

Recommendation 4.4: The committee does not endorse the ANPRM restriction to "competent adults" for the proposed new excused classification. Instead, the committee recommends that OHRP provide guidance for investigators and for the final mechanism of oversight for this category, with the aim of fitting the information required for obtaining consent for the new excused category to the population characteristics and specific research context.

INFORMED CONSENT FOR PRE-EXISTING DATA

The ANRPM includes proposed reforms for informed consent to long-term use and secondary analysis of research data in general and to use of biospecimens in particular (76 Fed. Reg. 44,519, 44,523). These proposals recognize the rapid and extensive changes occurring in the technologies for data analysis and for archival and retrieval (data mining) of data in large repositories. They have important implications for major data collection activities, such as longitudinal studies and national surveys, as well as for data sharing and secondary analysis of archival data of all kinds.

As noted by the SRCD Task Force, these new security rules will have significant influence on data generated from longitudinal studies:

> Longitudinal studies allow for tests of continuity and change in developmental [and societal] processes and [for research on] the influence of genetic, social, and environmental contexts over time and are essential for assessing the lifelong consequences of medical, educational, clinical, or other interventions [and chronic conditions]. Whether archival data in longitudinal studies or national surveys are identifiable or de-identified, their contribution to society is greatly enhanced by secondary analysis [by investigators over different periods of time].
>
> . . .
>
> Protection of [participant] privacy rights require[s] that when an investigator wishes to link archival identifiable data with collection of new data [from human subjects], re-consent must occur. We recommend that the consent should be for the new data collection and linking to the archival data set, *not* for access to the contact information of individuals who participated in the original study. Rather, access to participant contact information should be permitted with a signed letter of agreement between institutions that security and confidentiality rules will be followed. (Fisher et al., 2013, p. 12; adapted by the committee as shown by editorial insertions)

To act on these suggestions, which the committee supports, the revised Common Rule will need to clarify and emphasize that, when investigators' new research entails linking extant data to the collection of new data from human subjects, the need for informed consent applies only to the new data collection and linking to the archival dataset; the need for informed consent does not extend to access to the contact information of individuals who participated in the original study.

With respect to re-use of biospecimens and other socially sensitive research data, the committee agrees, with one caveat, with the ANPRM that there is no need for re-consent for future use of de-identified information (76 Fed. Reg. 44,519, 44,523):

> Future analysis of de-identified data by the original investigator or secondary analysis of de-identified data by other investigators typically poses no informational risk. However, emerging software and biomedical technologies may make original de-identification data security protections obsolete. (Fisher et al., 2013, p. 12)

The committee believes that to ensure responsible future access and use of data "that all investigators who will have access to data in the future will be bound by the best practices in data and confidentiality protections at

the time of data collection and [will be bound by] new protections as they emerge" (Fisher et al., 2013, p. 12).

Recommendation 4.5:[5] HHS should not introduce a requirement for re-consent for future use of pre-existing, de-identified non-research or research data. When investigators wish to link pre-existing identifiable data to the collection of new data from human subjects, consent should be obtained for the new data collection and linking to the archival identifiable dataset.

Guidance Recommended: OHRP guidance is needed to assist investigators in creating informed consent language for de-identified data storage that makes explicit the requirement that all investigators who will have access to data in the future (1) will be bound by the best practices in data and confidentiality protections at the time of data collection and (2) will also employ new protections as they emerge.

Recommendation 4.5 primarily addresses re-consent for future use of pre-existing de-identified data. Chapter 5, in focusing on information risk and data protection, discusses more broadly data sharing and the various protective mechanisms related to linking de-identified and identifiable data.

REFERENCES

Albala, I., Doyle, M., and Appelbaum, P.S. (2010). The evolution of consent forms for research: A quarter century of changes. *IRB: Ethics and Human Research, 32*(3):7-11.

American Psychological Association. (2010). *Ethical Principles of Psychologists and Code of Conduct*. Washington, DC: American Psychological Association. Available: http://www.apa.org/ethics/code/principles.pdf [December 2013].

Appelbaum, P.S., Grisso, T., Frank, E., O'Donnell, S., and Kupfer, D.J. (1999). Competence of depressed patients for consent to research. *American Journal of Psychiatry, 156*(9):1380-1384.

Bersoff, D.N., Glass, D.J., and Blain, N. (1994). Legal issues in the assessment and treatment of individuals with dual diagnoses. *Journal of Consulting and Clinical Psychology, 62*(1):55-62.

Burgess, M. (2007). Proposing modesty for informed consent. *Social Science and Medicine, 65*(11):2284-2295.

Cameron, M.A., Marsillio, L.E., Cushman, L.F., and Morris, M.C. (2011). Parents' perspectives on the consent approach for minimal-risk research involving children. *IRB: Ethics and Human Research, 33*(6):6-13.

[5]This recommendation was made by the committee in response to an ANPRM-***proposed*** revision to the current regulations, page 44,519. Recommendation 4.5 in the prepublication copy erroneously implied that the recommendation was being made to ***change*** current regulations.

Capron, A. (1982). Is consent always necessary in social science research? Pp. 215-231 in T.J. Beauchamp, R.R. Faden, R.J. Wallace, and L. Walters (Eds.), *Ethical Issues in Social Science Research*. Baltimore, MD: The Johns Hopkins University Press.

Cardon, P. (1984). Informed consent. Pp. 28-31 in J.E. Sieber (Ed.), *NIH Readings on the Protection of Human Subjects in Behavioral and Social Science Research*. Frederick, MD: University Publications of America.

Carpenter, W.T., Gold, J.M., Lahti, A.C., Queern, C.A., Conley, R.R., Bartko, J.J., Kovnick, J., and Applebaum, P.S. (2000). Decisional capacity for informed consent in schizophrenia. *Archives of General Psychiatry, 57*(6):533-538.

Dawson, L., and Kass, N.E. (2005). Views of U.S. researchers about informed consent in international collaborative research. *Social Science and Medicine, 61*(6):1211-1222.

Dresser, R. (1999). Is informed consent always necessary for randomized, controlled trials? *New England Journal of Medicine, 341*(6):448-450.

Dunn, L.B., Candilis, P.J., and Roberts, L.W. (2006). Emerging empirical evidence on the ethics of schizophrenia research. *Schizophrenia Bulletin, 32*(1):47-68.

Elliott, M. (2002). Research without consent of documentation thereof. Pp. 216-221 in R. Amdur and E. Bankert (Eds.), *Institutional Review Board: Management and Function*. 2nd ed. Sudbury, MA: Jones and Bartlett Publishers.

Ellis, J.W. (1992). Decisions by and for people with mental retardation: Balancing considerations of autonomy and protection. *Villanova Law Review, 37*(6):1799-1809.

Elms, A.C. (1982). Keeping deception honest: Justifying condition for social scientific research stratagems. Pp. 232-245 in T.L. Beauchamp, R.R. Faden, R.J. Wallace, and L. Walters (Eds.), *Ethical Issues in Social Science Research*. Baltimore, MD: The Johns Hopkins University Press.

Fisher, C.B. (1999). Relational ethics and research with vulnerable populations. Reports on research involving persons with mental disorders that may affect decision-making capacity. Pp. 29-49 in Vol. 2 of *Commissioned Papers by the National Bioethics Advisory Commission*. Rockville, MD: National Bioethics Advisory Commission.

Fisher, C.B. (2002). A goodness-of-fit ethic of informed consent. *Fordham Urban Law Journal, 30*(1):159-171.

Fisher, C.B. (2003a). A goodness-of-fit ethic for child assent to nonbeneficial research. *American Journal of Bioethics, 3*(4):27-28.

Fisher, C.B. (2003b). A goodness-of-fit ethic for informed consent to research involving persons with mental retardation and developmental disabilities. *Mental Retardation and Developmental Disabilities Research Reviews, 9*(1):27-31.

Fisher, C.B. (2013). *Decoding the Ethics Code: A Practical Guide for Psychologists*. 3rd ed. Thousand Oaks, CA: Sage.

Fisher, C.B., and Goodman, S.J. (2009). Goodness-of-fit ethics for non-intervention research involving dangerous and illegal behaviors. Pp. 25-46 in D. Buchanan, C.B. Fisher, and L. Gable (Eds.), *Research with High-Risk Populations: Balancing Science, Ethics, and Law*. Washington, DC: APA Books.

Fisher, C.B., and Wallace, S.A. (2000). Through the community looking glass: Re-evaluating the ethical and policy implications of research on adolescent risk and psychopathology. *Ethics and Behavior, 10*(2):99-118.

Fisher, C.B., Kornetsky, S.Z., and Prentice, E.D. (2007). Determining risk in pediatric research with no prospect of direct benefit: Time for a national consensus on the interpretation of federal regulations. *American Journal of Bioethics, 7*(3):5-10.

Fisher, C.B., Brunnquell, D.J., Hughes, D.L., Liben, L.S., Maholmes, V., Plattner, S., Russell, S.T., and Sussman, E.J. (2013). Preserving and enhancing the responsible conduct of research involving children and youth: A response to proposed changes in federal regulations. *Social Policy Report, 27*(1):1, 3-15.

Flory, J., and Emanuel, E. (2004). Interventions to improve research participants' understanding in informed consent for research: A systematic review. *Journal of the American Medical Association, 292*(13):1593-1601.

Gibson, B.E., Stasiulis, E., Gutfreund, S., McDonald, M., and Dade, L. (2011). Assessment of children's capacity to consent for research: A descriptive qualitative study of researchers' practices. *Journal of the Institute of Medical Ethics, 37*(8):504-509.

Institute of Medicine. (2004). *Ethical Conduct of Clinical Research Involving Children.* M.J. Field and R.E. Behrman (Eds). Washington, DC: The National Academies Press.

Kiguba, R., Kutyabama, P., Kiwuwa, S., Katabira, E., and Sewankambo, N.K. (2012). Assessing the quality of informed consent in a resource-limited setting: A cross-sectional study. *BMC Medical Ethics, 13*:21.

Klitzman, R.L. (2013). How IRBs view and make decisions about consent forms. *Journal of Empirical Research on Human Research Ethics, 8*(1):8-19.

Lederman, R. (2006). The perils of working at home: IRB 'mission creep' as context and content for an ethnography of disciplinary knowledges. *American Ethnologist, 33*(4):482-491.

Macklin, R. (1982). The problem of adequate disclosure in social science research. Pp. 193-214 in T.L. Beauchamp, R.R. Faden, R.J. Wallace, and L. Walters (Eds.), *Ethical Issues in Social Science Research*. Baltimore, MD: The Johns Hopkins University Press.

Martin, J., and Marker, D.A. (2007). Informed consent: Interpretations and practice on social surveys. *Social Science and Medicine, 65*(11):2260-2271.

Masty, J., and Fisher, C.B. (2008). A goodness of fit approach to parent permission and child assent pediatric intervention research. *Ethics and Behavior, 18*(2-3):139-160.

Moseley, T.H., Wiggins, M.N., and O'Sullivan, P. (2006). Effects of presentation method on the understanding of informed consent. *British Journal of Ophalmology, 90*(8):990-993.

Murphy, E., and Dingwall, R. (2007). Informed consent, anticipatory regulation and ethnographic practice. *Social Science and Medicine, 65*(11):2223-2234.

National Bioethics Advisory Commission. (1998). *National Bioethics Advisory Commission 1998-1999 Biennial Report*. Bethesda, MD. Available: http://bioethics.georgetown.edu/nbac/pubs/Biennial98-99.pdf [December 2013].

National Human Research Protections Advisory Committee. (2001). *Children's Workgroup Report: April 2001 Meeting*. Available: http://www.hhs.gov/ohrp/archive/nhrpac/mtg04-01/child-workgroup4-5-01.pdf [December 2013].

National Research Council. (2003). *Protecting Participants and Facilitating Social and Behavioral Sciences Research*. Panel on Institutional Review Boards, Surveys, and Social Science Research. C.F. Citro, D.R. Ilgen, and C.B. Marrett (Eds.). Committee on National Statistics and Board on Behavioral, Cognitive, and Sensory Sciences. Washington DC: The National Academies Press.

National Research Council. (2013). *Proposed Revisions to the Common Rule: Perspectives of Social and Behavioral Scientists: Workshop Summary*, pp. 40-43. R. Pool, Rapporteur. Committee on Revisions to the Common Rule for the Protection of Human Subjects in Research in the Behavioral and Social Sciences. Board on Behavioral, Cognitive, and Sensory Sciences, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

Nuremberg Military Tribunals. (1949). The Nuremberg Code. Pp. 181-182 in Vol. 2 of *Trials of War Criminals before the Nuremberg Military Tribunals under Control Council Law No. 10*. Washington, DC: U.S. Government Printing Office. Available: http://history.nih.gov/research/downloads/nuremberg.pdf [December 2013].

Oakes, J.M. (2002). Risks and wrongs in social science research: An evaluator's guide to the IRB. *Evaluation Review, 26*(5):443-479.

Puglisi, T. (2001, May/June). IRB review: It helps to know the regulatory framework. *Observer*, *14*(5). Available: https://www.psychologicalscience.org/index.php/uncategorized/irb-review-it-helps-to-know-the-regulatory-framework.html (December 2013].

Santelli, J.S., Smith Rogers, A., Rosenfeld, W.D., DuRant, R.H., Dubler, N., Morreale, M., English, A., Lyss, S., Wimberly, Y., and Schissel, A. (2003). Guidelines for adolescent health research. A position paper of the Society for Adolescent Medicine. *Journal of Adolescent Health, 33*(5):396-409.

Secretary's Advisory Committee on Human Research Protections. (2005, April 18-19; November 1). *Meeting Presentations and Reports*. Available: http://www.hhs.gov/ohrp/archive/sachrp/mtgings/mtg04-05/present.htm [December 2013].

Secretary's Advisory Committee on Human Research Protections. (2011). *ANRPM Communication*. Available: http://www.hhs.gov/ohrp/sachrp/commsec/sachrpanprmcommentsfinal.pdf.pdf [October 2013].

Sieber, J.E., Plattner, S., and Rubin, P. (2002). How (not) to regulate social and behavioral research. *Professional Ethics Report, 15*(2):1-4.

Simpson, B. (2011). Ethical moments: Future directions for ethical review and ethnography. *Journal of the Royal Anthropological Institute, 17*(2):377-393.

Singer, E. (1978). Informed consent: Consequences for response rate and response quality in social surveys. *American Sociological Review, 43*(2):144-162.

Stunkel, L., Benson, M., McLellan, L., Sinaii, N., Bedarida, G., Emanuel, E., and Grady, C. (2010). Comprehension and informed consent: Assessing the effect of a short consent form. *IRB: Ethics and Human Research, 32*(4):1-9.

Thorne, B. (1980). You still takin' notes? Fieldwork and problems of informed consent. *Social Problems, 27*(3):284-297.

Trice, A.D., and Ogden, E.P. (1986). Informed consent: I. The institutional non-liability clause as a liability in recruiting research subjects. *Journal of Social Behavior and Personality, 1*(3):391-396.

Trice, T.R. (1987). Informed consent. VII. Biasing of sensitive self-report data by both consent and information. *Journal of Social Behavior and Personality, 2*:369-374.

U.S. Department of Health and Human Services. (2011). *Can Consent or Parental Permission Ever Be "Passive" or "Implied"?* http://answers.hhs.gov/ohrp/questions/7249 [October 2013].

Vitiello, B. (2008). Effectively obtaining informed consent for child and adolescent participation in mental health research. *Ethics and Behavior, 18*(2/3):182-198.

Yanow, D., and Schwartz-Shea, P. (2008). *Reforming Institutional Review Board Policy: Issues in Implementation and Field Research*. Available: http://www.apsanet.org/imgtest/PSJuly08YanowSchwartz-Shea.pdf [October 2013].

5

Informational Risk in the Social and Behavioral Sciences

Since the publication of the Common Rule in 1991, no aspect of human society has changed so dramatically as information and its rapid production, availability, and retention. The amount of information storage has grown at an annual rate of 25 percent, and the technological capacity to process information even more rapidly (Hilbert and Lopez, 2011). There is so much information that is freely and openly available about individuals that informational risk is ubiquitous in society. In many respects, informational risk is an everyday aspect of life in the 21st century, and it has the potential to change the meaning of informed consent.

While the level of risk varies, to some extent risk exists in all forms of information, whether the information is public, whether it is digitized and rapidly generated, whether it is collected for research purposes, whether it is readily identifiable, and whether it is mundane and routine or personal and sensitive. For most social and behavioral research, the primary risk is informational. Thus, this report devotes special attention to informational risk and the different forms of information used, harvested, or collected by investigators as they pertain to the Federal Regulations for the Protection of Human Subjects.

In this chapter, the committee addresses informational risk and data protection as an extension of the Chapter 2 recommendations concerning the newly proposed category of excused research set forth in the Advance Notice of Proposed Rulemaking (ANPRM; 76 Fed. Reg. 44,512). Consistent with the ANPRM and as discussed in Chapter 2, the excused category is intended and particularly well suited for addressing informational risk involved in (a) surveys, questionnaires, or other methods of information

gathering from individuals or (b) the use of pre-existing research or non-research data that include private information. The new category would cover a large proportion of studies in the social and behavioral sciences in which the research procedures themselves involve informational risk, but where that risk is no more than minimal when appropriate data security and protection plans are in place. Chapter 2 dealt specifically with the definition and characteristics of excused research and with issues related to its registration. This chapter focuses on the required data protection that needs to be calibrated to the type and level of informational risk in order to avoid inadvertent disclosure or to reduce the level of any potential risk to participants to no more than minimal.

The issue of data protection spans the spectrum of methods and modes of inquiry in the social and behavioral sciences, whether qualitative or quantitative, longitudinal or experimental, observational or questionnaire-based, or micro- or macro-level or large-scale. With excused research, investigators need to address data protection appropriate to the research and calibrated to informational risk.

The consideration of data protection and informational risk draws on expertise within the social and behavioral sciences. These research fields, the federal statistical agencies, and data providers for the social and behavioral sciences have, over decades, pioneered procedures and mechanisms for vetting data as public-use data files and providing access to restricted data under various data protection plans calibrated to the level of risk. For more than 30 years, the National Research Council (NRC) has issued reports and guidance that take into account changing information-risk circumstances. For example, awareness of the increased capacity to re-identify data has led to a greater emphasis on restricted-use data and the development of procedures for using and protecting such data. Similarly, awareness of the research potential of video observational data in classrooms or other group settings has led to access to such data under restricted-use conditions.

There is helpful guidance from federal agencies, in particular from the federal statistical agencies; data providers such as the Inter-university Consortium for Political and Social Research (ICPSR), large-scale multi-investigator data projects, NRC reports, and the scholarly literature (e.g., National Research Council, 2003; O'Rourke et al., 2006) that is instructive on data protection plans and data use agreements. More than 10 years ago, Seastrom (2002) provided an overview of agency-specific features of data use agreements and licenses. Also in 2002, the National Human Research Protections Advisory Committee issued recommendations on confidentiality and research data protections that include a compilation of federal

research confidentiality statutes and codes useful to investigators and their institutions.[1]

The thrust of the guidance is to seek to maximize use consonant with confidentiality protection of private information. Reports, such as *Expanding Access to Research Data* (National Research Council, 2005) and *Putting People on the Map* (National Research Council, 2007), offer useful roadmaps on mechanisms to protect data and facilitate use. Plans to protect against and minimize inadvertent disclosure or intentional intrusions include institutional as well as technical and statistical approaches. Licensing agreements with strong penalties for infraction, data enclaves, and secure access mechanisms (where data stewards execute the analyses) are typically used when there is strong risk of disclosure. From a technical point of view, data limitation, alteration, and simulation can also be used, although they limit the data that are available for analysis (National Research Council, 2007, Chapter 3).

Building on this foundation, the chapter opens with a definition, description, and general discussion of informational risk in research. While agreeing wholeheartedly with the ANPRM desire to reduce the amount of time institutional review boards (IRBs) spend evaluating informational risk, the committee disagrees strongly with the ANPRM view that the Health Insurance Portability and Accountability Act of 1996 (HIPAA) provides an appropriate standard for specifying data protection plans generally or specifically with respect to social and behavioral research. The chapter specifically discusses HIPAA limitations in this context. Data protection issues and mechanisms are also described, and committee recommendations are offered for strengthening data protection.

Looking to the future, the committee proposes that the federal government (specifically, the U.S. Department of Health and Human Services, HHS) take steps to continue to promote institutional and methodological mechanisms that maximize researcher access to data while protecting the confidentiality of data and ensuring informational risk that is no more than minimal. As noted earlier in this chapter and in Chapter 2, the social and behavioral science community and related institutions and federal statistical agencies have played a leadership role in reconciling researcher access to private information with confidentiality protection and risk reduction (see also Levine and Sieber, 2007). However, given rapid developments in data production, dissemination, and use, it would be timely and wise for revisions to the Common Rule to be accompanied by investment in some form of organizational or institutional entity dedicated to addressing new types of informational risk and mechanisms of risk reduction. For heuristic purposes, the committee outlines one such approach in the form of a national

[1]See http://www.hhs.gov/ohrp/archive/nhrpac/documents/nhrpac14.pdf [December 2013].

center with sufficient expertise in data protection to inform investigators, IRBs, and data providers about (a) how to carry out ethically responsible use of private information made possible through new technologies, (b) innovative use of institutional arrangements and technology for managing informational risk, (c) standard typologies of risk, and (d) standard solutions for managing risk that researchers could readily adopt.

The chapter also discusses the continued need to facilitate data sharing, a longstanding practice in social and behavioral research. This topic is considered here because of the ANPRM proposals on the use of pre-existing research and non-research data, the benefits to human subjects as well as science and society of further analysis of existing information, and the importance of data sharing consonant with data protection and minimizing informational risk. Finally, the committee notes that, in the rapidly changing environment of information and information technology, an ongoing research program is needed to ensure that regulation of informational risk continues to be adequate and appropriate.

INFORMATIONAL RISK IN RESEARCH

Informational risk is the potential for harm from disclosure of information about an identified individual. For much of social and behavioral research, informational risk is the only or the primary risk, so social and behavioral research is particularly concerned with its management. However, all research on human subjects contains some element of informational risk, as Lowrance (2012) noted. Data sharing, which is common in social and behavioral research and is becoming increasingly common in biomedical research, requires specific plans for managing informational risk. While changing circumstances can create new challenges for managing informational risk, the social and behavioral sciences bring decades of experience and built expertise for doing so effectively (Levine et al., 2011; National Research Council, 2003, 2007, 2010).

Like all other types of risk, the central criterion for determining whether the informational risk in research requires IRB review is the benchmark of minimal risk. Understanding this benchmark, and evaluating whether the risk in a particular study or data-sharing activity falls above or below that benchmark, necessitates careful consideration by investigators before they decide whether to classify and register their research as "excused" as set forth in Chapter 2. Minimal risk is conventionally defined as no greater than the risk encountered by the general population in everyday life.[2]

[2]For the current interpretation of "minimal risk" under the Common Rule and the committee's suggested revised definition, see the section, "Defining Minimal Risk," in Chapter 3.

As with any participant risk that occurs in the context of research, the investigators have an ethical obligation to minimize the informational risk needed to achieve the goals of the research, but compromising research goals to reduce risk that is already below minimal is not in the best interests of science or of the human subjects of that research.

As discussed in the Chapter 3 section "Calculating the Probability and Magnitude of Harm," risk in the language of the Federal Regulations for the Protection of Human Subjects is the product of two considerations: probability of an outcome occurring and the magnitude of harm from that outcome. The most relevant harms[3] from information disclosure are potential economic harms (e.g., loss of job, insurance coverage, or economic assets), social harms (e.g., loss or damage to social relationships such as marriage), or criminal or civil liability (e.g., arrest for illegal behavior). Also, information made known in some contexts can increase the risk of physical harm (e.g., spouse abuse) or psychological harm (e.g., personal information if revealed could trigger depression). The magnitude of harm depends on the type or content of information being collected about participants in a study. Highly sensitive information, such as illegal activity or HIV status, has greater potential for harm than less sensitive information such as participants' opinions or hours of work. Currently IRBs have the task of assessing the sensitivity of information and the magnitude of harm. In that task, IRBs vary in their likelihood of overestimating the potential of harm from information (Green et al., 2006).

Much more difficult, for IRBs and researchers alike, is determining the probability of disclosure. Disclosure occurs when information about a human subject is available to unauthorized personnel and can be associated with that subject's identity. There are basically two ways this can happen: either through negligence in protecting identified data or through re-identification of a participant from information in a dataset that presumably has been de-identified (also called "secondary disclosure"). The de facto goal of current practice—to maintain the risk of secondary disclosure at near-zero levels—may be a worthwhile aim in some cases, but only as long as it does not produce hyper-regulation in scrutinizing minimal risk research. As noted earlier, the proposed introduction of an excused category aims to insulate research from overestimation of disclosure risk when risk is no more than minimal or may already be at or near a zero level. From a cost-benefit perspective on optimal regulation, current IRB practice overregulates informational risk.

[3]See also the section in Chapter 3 titled "Potential Harms Resulting from Inadequate Confidentiality Protections for Social-Behavioral Research."

BALANCING THE RISKS AND BENEFITS IN RESEARCH

The continuing challenge for investigators, IRBs, institutions, and data providers is twofold: (1) how to build adequate data protection plans in an environment where both the nature of private information and the technology to protect or disclose such information can rapidly change, and (2) how to do so while meeting the twin goals of minimizing individual risk of harm and maximizing research benefit. The former goal requires a deep analysis of the level of granularity of the data in any one dataset or the relationships between datasets and the potential for identity disclosure, as well as the strength of the data protection plan and how access will be provided to users under what conditions.

Informational risk can be conceptualized as the probability of harm of storing, using, and reporting on research data, multiplied by the magnitude of the harm from unintended release. The measure of harm is not static: there is some evidence that norms associated with informational risk and informed consent are evolving. Nissenbaum (2011, p. 34) notes that it is increasingly difficult for many people to understand where the old norms end and new ones begin because "[d]efault constraints on streams of information from us and about us seem to respond not to social, ethical, and political logic but to the logic of technical possibility: that is, whatever the Net allows." And these views are changing rapidly. The sources of the norms, particularly with respect to consent, identifiability, public interest, safeguards, and indeed the very notion of "privacy" that have guided IRB decisions have also changed, not just in this country but in many others (Lowrance, 2012). Research data are less likely than in the past to be a carefully curated dataset produced by a statistical agency or research institute and resulting from careful experimental or longitudinal design. New norms that use different types of controls are evolving (Landwehr, in press; Pentland et al., in press). While federal statistical agencies, data providers, and others who allow use of restricted data have set standards for access and use, there needs to be continuing attention to trends in data protection and disclosure risk over time.

Technology has also changed the research risk-and-benefit calculus. In the past, the focus was often on de-identification to avoid the risk, but such an approach is now less likely to preserve the research utility of the data. Norms on identifiers and outliers must be reconsidered if research benefit is to be maximized. Identifiers, or key data elements, now need to be retained in order that data from one data source can be linked to multiple other sources. Data are more likely now to be part of a communally developed data infrastructure or observatory. Identifiers are necessary in order to match with other population datasets and make appropriate statistical inferences. Data on atypical cases need to be preserved. While early social

and behavioral research focused on describing population characteristics, modern research in the social and behavioral sciences also studies the behavior of individuals or businesses at the tail ends of the population distribution (e.g., health care costs that are disproportionately driven by a small proportion of the population or innovative business activities that result from the creative energies of a few unusual entrepreneurs). As a result, it is much more important to retain data on outliers: standard disclosure limitation techniques thus do not always apply. When direct identifiers (name, address, etc.) must be retained for future use, best practice is to maintain them on storage systems that are isolated from the storage systems holding information about the subjects. Protection of direct identifiers can be handled by good data management.

There have also been massive changes in the risk of re-identification, given the public datasets that exist to support re-identification and the tools available, both to anonymize and to de-anonymize the data. In addition, the baseline levels of both risk and harm have changed, given the vast amount of information already in the public domain. Determining the risk level of the data becomes harder in this environment, and experts are needed to understand the risk of harm from a given dataset. Re-identification in turn depends on the subject, the level of detail, the type of media, and the availability of possible match factors. None of these elements is static, and fundamental challenges will be faced in getting the calculus right. If IRBs are too cautious, they risk suppressing valuable social and behavioral research.[4] If they are not cautious enough, they risk harming individuals. The benefit of understanding social and behavioral science trends over time must be balanced with the need to protect personal data.

Informational risk will continue to increase. The volume and type of data used for social and behavioral research will introduce many new types of identifying elements; the potential for re-identification will increase with more and better types of matching tools and algorithms. Fortunately, the very same technological change that has led to increased potential for loss of confidentiality and other harms has also led to enormous advances in the tools available to protect confidentiality. For IRBs to meet the goal of enabling valuable social and behavioral research, a more flexible system must be developed that better measures and minimizes informational risk.

[4]The social benefit from using the data must be a consideration. Since the tragic events of September 11, 2001, for example, the need for behavioral research to understand the human characteristics and dynamics in extremism has grown significantly (see, for example, Atran, 2003).

WHY NOT HIPAA AS THE MANDATED DATA SECURITY AND INFORMATION PROTECTION STANDARD?

As stated above, the best way to protect human subjects while minimizing the regulatory burden on IRBs and researchers is through adequate protection against disclosure. Matching levels of risk to levels of protection simplifies regulation and allows for clearer communication to participants about the actual level of risk. The ANPRM proposes that elements of the HIPAA Privacy Rule be adopted as the mandated data security and information protection standard for all research data.[5] As argued below, a single standard based on HIPAA is not a workable solution.

The ANPRM inquires if study subjects would be sufficiently protected from informational risks if investigators were required to adhere to a strict set of data security and information protection standards modeled on the Privacy Rule and Security Rule elements of HIPAA. The guidance offered by HIPAA is neither necessary nor sufficient for several reasons: the disconnect between the two rules, the failure to quantify risk, the failure to take into account the research value of data elements, and the focus on individual rather than group risk. These reasons are explained in the next two sections.

Disconnect Between the Privacy Rule and Security Rule

The disconnect between the two HIPAA rules stems from the fact that the Security Rule does not provide guidance on how to protect information in a manner that is proportional to its risk of disclosure. It only identifies mechanisms that can either be enacted or not enacted. Although it might be anticipated that information security requirements from the Security Rule could be combined with confidentiality requirements from the HIPAA Privacy Rule, this is problematic because the HIPAA Privacy Rule was not designed as a flexible confidentiality protection framework. In addition, the Security Rule provides relevant guidance regarding how an information security framework can be constructed, but it has little focus on maintaining the confidentiality of the information beyond limiting access to authorized users. This is an important principle of data protection, but it is not sufficient for mitigating informational risk.

In particular, the HIPAA Security Rule focuses on administrative, physical, and technical mechanisms in order to prevent the misuse of information in transmission or inappropriate access to data residing on a computer's hard drive. Within these mechanisms, it enumerates specific controls (e.g., unique log-ins for users of data), which are either "required"

[5] 76 Fed. Reg. 44,525.

or "addressable." In the case that they are addressable, the organization (or researcher) managing the data must provide documentation regarding why the choice was made not to implement the control in question.

Failure to Quantify Risk, Failure to Account for Value of Research, and Failure to Consider Group versus Individual Risk

The failure of the HIPAA Privacy Rule to protect social and behavioral research data stems from its approach. It states that data derived from participants can be studied in one of three ways.

1. Information can be used in an identifiable form if it has already been collected (or is "on the shelf") and it is impracticable to obtain consent. In such a case, the requirement for consent can be waived and data that contain explicit identifiers (e.g., personal name) can be used for research, provided appropriate protection mechanisms (such as those specified in the HIPAA Security Rule) are set in place.
2. Less oversight is necessary if data are disclosed as a "limited dataset." In this case, the data must be stripped of 16 enumerated features associated with the participant, such as Social Security numbers, telephone numbers, and specific residential addresses. In addition, the recipient of the limited dataset and the organization sharing the data must enter into a binding contract that prohibits the recipient from attempting re-identification of the records and uses of the data outside of the reasons specified in the contract. This approach to data protection is clearly less risky than using fully identified data under a waiver of consent, but the enumerated list is a heuristic that provides little quantification of the actual risk. Benitez and Malin (2011) have shown that application of such a policy leads to variable risk, depending on the region of the country from which the research participants come.
3. If a dataset is de-identified, then it is no longer covered by HIPAA. This occurs when "it does not identify an individual and with respect to which there is no reasonable basis to believe that the information can be used to identify an individual is not individually identifiable health information" (45 C.F.R. § 164.514). The Privacy Rule provides several ways in which de-identification can be achieved. The first is an extension of the limited dataset from 16 to 18 identifiers, plus an attestation that the provider of the data "does not have actual knowledge that the information could be used alone or in combination with other information to identify an individual who is a subject of the information" (45 C.F.R.

§ 164.514). This strategy does have less risk than a limited dataset, but it, too, suffers from the fact that its guidelines are independent of the actual data and do not provide an actual quantification of risk. The 18 enumerated features are common to medical records, which HIPAA was designed to regulate, but do not include other potentially identifying data elements that might be present in social and behavioral research data. Conversely, the presence of one or even several of the enumerated elements in isolation from the others may not lead to any significant risk of re-identification in, for example, large population-based samples.

Alternatively, the HIPAA Privacy Rule states that de-identification can be achieved when "[a] person with appropriate knowledge of and experience with generally accepted statistical and scientific principles and methods for rendering information not individually identifiable:

i. Applying such principles and methods, determines that the risk is very small that the information could be used, alone or in combination with other reasonably available information, by an anticipated recipient to identify an individual who is a subject of the information; and
ii. Documents the methods and results of the analysis that justify such determination."

This mechanism is noteworthy in that it requires actual quantification of risk. There are various ways in which such risk can be measured; however, despite the specification of such an option, there are several concerns.

First, the de-identification standard is an either/or policy. Either the dataset is not protected because it is de-identified or it is protected because it is identifiable. Thus, there is no quantification of risk beyond this binary level of protection.

Second, the HIPAA de-identification policy does not relate confidentiality to the utility of the data. In other words, the priority is put on privacy and not on the balance between the need to protect the data and the need to learn from the data via worthwhile scientific endeavors.

Third, the HIPAA de-identification model provides an emphasis on *individual* identification and does not address issues associated with group-based risks or the publication of aggregated summary statistics associated with the data.

Based on these arguments the committee concludes that HIPAA would not be the most suitable standard for the protection of many types of research, including research in the social and behavioral sciences.

Recommendation 5.1: HHS should not mandate HIPAA as the standard for data security and information protection.

In recommending that HIPAA not be mandated as the data protection and security standard, the committee is not suggesting that another particular set of standards be mandated for social and behavioral sciences but rather that there be an array of data protection approaches that best fit the data protection needs. These can include

- planning data protection with the concept of a portfolio approach considering safe people, safe projects, safe data, safe settings, and safe outputs;
- utilizing a wide range of statistical methods to reduce risk of disclosure;
- consulting resources and data protection models to help researchers and IRBs such as university research data management service groups, individual IT/protection experts, and specialized institutions such as the ICPSR and NORC at the University of Chicago;
- existing standards for data protection promulgated by the National Institute of Standards and Technology (NIST); and
- developing a future national center to define and certify the levels of information risk of different types of studies and corresponding data protection plans to ensure risks are minimized.

These approaches will be discussed in more detail in the next sections.

DATA PROTECTION PLANS— CURRENT AND FUTURE GUIDANCE

Once the risk profile is determined, the next step is to define a data protection plan that can address the needed risk in the research. The changing technological environment discussed above means that researchers and IRBs need to have a current and reliable source from which they can determine what reasonable measures can be taken that protect confidentiality and that are less reliant on solely statistical approaches. Data protection plans should use a diversified approach to minimize disclosure risk: safe projects (valid research aims), safe people (trusted researchers), safe data (data treated to reduce disclosure risk), safe settings (physical and technical controls on access), and safe outputs (reviewing products for disclosure risk) (Ritchie, 2009). Yet, the same changing technology that has made it much more difficult for individual investigators and IRBs to know how to ensure such safe use has also made it possible to identify new types of controls.

As noted earlier in this report, diverse sources of guidance exist for selecting among approaches for protecting data that can be calibrated to the level of informational risk and the identifiability of the data. Prior NRC reports set forth in considerable detail different approaches for data protection, data use, and data sharing (see National Research Council, 2005, 2007). The issues are sufficiently compelling that they continue to be examined as new forms of data or new technologies emerge. Forthcoming examples include responsive rules-based systems governance and fine-grained authorizations for distributed rights management (Pentland et al., in press), as well as approaches that institute access control and information flow policies or use media encryption, attribute-based encryption, or secure multiparty computation (Landwehr, in press).

Protection also means limiting the set of people who get access to a dataset (or resource) or limiting the information that is disclosed to the people who can get access. Protection could also be addressed through audit and liability requirements. These protection measures can be implemented as elements of data curation for the dataset. The aim of any of these approaches should be to maximize research accessibility relative to the level of disclosure risk.

An appropriate data protection plan outlines the mitigations for lowering the informational risk. It should outline both the physical and logical controls to be implemented—not just in securing the data but also in ensuring that only authorized users can access them. Some universities have special research data management service groups to guide researchers in developing data protection plans. For example, the ICPSR website includes guidance and samples, as well as links to resources at other universities in the United States and internationally.[6] Federal statistical agencies such as the National Center for Education Statistics (NCES) offer resources and a procedures manual on the use of restricted identifiable data.[7]

There are multiple examples of new approaches for data protection. NIST Special Publication 800-63-1 is a generally accepted standard for information assurance in protecting information system transactions; it has a tiered scale of protection based on the level of data (National Institute of Standards and Technology, 2011). The NORC data enclave at the University of Chicago protects data to NIST standards, yet enables secure remote access to confidential micro datasets. NORC is used as a secure method for data dissemination by statistical agencies. It also archives and curates data and provides space for virtual collaboration by researchers. A similar

[6]The webpage described is at http://www.icpsr.umich.edu/icpsrweb/content/datamanagement/dmp/resources.html#a02. [December 2013].

[7]See the NCES Restricted-Use Data Procedures Manual at https://nces.ed.gov/pubs96/96860rev.pdf. [December 2013].

approach has been developed by the UK Data Service at the University of Essex.[8] The European Union's Data Without Boundaries project[9] has been funded to enable both onsite and secure remote access to official micro datasets for research. In addition, the University of Michigan also has a good data protection model for data collected and distributed through its Panel Study of Income Dynamics. The program includes free database access to unrestricted data, which requires only a user name and password, while restricted-data access requires a legal agreement and proof of following the university-supplied data protection plan.[10] These models, combined with the NIST standard for secure information transactions, could be used by the Office for Human Research Protections (OHRP) to illustrate an appropriate foundation for establishing data protection plans for social and behavioral research data.

When researchers are developing specific data collection plans for studies, the plans will vary depending on the nature of the data and requirements of the data provider if pre-existing data are being used. Some of the major elements of a data protection plan include[11]

- nature of the data and degree of identifiability (e.g., continuum ranging from highest level of individual-level data with personal identifiers, to lowest level of aggregated community-level data with no identification of community);
- computing environment in which the data will be used (e.g., platform, number of computers, type of computers, network or standalone computers, access to and security of physical environment);
- locations and methods of data storage;
- controls used to secure the data;
- methods of transmitting the data between research team members; methods of encryption;
- methods of storage of computer output (electronic and paper);

[8]See http://ukdataservice.ac.uk/about-us.aspx [December 2013].

[9]See http://www.dwbproject.org/access/ [December 2013].

[10]For additional information on the public use data available from this longitudinal survey, see http://simba.isr.umich.edu/data/data.aspx. [December 2013].

[11]List of elements was summarized from these sources: Restricted Data Use Agreement with ICSPR. Available: http://www.icpsr.umich.edu/files/ICPSR/access/restricted/all.pdf [December 2013]. John Hopkins School of Public Health (May 8, 2011) *Data Security Guidelines for Community-Based Research. A Best Practices Document Prepared by the Ad-Hoc Committee for Data Security Program for Global Disease Epidemiology and Control Department of International Health.* Available: http://www.jhsph.edu/offices-and-services/institutional-review-board/_pdfs-and-docs/ih-nutrition-gdec-data-security-guidelines-final-2011-05-10.pdf [December 2013]. Partners Healthcare *Enterprise Research Infrastructure and Services System Information Risk Evaluation.* Available: http://rc.partners.org/eris [December 2013].

- specification of who has access to what types of data (e.g., raw, identifiable, de-identified, summary data) and how access is managed (e.g., password management or not, onsite and/or remote access); and
- audit capabilities to track access activity.

Guidance Recommended: OHRP should provide guidance for investigators and IRBs on models for data protection plans that illustrate acceptable practices for reducing disclosure risk for research with less than minimal risk, minimal risk, or higher levels of risk. To ensure guidance of continued relevance in a data environment that is ever changing, OHRP should periodically request that Federal agencies, approved data repositories, and scientific societies offer examples and models of best practices for OHRP guidance and assist with FAQs (frequently asked questions).

Recommendation 5.2: In light of rapid changes in data of scientific value and in technologies that can be harnessed to reduce or increase informational risk, HHS should consider developing an institutional or organizational entity such as a national center to define and certify the levels of information risk of different types of studies and corresponding data protection plans to ensure risks are minimized.

An entity such as the national center referred to in Recommendation 5.2 could support IRBs and researchers in facilitating the science, understanding the risks, and understanding the procedural and technical approaches to data protection. Whether it would be better to use existing organizations or to set up a new organizational form within a government agency could be determined through further study. However, such an entity could provide essential guidance, as well as anticipate new challenges in informational risk by looking ahead.

Existing data repositories within the United States are actively engaged in addressing how to approach the massive increase in new forms of digital data in order to make them available for analysis and use. Issues of data protection and risk assessment are integral to data access and sharing. Most recently, 22 U.S. data repositories in the social and natural sciences met at ICPSR leading to the release of a white paper on *Sustaining Domain Repositories for Digital Data* (Ember and Hanisch, 2013).

Other countries have also recognized the need to enlarge such services. For example, the Economics and Social Research Council—the UK equivalent of the Social, Behavioral, and Economic Sciences Directorate of the U.S. National Science Foundation—has announced two calls for proposals to establish two key elements within an Administrative Data Research Network.

One call is for proposals to establish four Administrative Data Research Centres (ADRCs), one each in England, Wales, Scotland, and Northern Ireland. The second call is for proposals to set up the Administrative Data Service to the ADRCs. The ADRCs will have the following roles:

- Provide state-of-the-art facilities for research access to de-identified administrative data by accredited researchers.
- Provide data management and statistical analysis support functions for external researchers accessing the data.
- Commission and create new linked administrative data resources for a growing research agenda.
- Conduct original research using linked administrative data and related analytical and methodological approaches.
- Engage in training, capacity building, and public engagement.
- Work in collaboration with other elements of the Administrative Data Research Network.

Another example is the Australian National Data Service (ANDS), which is supported by the Australian government. According to its website,[12] ANDS is transforming Australia's research data environment to

- make Australian research data collections more valuable by managing, connecting, enabling discovery, and supporting the reuse of this data; and
- enable richer research, more accountable research; more efficient use of research data; and improved provision of data to support policy development.

The United States has developed similar capacities, albeit not government supported. For example, the ICPSR at the University of Michigan "provides leadership and training in data access, curation, and methods of analysis for a diverse and expanding social science research community"[13] but is supported largely by project-specific grants and contracts. Similarly, the NORC at the University of Chicago "provides a wide range of data services to researchers and data producers . . . [and] offers the full cycle of data services, ranging from study design and concept to data archiving and access . . . [and] a main service of providing a confidential, protected environment within which authorized researchers can access sensitive microdata

[12]See the function of ANDS described at http://ands.org.au/about-ands.html [December 2013].

[13]See http://www.icpsr.umich.edu/icpsrweb/content/membership/about.html [December 2013].

remotely."[14] Rich frontier and practical knowledge has been developed at the Human Dynamics and Media Labs of the Massachusetts Institute of Technology,[15] as well as at Microsoft Research.[16] However, these specialized organizations are not mandated to provide guidance to IRBs, nor do they likely have the support staff to do so at their current configuration of resources.

This rich capacity within the United States, as well as in other countries, suggests the value of a dedicated entity that could lead, coordinate, and build upon the depth of knowledge and experience that exists; keep pace with data and technological innovations; and foster research. One attractive option worthy of consideration is to establish a national center of expertise in research data protection technologies. This center could be charged with providing operational guidance to investigators, institutions, or IRBs, derived from interactions among commercial, academic, and government experts. Such a center could have the following features:

- **Authority.** The center could be authorized by HHS to carry out the activities identified in Recommendation 5.2. It could serve as a resource to support improvements in enhancing data protection and addressing informational risk under varying conditions. It could use its convening authority to bring together broad-based experts. Also, it could serve as a catalyst for research.
- **Staffing.** The center could employ a research staff to ensure that changes in technology are readily acknowledged and researched.
- **Expertise.** The center could be charged with identifying experts who could certify both established and frontier approaches used by research organizations to protect different types of research data and with providing guidance about the advantages and disadvantages of both.
- **Products.** The center could be responsible for producing three key products: (1) current guidance about the characteristics of datasets that could be used to create discrete informational risk profiles, conditional on different levels of research utility; (2) a menu of certified data protection plans that would be appropriate to use for each of the risk levels and that researchers and IRBs can use in their work; and (3) a set of recommendations for limiting disclosure when publishing results.
- **Dissemination.** The center could be responsible for maintaining a constantly updated website for IRBs and researchers to use that

[14]See http://www.dataenclave.org/index.php/data-enclave [December 2013].
[15]See http://hd.media.mit.edu/ [December 2013].
[16]See http://research.microsoft.com/apps/pubs/default.aspx?id=80239 [December 2013].

characterizes the informational risk profiles of different types of datasets, matches data protection plans to those risk profiles, and provides guidance to IRBs in determining informational risk.

FACILITATING DATA SHARING AND USE

Data sharing has been referenced in some of the discussion above concerning data protection, but in this final section the committee discusses specific needs to foster and guide data sharing and responsible use, which is a longstanding practice in social and behavioral research (Levine and Sieber, 2007; National Research Council, 1985). Implicit in encouraging data sharing includes encouraging agencies, organizations, and institutions to make accessible administrative records consonant with confidentiality agreements (see, e.g., National Research Council, 2005, 2007). Data sharing is a highly desirable component of an open and democratic scientific community. It allows verification through replication of findings of the original investigators; it permits novel investigations by researchers with hypotheses different from those of the original investigators; it creates research opportunities for students and junior investigators without resources for large original data collections. It is increasingly required by federal funding agencies as a condition of research awards.[17]

Many investigators have neither the expertise nor the continuity of funding to sustain the effort of making data available, particularly if restricted-access arrangements are needed. Data archiving organizations can play a valuable role in promoting data sharing. Their roles could be enhanced if there were credentialing procedures or other guidance to help investigators make appropriate choices among data-archiving organizations.

Guidance Recommended: OHRP should facilitate data sharing by issuing a list of participating and approved data archives that have been reviewed by an OHRP expert panel as having (a) the technical expertise to provide public-use data files and restricted-access data files and (b) the procedures in place for review of such data. Investigators obtaining data from participating archives must adhere to guidelines for public-use data files and to data use agreements in the case of restricted-use data. Adherence to these conditions is essential for classifying investigator use of public-use files as not human-subjects research and of restricted-use data as excused.

[17]See the Memorandum for the Heads of Executive Departments and Agencies on Increasing Access to the Results of Federally Funded Scientific Research from the Executive Office of the President, Office of Science and Technology Policy, February 22, 2013, at http://www.whitehouse.gov/sites/default/files/microsites/ostp/ostp_public_access_memo_2013.pdf.

Researchers using secondary data are still bound by ethical obligation to protect the privacy of human subjects, whether or not data providers make explicit such conditions. Attempts to identify human subjects in secondary data or to describe to others methods for doing so should be considered research misconduct and punished appropriately. The only exception is analysis of disclosure risk when it is authorized by the data provider.

Recommendation 5.3: As a condition of undertaking **secondary research on public-use or restricted-access data,** investigators have the responsibility to protect the confidentiality of the data and honor the data protection plan and other agreements with the data provider, whether the data provider is the primary researchers involved in the study, an agency or institution, or a data distribution organization. The revised regulations and OHRP guidance on data use should make clear that secondary users must honor confidentiality agreements but that no further consent from human subjects is needed to use such data. The revised regulations should also make clear that data providers may share data without consent of human subjects as long as users adhere to the original confidentiality agreements and other conditions of use.

Guidance Recommended: OHRP should clarify that the determination of whether research data collected from human subjects can be distributed to other researchers through public-use or restricted-access agreements should be made by (a) the investigators who collected the data or (b) a data distribution organization delegated by the original investigators and approved by the IRB as the distributing organization.

As set forth in Chapter 2, research on public-use data files is not human-subjects research and outside of the Federal Regulations for the Protection of Human Subjects. Those preparing such data for public-use need to ensure that the data have been de-identified and that risk of re-identification is at or approximates zero. In certifying data for public use, IRBs make a judgment on this classification based on this defining characteristic of public-use data.

Research data are not appropriate for public use when they involve informational risk that is potentially more than minimal because they include (a) highly sensitive, private information that could lead to civil or criminal liability or economic, social, or psychological harm or (b) information that could increase the likelihood of re-identification. High standards for de-identification and stringent data disclosure tests may reduce informational risk, though certain variables may need to be excluded from public-use data files. Alternatively, when such data have scientific value such that making them available for research purposes is desirable, there are a number of

possible mechanisms to reduce informational risk while allowing research access. As discussed in the context of data protection plans, these mechanisms include licensing agreements and the use of secure enclaves.

Restricted-use data are data about human subjects that retain or include potentially identifiable information and so require special data protection plans to protect against disclosure. In general, the option of combining restricted-use data with public-use data is an expected part of a data-sharing system and should be accounted for in the data protection plan for the restricted-use data. Addition of new public data in a research activity should be registered but does not require additional review. Combining multiple types of restricted-use data may significantly increase informational risk and so requires approval of the data provider and registration of a new data protection plan.

> **Guidance Recommended:** OHRP guidance should clarify that investigators with access to restricted-use data or datasets must have the approval of the data provider to integrate additional restricted-use data. Under such circumstances, the guidance should cover the following situations: (1) Investigators must obtain approval and modify as necessary their data protection plan to account for additional use of restricted data. Such additional study remains excused but must be registered with an updated data protection plan. (2) Under circumstances where investigators have access to restricted-use data and are enhancing these data with publicly available information, they may do so without the approval of the data provider as long as a new data protection plan is registered that accounts for the use of additional public information.

Data linkage is a powerful tool for increasing the scientific value of data collected from human subjects. Opportunities for linkage may arise after contact with human subjects has ceased. Many sources of linked data, such as government administrative records, can only be obtained with consent of the individual whose records are sought. The Common Rule should not impose or encourage such a requirement where it does not exist. Rather, it should in all cases regulate the protection of data so that informational risk from data linkage is managed appropriately.

The specification of an appropriate arrangement is the responsibility of the data provider and the associated IRB. Researchers gaining access to restricted-use data through these arrangements, and their institutions, accept responsibility to protect the data. Conditions often include stiff penalties for violations; for the NCES, violations are a class E felony subject to up to 5 years in prison and/or up to $250,000 in penalties. The terms of the agreements should not in general require review by the IRB of the

recipient. Secondary use of restricted-access data, however, should be registered as excused.

Guidance Recommended: OHRP should issue guidance that investigators with access to restricted-use data through site licenses, data enclaves, or other mechanisms operated by government agencies and other data providers are excused from IRB review. They are, however, responsible for registering their research at their own institution, including filing the approval for use of such data and the conditions under which they have obtained access.

Recommendation 5.4: If investigators collected data from human subjects (**i.e., primary data collection**), their additional consent is not necessary to subsequently link to other pre-existing data, except under circumstances where human subjects are being asked to participate further in the research or if their original consent prohibited future data linkage. The fact that additional consent is not required to link data does not reduce the responsibility of investigators to modify and register their data protection plans.

Recommendation 5.5: Investigators using **non-research private information** (**e.g., student school or health records**) need to adhere to the conditions for use set forth by the information provider and prepare a data protection plan consonant with these conditions, calibrated to the level of risk, and sufficient to reduce risk through disclosure. Further consent is not required from such individuals as long as investigators pledge to adhere to confidentiality agreements.

Finally, the committee concludes that, in the rapidly changing environment of information and information technology, an ongoing research program is needed to ensure that regulation of informational risk is adequate and appropriate. The following research recommendation is consistent with that of several important NRC reports released over the past 10 years.

Research Needed: (1) Research is needed on innovations in the data use of non-research information and records, new ways of collecting and linking data, and new methods for measuring and quantifying risk and risk reduction techniques. (2) Since it is increasingly unknowable whether existing disclosure limitation mechanisms sufficiently balance disclosure risks and the utility inherent in social and behavioral research datasets, the committee recommends that (a) disclosure limitations mechanisms be tested against social and behavioral research datasets to identify methods that are appropriate to develop best practices, and

(b) information-disclosure risk assessment and risk mitigation strategies should be developed that are consistent with the nature of social and behavioral research datasets.

DATA PROTECTION FOR PRIMARY AND SECONDARY QUALITATIVE DATA

While the earlier sections of this chapter often had as reference points quantitative, large-scale data surveys and administrative records, the recommendations apply appropriately to all forms of data. Qualitative studies, including ethnographic methods and in-depth observational projects, are also amenable to sharing with high standards for protection to ensure that the data are not identifiable. Therefore, a separate section is devoted here to protecting qualitative data because the nature of the interaction between researchers and participants, the data collection process, and the resulting data are substantially different when using qualitative methods than in quantitative studies. Using the example of fieldwork, sociocultural anthropologists, ethnographic sociologists, religion scholars, market researchers, and many others employ fieldwork, each in slightly different ways. Fieldwork most generally refers to data collection taking place outside of specialized, researcher-controlled settings or contexts (e.g., a laboratory or survey questionnaire). It can entail everything from observation of rural villagers with little social interaction between a researcher and research participants, through short-term, "participatory-action" research involving a collaboration between researcher and an urban community in solving a social problem, to long-term, discovery-oriented "participant observation" during which the researcher becomes closely involved with a community or organization and research objectives shift in response to new information. We discuss below issues related to protecting qualitative data and approaches for ensuring that private information acquired is secure.

Protection for Primary Data

As part of their professional ethics in protecting research participants, fieldworkers and other qualitative researchers are trained to keep their notes and recordings secure. They have an ethical obligation to keep confidences not just in note taking but also in their social interactions. When it comes to ethnographic field materials (e.g., field notebooks and other notes based on participant observation and interviewing; recordings and transcripts; personal materials collected from informants, such as letters, drawings, and so on; photographs, whether created for personal or research reasons; and similar materials created by the ethnographer or given to the ethnographer by persons with whom she or he has a field relationship), data

need to be protected through secure storage by the researcher: Examples of secured storage include locked office file boxes to which only the researcher has access, password-protected computers, and locked thumb drives. Over the past 40 years, the American Anthropological Association has developed a diverse set of case materials and references to an expanding published case literature on ethics and data protection.[18] More recently, the American Sociological Association has made extensive case materials available on its website,[19] and other professional associations are doing likewise.

Protection for Data Sharing

Qualitative research poses major challenges for privacy protection and data sharing: this is important to recognize, particularly in light of funders' relatively new data sharing advisories and requirements. Irwin (2013, p. 297) points out that making qualitative data available for secondary analyses is not feasible for many types of ethnographic and field studies because it is not possible to cleanse field notes and other research materials "of the contextual, conceptual, and interactional context in which they were produced and through which they could be understood." In these cases, research materials are securely curated by the researcher for personal use; upon the death of the researcher, in some cases these materials are archived in repositories having extensive experience curating context-rich documents (e.g., the Smithsonian Institution Archives[20]). However, qualitative data resulting from formal and some kinds of semi-structured interviews, or research questions whose answers do not depend on context-rich information and extensive social interaction between the researcher and the respondent, could have more value for secondary analyses by third parties (Irwin, 2013).

In view of new funder requirements to make qualitative data available for secondary analyses, Parry and Mauthner (2004) describe another set of issues that make archiving and reusing qualitative data more challenging than they are for quantitative data. In some cases when copyright, or ownership, of data is transferred to archives, both respondents and researchers lose control of deposited data. This loss is particularly meaningful for qualitative data, which are inherently more personal, in-depth, and developmental. Even when respondent data appear to be anonymized, in some qualitative studies confidentiality may not be achievable because of very small numbers of participants and distinctive community circumstances inextricable from the central research questions. In such cases, removing or

[18]See http://www.aaanet.org/cmtes/ethics/Ethics-Resources.cfm [December 2013].
[19]The website is at http://www.asanet.org/ethics/ethics.cfm [December 2013].
[20]See http://siarchives.si.edu/ [December 2013].

masking demographic variables and geographical information may change the meaning of the data or limit their utility. Given these and other related challenges, Parry and Mauthner (2004) urge special provisions for protecting qualitative data.

While ICPSR is known more for archiving quantitative data, they also archive qualitative datasets.[21] In archiving qualitative data, ICPSR instructs researchers to follow guidelines on its webpages, which instruct researchers about how to keep data confidential through replacing names with generalized text, replacing dates, and removing unique or publicized items.[22] However, this advice reflects ICPSR's central interest and experience with quantitative datasets and, as suggested above, may not be appropriate for many qualitative materials. The ICPSR website also refers to an archive in the United Kingdom that is specifically dedicated to archiving qualitative data and works with social scientists in developing protection methods that fit these challenging data (Corti et al., 2000).

Researchers and regulators need to be aware that there are many other repositories with decades of experience handling qualitative research data, both specialized (e.g., the University of California's Melanesian Archives[23]) and general (e.g., the National Archives[24]), not to mention the special collections held by the libraries of research universities. These repositories contain collections serving humanities disciplines such as history and are appropriate for the long-term management of the research materials generated by qualitative social research using interpretive methods.

REFERENCES

Atran, S. (2003). Genesis of suicide terrorism. *Science, 299*(5612):1534-1539.

Benitez, K., and Malin, B. (2011). Evaluating re-identification risks with respect to the HIPAA privacy rule. *Journal of the American Medical Informatics Association, 17*(2):169-177.

Corti, L., Day, A., and Backhouse, G. (2000). Confidentiality and informed consent: Issues for consideration in the preservation and provision of access to qualitative data archives. *Forum: Qualitative Social Research, 1*(3). Available: http://www.qualitative-research.net/index.php/fqs/article/view/1024/2207 [December 2013].

Ember, C.R., and Hanisch, R.J. (2013). *Sustaining Domain Repositories for Digital Data*. Available: http://datacommunity.icpsr.umich.edu/sites/default/files/WhitePaper_ICPSR_SDRDD_121113.pdf [December 2013].

[21]Observational video data are archived at the ICPSR, along with quantitative measures as part of the Measures of Effective Teaching (MET) Project Longitudinal Database. See: http://www.icpsr.umich.edu/icpsrweb/content/METLDB/about/index.html [December 2013].

[22]See http://www.icpsr.umich.edu/icpsrweb/content/deposit/guide/chapter3qual.html [December 2013].

[23]See http://libraries.ucsd.edu/locations/sshl/resources/featured-collections/melanesian-studies/ [December 2013].

[24]See http://www.archives.gov/ [December 2013].

Green, L.A., Lowery, J.C. .Kowalski, C.P., and Wyszewianski, L. (2006). Impact of institutional review board practice variation on observational health services research. *Health Services Research, 41*(1):214-230.

Hilbert, M., and Lopez, P. (2011). The world's technological capacity to store, communicate, and compute information. *Science, 332*(6025):60-65.

Irwin, S. (2013). Qualitative secondary data analysis: Ethics, epistemology, and context. *Progress in Development Studies, 13*(4):295-306.

Landwehr, C. (in press). The operational framework: Engineered controls. In J. Lane, V. Stodden, H. Nissenbaum, and S. Bender (Eds.), *Privacy, Big Data and the Public Good*. Cambridge, UK: Cambridge University Press.

Levine, F., and Sieber, J. (2007). Ethical issues related to linked social-spatial data. Appendix B. In National Research Council, M.P. Gutmann and P.C. Stern (Eds.), *Putting People on the Map: Protecting Confidentiality with Linked Social-Spatial Data*. Washington, DC: The National Academies Press.

Levine, F.J., Lempert, R.O., and Skedsvold, P.R. (2011). *Social and Behavioral Sciences White Paper on Advanced Notice of Proposed Rulemaking (ANPRM)*. Available: http://www.aera.net/Portals/38/docs/Education_Research_and_Research_Policy/SBS%20White%20Paper%20Report%20Final10-26-11.pdf [December 2013].

Lowrance, W.W. (2012). *Privacy, Confidentiality, and Health Research*. Cambridge, UK: Cambridge University Press.

National Institute of Standards and Technology. (2011) *Electronic Authentication Guideline: Information Security*. Gaithersburg, MD: U.S. Department of Commerce. Available: http://csrc.nist.gov/publications/nistpubs/800-63-1/SP-800-63-1.pdf [November 2013].

National Research Council. (1985). *Sharing Research Data*. Committee on National Statistics. S.E. Feinberg, M.E. Martin, and M.L. Straf (Eds.). Commission on Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.

National Research Council. (2003). *Protecting Participants and Facilitating Social and Behavioral Sciences Research*. Panel on Institutional Review Boards, Surveys, and Social Science Research. C.F. Citro, D.R. Ilgen, and C.B. Marrett (Eds.). Committee on National Statistics and Board on Behavioral, Cognitive, and Sensory Sciences. Washington, DC: The National Academies Press.

National Research Council. (2005). *Expanding Access to Research Data: Reconciling Risks and Opportunities*. Panel on Data Access for Research Purposes. Washington, DC: The National Academies Press.

National Research Council. (2007). *Putting People on the Map: Protecting Confidentiality with Linked Social-Spatial Data*. Panel on Confidentiality Issues Arising from the Integration of Remotely Sensed and Self-Identifying Data. M.P. Gutmann and P.C. Stern (Eds.). Committee on the Human Dimensions of Global Change. Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

National Research Council. (2010). *Conducting Biosocial Surveys: Collecting, Storing, Accessing, and Protecting Biospecimens and Biodata*. Panel on Collecting, Storing, Accessing, and Protecting Biological Specimens and Biodata in Social Surveys. R.M. Hauser, M. Weinstein, R. Pool, and B. Cohen (Eds.). Committee on National Statistics and Committee on Population, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

Nissenbaum, H. (2011). A contextual approach to privacy online. *Daedalus, the Journal of the American Academy of Arts & Sciences, 140*(4):32-48.

O'Rourke, J.M., Roehrig, S., Heeringa, S., Reed, B.G., Birdsall, W.C., Overcashier, M., and Zidar, K. (2006). Solving problems of disclosure risk while retaining key analytic uses of publicly released microdata. *Journal of Empirical Research on Human Research Ethics, 1*(3):63-84.

Parry, O., and Mauthner, N.S. (2004). Whose data are they anyway?: Practical, legal, and ethical issues in archiving qualitative research data. *Sociology, 38*(1):139-152.

Pentland, A., Greenwood, D., Sweatt, B., Stopczynski, A., and de Montjoye, Y.-A. (in press). The operational framework: Institutional controls. In J. Lane, V. Stodden, H. Nissenbaum, and S. Bender (Eds.), *Privacy, Big Data and the Public Good*. Cambridge, UK: Cambridge University Press.

Ritchie, F. (2009). *Designing a National Model for Data Access*. Paper presented at the Comparative Analysis of Enterprise (Micro) Data Conference, Tokyo, Japan. Available: http://gcoe.ier.hit-u.ac.jp/CAED/papers/id213_Ritchie.pdf [December 2013].

Seastrom, M.M. (2002). Licensing. Pp. 279-296 in P. Doyle, J. Lane, J.J.M. Theeuwes, and L. Zayatz (Eds.), *Confidentiality, Disclosure and Data Access: Theory and Practical Applications for Statistical Agencies*. Amsterdam, North Holland: Elsevier.

6

Improving the IRB Process

It is people in organizations who act upon and implement regulations. In the case of the Federal Regulations for human subjects protection, it is the administrators and staff of institutional review boards (IRBs), IRB members, and institutional officials who work in the trenches of human subjects protection and social-behavioral research facilitation. This chapter presents broader procedural issues not covered elsewhere in the report. Guidance and recommendations focus on improving the IRB process through the efforts of IRB staff, members, and institutional officials.

THE SCOPE OF FEDERAL REGULATORY AUTHORITY

Since the 1970s, federal regulation of research involving human participants has been limited to two categories: (1) research conducted or supported by various agencies of the federal government and (2) research subject to regulation by the U.S. Food and Drug Administration (FDA). Beginning in the 1970s, various commentators and some national advisory bodies have made appeals to extend the scope of regulation to involve all research involving human participants without regard to the source of funding. These appeals have generally been rejected on grounds that they exceed the statutory authority of the federal executive branch, authority ultimately grounded in the conditional spending authority clause of the Constitution. This is the key point on which the 1974 mandate turns, and it has therefore also figured in the constitutional law arguments against IRB reviews.

The Office for Human Research Protections (OHRP) in the U.S. Department of Health and Human Services (HHS), the successor office to the

Office for Protection from Research Risks, requires that any institution that engages in research involving human subjects that is conducted or supported by executive branch agencies that have adopted the Common Rule must file a document called a "Federalwide Assurance" (FWA), a statement that the institution will comply with the requirements of the Common Rule.[1] Furthermore, OHRP asks institutions to include in their FWA a statement that they will extend their application of Common Rule requirements to all research conducted within the institution without regard to source of funding. Institutions that include such a statement in their FWA essentially agree to extend the federal regulatory authority to all research involving human participants within the institution. Institutions may decide not to include such statements but many do. However, those that do not include such statements decline on grounds that they do not want to be bound to all the burdensome details of compliance. Refusal to include such statements is referred to as "unchecking the box."

Between 2006 and 2010, 162 colleges and universities unchecked the box, declining to apply the regulations to non-federally funded research (Schrag, 2010b, 2012). More recent OHRP data indicate that 37 percent of research organizations with federalwide assurances "unchecked the box" (Association for the Accreditation of Human Research Protection Programs, 2013). The American Association of University Professors has long recommended that universities "uncheck the box" as a first step toward devising procedures less burdensome than those specified in the regulations (Schrag, 2010a). Such efforts have led to the formation of a national coalition of institutions known as the "Flexibility Coalition."[2] Note, however, that some state institutions are not permitted to "uncheck the box."

In its briefest section (76 Fed. Reg. 44,528, "IV Extension of Federal Regulations"), the Advance Notice of Proposed Rulemaking (ANPRM) acknowledged that most institutions "voluntarily extend the applicability of their FWAs to all the research" conducted by their members regardless of funding. While it points out that a number of parties have "called for legislation that would extend the Common Rule protections to all research with human subjects conducted in the U.S., regardless of funding source," the ANPRM makes "an alternative regulatory proposal": to require U.S. institutions "that receive some Federal funding from a Common Rule agency

[1]See the OHRP Terms of the Federalwide Assurance for the Protection of Human Subjects guidance, which is available at http://www.hhs.gov/ohrp/assurances/assurances/filasurt.html [February 2014].

[2]The Flexibility Coalition was started in 2011 at the University of Southern California and includes more than 50 research organizations, including the Association for the Accreditation of Human Research Protection Programs, Inc. The stated goal of the coalition is to identify ways in which research institutions can implement flexibility without diminishing human subjects protection.

for research with human subjects to extend the Common Rule protections to all research studies conducted at their institution." If this proposal were enacted into the Federal Regulations, the option to "uncheck the box" would no longer exist.

In view of the foregoing discussion, and particularly in support of the proactive efforts by IRB professionals to reduce unnecessary regulatory burden, the committee disagrees with this ANPRM proposal, and makes the following alternative recommendation:

> **Recommendation 6.1:** In revising the Common Rule, HHS should keep the scope of coverage by the Common Rule within the present boundaries: "all research involving human subjects conducted, supported or otherwise subject to regulation by any federal department or agency which takes appropriate administrative action to make the policy applicable to such research" (45 C.F.R. § 46.101(a)).

INNOVATIVE PRACTICES

In accord with the ANPRM, the preceding chapters of this report establish an environment for IRBs and their institutions to develop procedures that maximize flexibility, efficiency, and timeliness in the review process. Already, a few research programs and IRBs have been focusing on streamlining their human-subjects research programs in an attempt to respond to investigator concerns, to provide greater flexibility and streamlining of the review process, or both (Bechert, 2011; Cola et al., 2013; IRB Advisor, 2013; National Research Council, 2013). This committee recognizes and supports this shift in perspective, especially the combined efforts of institutions, investigators, and IRBs to align responsible conduct of research with an efficient and flexible IRB process. Its recommendations aim to establish an environment for institutions and their IRBs to develop procedures and implement best practices that both rationalize the review process and engage together with investigators in the ethical conduct of research. Investigators, institutions, IRBs, and IRB staff can contribute to this shift by extending their efforts in several key arenas: (1) shared ethical responsibility, (2) flexibility and streamlining, (3) reliance agreements and memoranda of understanding to protect local population concerns, (4) single IRBs of record for multisite studies, and (5) appeal processes.

Shared Ethical Responsibility

Indisputably, investigators, institutions, and IRBs share an obligation to the protection of human subjects through the responsible conduct of research. Shah (2013, p. 397) argues, however, that "[t]he Common Rule

fails to acknowledge that investigators and sponsors regularly face significant ethical challenges that go beyond obtaining informed consent and IRB review," and that the current Common Rule places more of the ethical responsibilities on IRBs than investigators. All researchers must take responsibility for the ethical conduct of their research, even beyond securing IRB approval. The new excused category particularly relies on this point in that researchers will have responsibility for determining the level of IRB oversight needed for their studies.

As one example, new research technologies and data sources will demand more attention to the shared ethical obligations of researchers and IRBs. To respond to the challenges presented by Internet research in particular, the Association of Internet Researchers (2012) has developed a decision-making heuristic for researchers and IRBs that presents a broad array of questions to consider in the research design and implementation phases, depending on the type of data collected and the types of venues or contexts. For example in personal spaces or blogs, where the data are in text form, the ethical questions pertain to the authors' or participants' expectations regarding whether the site is public or private; whether their personal network of connections contains sensitive information; and whether analysis, publication, redistribution, or dissemination of the content could harm participants in any way.

Another example of shared ethical responsibility pertains to considerations in conducting research in which communities are the central topic of inquiries, and where ethical questions therefore relate to risks for both individuals and communities. Risks to communities could take the form of possibly disrupting important structures and functions of the community because of differences in community member opinions about participating in the research, differences in expectations of community members regarding how the results will be used, or differences in how results are actually interpreted or reported (Anderson et al., 2012). Anderson and colleagues (2012) are developing an ethics curriculum for IRBs and researchers that is specifically focused on community-engaged research methods.

Guidance Recommended: OHRP should provide guidance that reemphasizes the joint obligations of the investigator, the institution, and the IRB to protect human subjects through the responsible conduct of research.

Flexibility and Streamlining of the IRB Process

Flexibility in the regulations as one means of reducing burden, while equally protecting human participants, has been a focus of many institutions for the past several years. This approach is exemplified in the

procedures developed by the Flexibility Coalition.[3] Flexibility Coalition collaborators have implemented initiatives that target studies that pose no-greater-than-minimal risk and that provide equivalent protections to subjects commensurate with risk level. Institutions such as the University of Michigan, the University of Southern California, and the University of Minnesota have developed policies, known as "flex policies," that specifically address research not covered under their FWAs. Members of the Flex Coalition worked with the Federal Demonstration Partnership in developing a website guide to reducing regulatory burden.[4]

In her presentation to the National Research Council Workshop on Proposed Revisions to the Common Rule: Perspectives of Social and Behavioral Scientists (March 22, 2013), Lois Brako described the University of Michigan's Flex Initiative/Demonstration Project. This 4-year innovation and demonstration initiative was launched to add flexibility and reduce administrative burden for certain types of minimal risk research that are neither federally sponsored nor have sponsor or other contractual restrictions requiring adherence to federal regulations, do not contain FDA-regulated components, do not have prisoners as subjects, and do not include a Certificate of Confidentiality issued by the National Institutes of Health. Further, 2-year approval periods are granted, and a new exemption category was created for research involving the analysis of identifiable data where there is no direct interaction or intervention with human subjects. Institutional risk concerns are addressed, and investigator education is provided through policies, standard operating procedures, templates, and guidelines that focus on helping the investigator. The informed consent process makes use of available waiver elements, including application of flexibility available in regulations for child assent. IRB members and institutional staff work together in a division of labor that allows IRBs to focus on greater-than-minimal-risk studies and studies that truly require their attention, while institutional staff support the process using mechanisms and metrics for routine monitoring and annual auditing of "flexed" studies. All these initiatives are important efforts, but their progress will be restricted without complementary changes in the regulations recommended by the ANPRM and this report.

> **Guidance Recommended:** OHRP should provide guidance to promote flexibility in institutions for determining what types of research activities call for review by entities other than IRBs (for examples, see Annex 6.1) and to promote flexible, equivalent streamlined protections for subjects commensurate with risk level. IRBs should be encouraged to

[3]See http://oprs.usc.edu/initiatives/flex/ [February 2014].
[4]See http://sites.nationalacademies.org/PGA/fdp/PGA_061067 [February 2014].

apply such flexibility to research covered by the Common Rule. OHRP should also provide clear guidance, with examples, concerning what IRBs are no longer required to do.

Collaborative and Sharing Mechanisms

A variety of institutional and collaborative initiatives have streamlined IRB review when investigators at multiple institutions are involved. In instances when one IRB serves as the designated IRB and local stakeholders have concerns about specific populations, reliance agreements and memoranda of understanding can help assure them that the rights and protections of the local populations are covered, while investigators can avoid duplicative IRB review. Other examples include the "facilitated review" model established by the Clinical Translational Science Awardees and "Institutional Authorizations" between collaborating organizations, whereby one organization can authorize a second organization's IRB to act as the IRB of Record for one or more studies conducted at their organization" (Cola et al., 2013). Some institutions provide a checklist for the informed consent process to ensure that the participants have the local context and contacts to be truly informed about the study.[5]

Procedural Improvements Needed: Researchers, IRBs, and institutions should be encouraged to employ IRB collaboration models for research involving multiple investigators and institutions.

Single IRB of Record for Multisite Studies

Beyond collaborative agreements and memoranda of understanding, the committee endorses the specific proposal in the ANPRM to establish single IRBs of record for multisite research projects. We believe this proposal is long overdue as formal guidance. That formal guidance might build on the experience of those institutions that have already been reviewing multisite projects through one IRB: for example, collaborating institutions that agree to have one of those institutions' IRB function as the IRB of record for the study in question. We address this best practice at some length because of its importance.

Researchers have for many years complained strenuously about the burdens of review by multiple IRBs as they conduct multisite studies. Many

[5]Although the ANPRM was not directed to international multisite research programs, this topic was covered in the workshop presentation by Dr. Thomas Coates to the Committee on Revisions to the Common Rule for the Protection of Human Subjects in Research in the Behavioral and Social Sciences (National Research Council, 2013, p. 69).

people believe that the proposal to permit or mandate a single IRB of record in the ANPRM is designed to facilitate multicentered randomized clinical trials. In an article in which they review various features of the ANPRM, Emanuel and Menikoff (2011, p. 3) refer to "evidence [that] suggests that multiple IRB reviews lead to unjustified variation in assessments without enhancing protections for research subjects." Of the three articles they cite as sources of such evidence, two are concerned with randomized clinical trials and one with health services research. The committee notes, however, that the multiple IRB problem is also a serious issue for social and behavioral research.[6]

In practice, IRBs may issue conflicting advice on many aspects of research protocols. Conflicting opinions may be issued on substantive matters. Consider, for example, a survey of IRB chairs conducted by Shah and colleagues (2004). The respondents read several hypothetical scenarios of research involving children and categorized the risk level of each scenario. Here are some of the results:

Venipuncture for a single blood sample was rated minimal risk by 81 percent of IRB chairs and a minor increase above minimal risk by 19 percent.

Magnetic resonance imaging (without sedation) was rated a minimal risk by 48 percent of IRB chairs, a minor increase over minimal by 35 percent, and more than a minor increase over minimal by 17 percent.

Weekly blood draw of 10 ml for 6 months was rated a minimal risk by 15 percent of IRB chairs, a minor increase over minimal by 51 percent, and more than a minor increase by 34 percent.

Such inconsistencies wreak havoc with investigators and sponsors. Each change required by one IRB may call for resubmission to each of several IRBs to secure approval of the final protocol. Some IRB inconsistencies call for changes that may require prolonged and complex negotiations, with repeated re-review by each IRB.

One approach to dealing with these problems has been to develop central institutional review boards (CIRBs), a name given to IRBs that have the same purpose as those described in the ANPRM as the "single IRB

[6]In fact, the first detailed documentation of the burdens associated with multiple IRB review—significantly titled *We shall overcome: Multi-institutional review of a genetic counseling study*—was published by a team of social scientists who reported on their complex negotiations with multiple IRBs in getting an initial approval and periodic reapproval of their interview research, which was carried out at multiple genetics counseling clinics. They said, "At times, we found ourselves wandering through bureaucratic mazes that made us think we were re-enacting Franz Kafka's classic novel, *The Trial*, rather than engaging in social science research" (Kavanagh et al., 1979, p. 1).

of record." Oncologists have developed a voluntary program, the CIRB Initiative, that is administered by the National Cancer Institute.[7] The U.S. Department of Veterans Affairs (VA) has developed a mandatory central IRB program for all research carried out within the VA system,[8] although it does not allow cooperative IRB review between VA facilities and local non-VA institutions. Wagner and colleagues (2010) compared the efficiency of CIRB review in the field of oncology with that of local review. The CIRB (as compared with local) review reduced the time of initial approval by 44 percent and the time of "facilitated approval" by 63 percent. The cost of IRB approval was reduced by 39 percent.

The advantages to sponsors and institutions of the single IRB of record, or CIRB, system are obvious. There are not only substantial savings in costs but also a vast reduction in the administrative burden because their communications with IRBs regarding multisite studies are reduced dramatically. The single IRB assumes the responsibility for communications with sponsors and institutions on behalf of all of the local-institution IRBs for institutions participating in the program. This feature substantially reduces the paperwork and other administrative burdens of the sponsoring agencies.

Some commentators have expressed concerns about potential hazards of adopting a single-IRB-of-record system. These concerns include but are not limited to (a) a potential for IRB shopping; (b) increased exposure of the local institutions to liability; and (c) difficulty incorporating complex, multiple, local IRB systems into a single system (National Research Council, 2013; Secretary's Advisory Committee on Human Research Protections, 2011). Each of these concerns is addressed below.

IRB Shopping

One concern is that sponsors and investigators engaged in the development and execution of a multisite study could "shop around" seeking a relatively permissive IRB: one that is likely to provide a "rubber stamp" approval of researcher or sponsor plans. Although IRB shopping is possible, it is no more likely to occur with a single IRB of record than it is in the current system, in which researchers may sometimes be able to choose among relevant IRBs.[9]

[7]See the National Cancer Institute's *Welcome to the Central IRB Initiative* webpage at https://ncicirb.org [November 2013].

[8]See the Veterans Health Administration Central IRB webpages: http://www.research.va.gov/vacentralirb/#.UsSLGrTOS8A [December 2013].

[9]Indeed, IRB shopping may be less likely to occur in a CIRB system. Many of the multisite studies will be funded by the federal government, and it is unlikely that the various committees and officials who review federally funded research will tolerate inadequate IRBs. They are more likely to follow the model of the current oncology and Veterans Affairs CIRBs, which

Increased Liability for Local Institutions

There is concern that a faulty judgment reached by a CIRB could result in harm befalling a research participant, and in such a case criticism or litigation would likely be directed at the individual institution in which the mishap occurred. This concern can be divided into two subconcerns.

1. The current practice of OHRP concerning errors in human participant protection is to address criticisms to the institution in which the problem occurred. OHRP may decide to impose sanctions—for example, suspension of research within the institution. The committee proposes that the reasonable way to address this problem is to develop policy that would hold the single IRB of record responsible for the errors it commits and to hold the local institution responsible only for inadequate or negligent actions occurring within the institution.
2. There is concern that injury to a research subject that occurs as a consequence of a faulty judgment by the CIRB would result in litigation by the injured party (or that party's representatives with legal standing) against the investigator or institution in which the injury occurred. There is no reason to believe it would occur more frequently under a CIRB system. The committee suggests dealing with this possibility in much the same way as suggested for criticisms emanating from OHRP—that is, hold the single IRB of record responsible for the errors it commits and hold the local institution responsible only for inadequate or negligent actions occurring within the institution.

Complexity in Incorporating Multiple IRBs into a Single System

Many IRB and institutional Human Research Protection Program personnel have cautioned that converting to a single-IRB-of-record system is likely to be a complex task. On this basis, several representatives of such entities have opposed the development of a CIRB system. Even those who favor single IRBs of record advise that their development is likely to be time-consuming. For example, in her presentation to the Workshop on Proposed Revisions to the Common Rule in Relation to the Behavioral and Social Sciences (March 22, 2013), Pearl O'Rourke presented a detailed account of these complexities. Her presentation was based in part on her

have high-quality members, staffs, and procedures. For those CIRBs that are not federally funded, multisite studies are more likely than single-site studies to be relatively highly visible, and the sponsors would rather not be exposed to the criticism likely to be associated with selection of inadequate IRBs.

experience with the NeuroNEXT single-IRB-of-record network, a program developed by the National Institute of Neurological Disorders and Stroke to review its Phase II clinical trials involving patients with neurological diseases as trial participants. [Dr.] O'Rourke, who supports the gradual phasing-in of single IRBs of record, cautions that, in their development, one should take care not to underestimate the time required to work out the details of starting up, the long-term costs of central IRB infrastructure, the confusion resulting from discrepancies in the institution-specific conventions for assigning of institutional and IRB review responsibility, and the critical role that trust and familiarity play in development and negotiation of IRB reliance relationships. This good advice should be taken seriously.

To address this concern about complexity, the committee proposes that the new regulations authorizing the single IRB of record provide for voluntary rather than mandatory use of such a system. This will give sponsors and investigators the time to engage in the preparations called for by [Dr.] O'Rourke. We believe that, with the passage of time, sponsors and investigators will become increasingly familiar with how the single-IRB-of-record system operates and will take note of its improvements in efficiency and consumer satisfaction. In the long run, they will also take note of the reduction in costs. As a consequence, we expect that the single IRB of record will be employed with increasing frequency in multisite studies by sponsors and investigators.

Recommendation 6.2: HHS should adopt the proposal set forth in the ANPRM to establish single IRBs of record for multisite studies, with some conditions. These conditions might include the following:

(a) The establishment of single IRBs of record should be voluntary rather than mandatory.
(b) Any requirement to use a single IRB of record for multisite studies should be phased in gradually so that individual institutional IRBs and human research protection programs will have time to make necessary changes to adapt to this new system.
(c) The charge to the single IRB of record should be limited to making determinations and meeting the responsibilities set forth in the Common Rule. There are other locally specific functions commonly carried out by IRBs such as specifying (i) who should be contacted in case a participant believes his or her rights have been violated and (ii) where and when to go to participate in various components of the research. Such matters should remain the responsibility of the local institution's human research protection program.

(d) Approval by the single IRB of record should suffice to inform the sponsor that the proposal has been approved.
(e) However, participating institutions should not be allowed to begin their research activities until they have met their local responsibilities. Such delays in local participation should not be imposed on those other participating institutions that have already met their own local responsibilities.

Appeals

The IRB process should allow appeals for review by an authoritative committee. This committee may exist either within the institution or within an outside agency. It should be described in the institution's FWA. The appeals committee may have either or both of two kinds of authority.

First, upon review of an IRB's decision, the appeals committee may find an error in the IRB's understanding or interpretation of federal or institutional policy.[10] In such a case, the appeals committee would return the protocol to the IRB for a re-review guided by the correct interpretation of the regulation or policy.

Second, the appeals committee may also be given authority to reverse or alter the decision of the IRB. If it is given authority to approve research projects, then it must be established and perform according to the rules set forth in the Common Rule.

Recommendation 6.3: In each institution in which research involving human participants is carried out, a system should be developed for the appeal of IRB decisions.

CONCLUSION

In closing, the committee has sought to inform the efforts of the federal government in revising the Common Rule that governs the protection of human participants in research within the context of social and behavioral sciences. Several of the proposals put forth in the ANPRM are endorsed, but the committee also makes recommendations to amend some specific ANPRM proposals or to revise the Common Rule in other ways. Importantly, the committee offers examples and strategies for operationalizing the proposed new procedures to assist the federal government in issuing, interpreting, and implementing the new regulations; and that will support IRBs and investigators in carrying out their responsibilities to protect human

[10]For example, the survey by Shah and colleagues (2004) found that 10 percent of IRB chairs erroneously considered payments to participants a direct benefit to the participants.

research participants and advance social and behavioral sciences. Several topics of research are also recommended by the committee. The committee also aims to assist in developing best practices for implementing the new human research protections and assessing the effectiveness of the rules and their implementation. Thus, the committee recommends that research be conducted on the costs and benefits of regulating social and behavioral research for the research participants themselves, and for institutions, IRBs, investigators, and sponsors.

ANNEX 6.1
EXAMPLES OF RESEARCH REVIEWABLE BY NON-IRB BODIES

Examples include, but are not limited to, quality assurance/improvement (QA/QI) in the field of health care and investigations into the nature, causes, and effectiveness of responses to natural disasters. Why is IRB review not suitable in these fields?

Studies in the field of QA/QI are characterized by frequent changes in the interventions utilized in the health care setting. IRBs, in general, lack the expertise to assess the methods employed to evaluate these interventions. Moreover, if each of these changes in the interventions must be reviewed at a convened meeting of the IRB, it would take much too much time to go through the technical IRB process of approval of amendments.

Studies of many disasters (e.g., hurricanes such as Katrina on the Gulf Coast or outbreaks of illnesses such as Legionnaires disease) require a very rapid response by an ethical review committee that is knowledgeable about the special problems associated with such studies. IRBs generally lack the requisite knowledge and cannot provide sufficiently rapid responses. By the time they can convene a meeting of the committee, the factors that caused the disaster may no longer exist.

What could replace IRB review in the field of QA/QI? While procedural alternatives to IRB oversight are discussed elsewhere in this report, two suggestions related to the examples above are considered here. First, a committee could be established that was made up of experts in QA/QI as well as experts in the cognate medical specialties, ethicists, patient advocates, and persons who have no connection with the institution apart from membership on the committee. The investigators would be called upon to submit a general description of their proposed activities to this oversight committee. It would be understood at the outset that the investigators would be unable to identify exactly each of the changes in interventions and the timing of making such changes. Instead they would be required to provide a general description of the nature of the interventions with a clear identification of any risks that might be associated with them. Approval could then be given to the protocol containing the general description, with a plan to repeat

committee review at suitable intervals (e.g., every 3 months) or at any time the investigators wanted to use interventions that did not fall within the range of risk defined in the original approved protocol.

Second, studies of the nature, causes, and effectiveness of responses to natural disasters could be overseen by similarly constructed committees. In this case, however, the oversight committee would not be called upon to review plans to investigate specific disasters. Rather, it would review general plans of a research group to conduct all of their studies of disasters in the foreseeable future. In this case, however, the committee would be convened to repeat its review of the institution's actual investigations after each occurrence. Investigators would know that their actual activities would be reviewed retrospectively and that they would be held accountable for having adhered to the specifications of the approved general plan, as well as to the general scientific and ethical standards of the institution.

REFERENCES

Anderson, E., Solomon, S., Heitman, E., Dubois, J.M., Fisher, C.B., Kost, R.G., et al. (2012). Research ethics education for community-engaged research: A review and research agenda. *Journal of Empirical Research on Human Research Ethics, 7*(2):3-19.

Association for the Accreditation of Human Research Protection Programs (2013). *2012 Metrics on Human Research Protection Program Performance*. Washington, DC: AAHRPP. Available: https://admin.share.aahrpp.org/Website%20Documents/2012%20Metrics%20(2).pdf [November 2013].

Association of Internet Researchers (2012). *Ethical Decision-Making and Internet Research. Recommendations from the AoIR Ethics Working Committee* (Version 2). Available: http:www.aoir.org/reports/ethics2.pdf [December 2013].

Bechert, T. (2011). Streamlining the IRB process: Avoiding unnecessary deliberation and effort. *Journal of Clinical Research Best Practices, 7*(6):1-9.

Cola, P.A., Reider, C., and Strasser, J.E. (2013). Ohio CTSAs implement a reliant IRB model for investigator-initiated multicenter clinical trials. *Clinical and Translational Science, 6*(3):176-178.

Emanuel, E.J., and Menikoff, J. (2011). Reforming the regulations governing research with human subjects. *New England Journal of Medicine, 365*(12):1145-1150. Available: http://www.nejm.org/doi/full/10.1056/NEJMsb1106942 [October 2013].

IRB Advisor. (2013). Experts: Saving time while improving review quality is top priority. *IRB Advisor, 13*(8):85-88.

Kavanagh, C., Matthews D., Sorenson, J.R., and Swazey, J.P. (1979). We shall overcome: Multi-institutional review of a genetic counseling study. *IRB: Ethics and Human Research, 1*(2):1-3.

National Research Council. (2013). *Proposed Revisions to the Common Rule: Perspectives of Social and Behavioral Scientists: Workshop Summary*. Committee on Revisions to the Common Rule for the Protection of Human Subjects in Research in the Behavioral and Social Sciences. R. Pool (Rapporteur). Board on Behavioral, Cognitive, and Sensory Sciences, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

Schrag, Z.M. (2010a). AAHRPP and the unchecked box. *Institutional Review Blog*. Available: http://www.institutionalreviewblog.com/2009/07/aahrpp-and-unchecked-box.html [October 2013].

Schrag, Z.M. (2010b). *Unchecked Boxes, 2006 and 2010*. Available: http://zacharyschrag.files.wordpress.com/2011/06/unchecked_boxes.pdf [October 2013].

Schrag, Z.M. (2012, May 15). Most universities uncheck their boxes. *Institutional Review Blog*.

Secretary's Advisory Committee on Human Research Protections. (2011, October 13), ANPRM communication. Available: http://www.hhs.gov/ohrp/sachrp/commsec/sachrpanprmcommentsfinal.pdf.pdf [December 2013].

Shah, S.K. (2013). Outsourcing ethical obligations: Should the revised common rule address the responsibilities of investigators and sponsors? *Journal of Law, Medicine, and Ethics, 41*(2):397-410.

Shah, S.K., Whittle, A., Wilfond, B., Gensler, G., and Wendler, D. (2004). How do institutional review boards apply the federal risk and benefit standards for pediatric research? *Journal of the American Medical Association, 291*(4):476-482.

Wagner, T.H., Murray, C., Goldberg, J., Adler, J.M., and Abrams, J. (2010). Costs and benefits of the National Cancer Institute central institutional review board. *Journal of Clinical Oncology: Official Journal of the American Society of Clinical Oncology, 28*(4):662-666.

Appendix A

Federal Policy for the Protection of Human Subjects ("Common Rule")

The current U.S. system of protection for human research subjects is heavily influenced by the Belmont Report, written in 1979 by the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. The Belmont Report outlines the basic ethical principles in research involving human subjects. In 1981, with this report as foundational background, HHS and the Food and Drug Administration revised, and made as compatible as possible under their respective statutory authorities, their existing human subjects regulations.

The Federal Policy for the Protection of Human Subjects or the "Common Rule" was published in 1991 and codified in separate regulations by 15 Federal departments and agencies, as listed below. The HHS regulations, 45 CFR part 46,[1] include four subparts: subpart A, also known as the Federal Policy or the "Common Rule;" Subpart B, additional protections for pregnant women, human fetuses, and neonates; subpart C, additional protections for prisoners; and Subpart D, additional protections for children. Each agency includes in its chapter of the Code of Federal Regulations [CFR] section numbers and language that are identical to those of the HHS codification at 45 CFR part 46, Subpart A. For all participating departments and agencies the Common Rule outlines the basic provisions for IRBs, informed consent, and Assurances of Compliance. Human subject research conducted or supported by each federal department/agency is governed by the regulations of that department/agency. The head of that

[1]To view the full Code of Federal Regulations, visit the U.S. Department of Health and Human Services website: http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html.

department/agency retains final judgment as to whether a particular activity it conducts or supports is covered by the Common Rule. If an institution seeks guidance on implementation of the Common Rule and other applicable federal regulations, the institution should contact the department/agency conducting or supporting the research.

The list below displays the agencies and departments that have signed onto the Common Rule and their CFR numbers. Hyperlinks are to areas of a department or agency website that have been suggested to HHS as entry points for those interested in human subject protection activities of the department or agency.

7 CFR Part 1c	Department of Agriculture
10 CFR Part 745	Department of Energy
14 CFR Part 1230	National Aeronautics and Space Administration
15 CFR Part 27	Department of Commerce National Institute of Standards and Technology
16 CFR Part 1028	Consumer Product Safety Commission
22 CFR Part 225	Agency for International Development (USAID)
24 CFR Part 60	Department of Housing and Urban Development
28 CFR Part 46	Department of Justice National Institute of Justice
32 CFR Part 219	Department of Defense
34 CFR Part 97	Department of Education
38 CFR Part 16	Department of Veterans Affairs Office of Research Oversight Office of Research and Development
40 CFR Part 26	Environmental Protection Agency Research and Development
45 CFR Part 46	Department of Health and Human Services
45 CFR Part 690	National Science Foundation
49 CFR Part 11	Department of Transportation

Although they have not issued the Common Rule in regulations, three other departments and agencies comply with all subparts of 45 CFR part 46. These include:

- The Central Intelligence Agency, by executive order, must comply with all subparts of 45 CFR Part 46. (Executive Order 12333, paragraph 2.10)

- The Department of Homeland Security, created after issuance of the Common Rule, has chosen to apply all subparts of 45 CFR part 46 to its human research activities. (6 U.S.C. section 112)
- The Social Security Administration was separated from HHS in 1994 and, absent action by the Administrator, must apply all regulations that applied to SSA before the separation. (42 U.S.C. section 901)

Several non-HHS federal departments and agencies have additional regulations in place for research involving special populations or for human subjects research in general. The federal department/agency that conducts or supports research retains final authority for determining whether an institution has complied with its regulations for the protection of human subjects. If HHS receives an allegation or indication of noncompliance related to human subject research that is conducted or supported solely by a Common Rule department/agency other than HHS, HHS will refer the matter to that department/agency for review and action as appropriate.

Investigators are encouraged to review the regulations of the funding agency to determine whether additional regulations apply. Also, many agencies have not adopted Subparts B, C, or D and grantees of those agencies are not necessarily bound by them. Grantees should consult their funding agency for guidance.

SOURCE: Federal Policy for the Protection of Human Subjects ("Common Rule"). Available: http://www.hhs.gov/ohrp/humansubjects/commonrule/index.html [December 2013].

Appendix B

Table of Committee-Recommended Levels of IRB Review and Oversight

Not Human-Subjects Research	Human-Subjects Research
	EXCUSED FROM IRB REVIEW

Classification and Procedures:
• Classified as "not human-subjects research" because it involves either
  o Scholarship or other information gathering activities that are not covered by the intent or spirit of the term "human-subjects research."
  o Research activities in which the investigator is not **obtaining** data through interaction or intervention with living subjects or is not obtaining identifiable private information.[a]
• Falls outside of the Common Rule regulations.
• Not subject to IRB determination, review, monitoring, or auditing.
• Investigators are responsible for the ethical conduct of their research and its accurate classification.
• Investigators are expected to observe professional standards appropriate to their fields and to responsible conduct requirements of their institutions.
	Classification and Procedures:
	• Classified as human-subjects research because there is interaction or intervention with human subjects or use of data with private information:
	  o Studies using pre-existing research or non-research data that include private information.[c]
	  o Studies where the research procedures involve informational risk that is no more than minimal risk (when appropriate data security and information protection plans are in place).
	• Investigators register the study, describe consent procedures, and provide a data protection plan calibrated to type and level of information risk. (The committee does not endorse HIPAA as the mandated data security and protection standard.[d])
	• IRBs have oversight of the registration through prospective and retrospective audits, and data protection plan provided.

Human-Subjects Research

EXPEDITED IRB REVIEW	FULL IRB REVIEW
Classification and Procedures: • Classified as research that poses no more than minimal risk and is on the OHRP-approved list of types of studies that can be expedited. This list of studies should be expanded and periodically reviewed. • Some research that might usually be classified under the new excused category might instead be appropriate for expedited review. Research might require expedited review when the specific nature of the research procedures and/or the characteristics of the subject population, require consideration of human subjects protections beyond those normally applied in the excused category to ensure that any harm or discomfort created solely by the research procedures is not greater than minimal risk. • Research is reviewed and overseen by IRB. • Eliminate annual continuing review.	• No major changes proposed in ANPRM or by committee. • To avoid overestimation of risk, expedited review should be considered the default procedure for evaluating social and behavioral science research that is not excused. Decisions to require full board review should be based on established scientific or professional knowledge indicating a significant probability that participants will experience a magnitude of risk that is greater than minimal and that cannot be adequately reduced through risk-minimizing procedures.

continued

Not Human-Subjects Research	Human-Subjects Research
	EXCUSED FROM IRB REVIEW
Study Types/Examples: • **Scholarship outside of the definition of human-subjects research,** such as biographies, personal observation, or fact checking with sources for non-fiction writing. • **Public information outside of the definition of human-subjects research from these types of sources:** o Observing, coding, or recording the behavior of individuals in public settings where there is no interaction or intervention and no assumption of privacy,[b] such as recording admissions lines to study social interaction in crowds at sporting or cultural events, coding informational content of publicly published Facebook pages; observing differences in tipping behavior in restaurants. o Demographic, sociological, or other research that uses publicly available data sources, such as birth or decedent records, home ownership, court records where the information is public and there is no assumption of privacy. o Research that uses certified public-use data files; that is, data files tested to ensure respondents cannot be identified; public-use files available from such studies as the Panel Study of Income Dynamics, Early Childhood Longitudinal Program, National Longitudinal Study of Adolescent Health, among many others.	*Study Types/Examples:* • Use of pre-existing research and non-research data that includes private information, including use of extant research data under restricted use provisions or use of non-research data that is accessible but includes private information about individuals that they may not expect to be public. • Benign interactions or interventions that involve methodologies that are very familiar to people in everyday life and in which verbal, behavioral, or physiological responses would be the research data being collected (e.g., educational tests, surveys, focus groups, interviews, fieldwork or "participant observation," and similar procedures; and sociolinguistic studies; simulation studies; games, markets, negotiations, voting; individual or group decision making; studies of educational processes, teaching, and learning; studies of social perception and judgment; personality, achievement, and ability tests, and role playing involving routine activities or tasks under different scenarios and that do not in and of themselves introduce or heighten physical pain or psychological discomfort. • Would not be limited to adults.

[a]This point is consistent with OHRP's October 16, 2008 Guidance on Research Involving Coded Private Information or Biological Specimens. Available: http://www.hhs.gov/ohrp/policy/cdebiol.html [February 2014].

[b]New forms of large-scale data that can often be obtained in real-time and continuously are classified as not human-subjects research if the information is publicly available to anyone (including for purchase), if persons providing or producing the information have no assumption that they are engaged in private behaviors or interactions, and if investigators have no interaction or intervention with individuals. If all three conditions are met, the data are public whether or not the identity of the individuals is also known. Investigators must observe the ethical standards for handling such information that guide research in their fields.

Human-Subjects Research

EXPEDITED IRB REVIEW	FULL IRB REVIEW
Study Types/Criteria to be Considered: • The participant population is known to have decisional vulnerabilities empirically established to require enhanced informed consent protections for the type of study to be conducted. • The study is designed to produce clinical changes in health, health-related behaviors or symptomology, and includes identifiable information. • Public awareness of recruitment procedures can jeopardize participants' physical safety or reveal criminal behavior. • The nature of the research data collected requires specific plans for reporting illegal behaviors, providing emergency treatment, or protecting a participant or third party from physical harm. • Use of deceptive techniques are specifically designed to induce psychological, social, or physical discomfort. • When additional protections are necessary to avoid harms produced by an existing professional or service relationship with research staff that would compromise voluntary participation.	

[c]This category includes use of pre-existing research data under restricted conditions where investigators must adhere to consent agreements, including with respect to the confidentiality of the data. Also, excused from IRB review are studies using new forms of non-research data where individuals would typically assume their information is private.

[d]Although the committee does not endorse HIPAA as the mandated data security and protection standard (as proposed in the ANPRM), the committee acknowledges that social and behavioral science research conducted in HIPAA covered institutions would still need to comply with HIPAA rules with regard to protecting privacy of participants' data.

Appendix C

Acronyms

AAA	American Anthropological Association
ACM	Association for Computing Machinery
ADRC	Administrative Data Research Centers
ANDS	Australian National Data Service
ANPRM	Advance Notice of Proposed Rulemaking
AoIR	Association of Internet Researchers
CCTV	closed-circuit television
C.F.R. 46	Code of Federal Regulations Title 45 Public Welfare Department of Health and Human Services Part 46 Protection of Human Subjects
CIRB	Central Institutional Review Board
FCC	Federal Communications Commission
FDA	Food and Drug Administration
FWA	Federalwide Assurance for the Protection of Human Subjects
GPS	global positioning system
HHS	U.S. Department of Health and Human Services
HIPAA	Health Insurance Portability and Accountability Act
HIV	human immunodeficiency virus

IACUC	Institutional Animal Care and Use Committee
ICPSR	Inter-university Consortium for Political and Social Research
IEEE	Institute of Electrical and Electronics Engineers
IRB	institutional review board
LGBTQ	lesbian, gay, bisexual, transgender, and questioning
MOOC	massive open online course
NCES	National Center for Education Statistics
NIH	National Institutes of Health
NIST	National Institute of Standards and Technology
NORC	National Opinion Research Center
NRC	National Research Council
NSF	National Science Foundation
OHRP	Office for Human Research Protections (formerly OPRR)
QA	quality assurance
QI	quality improvement
SACHRP	Secretary's Advisory Committee on Human Research Protections
SRCD	Society for Research in Child Development

Appendix D

Biographical Sketches of Committee Members

Susan T. Fiske (*Chair*) is Eugene Higgins professor, psychology and public affairs, at Princeton University. She investigates social cognition, especially cognitive stereotypes and emotional prejudices, at cultural, interpersonal, and neural levels. She is known for the continuum model of impression formation, her power-as-control theory, the ambivalent sexism theory, and the stereotype content model showing fundamental dimensions of social cognition. Currently an editor of the *Annual Review of Psychology, Psychological Review, Handbook of Social Psychology*, and *Science* (Board of Reviewing Editors), Dr. Fiske has authored more than 300 articles and chapters, as well as multiple monographs. She was awarded a Guggenheim Fellowship in 2009, the American Psychological Association's Distinguished Scientific Contribution Award, and the Association for Psychological Science William James Award. She has been elected president of the Association for Psychological Science, president of the Foundation for the Advancement of Behavioral and Brain Sciences, president of the Federation of Associations in Behavioral and Brain Sciences, and fellow of both the American Academy of Arts and Sciences and the American Academy of Political and Social Sciences. A member of the National Academy of Sciences, Dr. Fiske has a Ph.D. in social psychology from Harvard University. She has served on IRBs for four decades, most recently 10 years as IRB Chair at Princeton.

Melissa E. Abraham is an assistant clinical professor at Harvard Medical School and is on the staff of the Department of Psychiatry at Massachusetts General Hospital in Boston. She is a chair at the Partners Human Research

Committee— the Institutional Review Board for the Brigham and Women's and Massachusetts General Hospitals. In that role she reviews minimal-risk biomedical and social and behavioral research protocols and is involved in developing guidance and policy on social science methods used in the biomedical setting, such as deception, quality improvement, Internet/social media, medical education, and cognitive science. Previously she had a postdoctoral fellowship with the Mongan Institute for Health Policy and a fellowship in Medical Ethics at Harvard Medical School. Dr. Abraham has a M.Sc. in epidemiology from the Harvard School of Public Health and a Ph.D. in clinical psychology from Northwestern University Medical School.

Celia B. Fisher is Marie Ward Doty university chair and professor of psychology at Fordham University, as well as founding director of the Fordham University Center for Ethics Education. Her research interests include ethical issues and well-being of vulnerable populations, including ethnic minority youth and families, active drug users, college students at risk for drinking problems, and adults with impaired consent capacity. She currently directs the Fordham University Training Institute on HIV Prevention Research Ethics. She is past chair of the Environmental Protection Agency's Human Studies Review Board, past member of the U.S. Department of Health and Human Services Secretary's Advisory Committee on Human Research Protections, and a founding editor of the journal *Applied Developmental Science*. She chaired the American Psychological Association's Ethics Code Task Force and the Society for Research in Child Development Common Rule Task Force. Dr. Fisher has authored or co-edited multiple monographs and is an author on over 100 theoretical and empirical publications on ethics in medical and social science research and practice and on life-span development. She received the 2010 Health Improvement Institute's Lifetime Achievement Award for Excellence in Human Research Protection. She has a Ph.D. in experimental psychology from the New School for Social Research.

Robert M. Groves is provost of Georgetown University. Previously he was director of the U.S. Census Bureau and a professor of sociology and director of the Survey Research Center in the Institute for Social Research at the University of Michigan. He is a fellow of the American Statistical Association and elected member of the International Statistical Institute, Institute of Medicine, and National Academy of Sciences. He received the Innovator Award and an award for exceptionally distinguished achievement from the American Association for Public Opinion Research. He has a Ph.D. in sociology from the University of Michigan.

Patricia K. Hammar is founder and managing member of PKH Enterprises, which provides consulting services to the federal government on policy and technology infrastructure that supports intelligence analysis, information sharing, privacy, and civil rights and civil liberties. Previously she held management positions in the Department of Transportation and the Federal Aviation Administration and was executive vice president with Dynamic Security Concepts, Inc., vice president and general counsel with National Security Research, Inc., and vice president with CACI International, Inc. Her expertise is in the legal basis and policy implementation for interagency information sharing, information management, and information access control. She helped develop rules on controlled unclassified information, including privacy information standardization across the federal government, and she has worked on rules for handling data among federal, state, local, and private industry partners. She served as a government expert on automating privacy and has applied proprietary policy and privacy analysis techniques and advice in education, child welfare, and health care. She is a member of the Maryland, District of Columbia, and Virginia bars. She received her B.S. in theoretical mathematics from the Massachusetts Institute of Technology and her J.D. and MPA from the University of Baltimore.

Julia I. Lane is a senior managing economist at the American Institutes for Research, a professor of economics at BETA University of Strasbourg CNRS, chercheur (investigator) at the Observatoire des Sciences et des Techniques, Paris, and professor at the Melbourne Institute of Applied Economics and Social Research, University of Melbourne. She was formerly director of the National Science Foundation's Science of Science and Innovation Policy program, senior vice president at NORC at the University of Chicago, and senior research fellow at the U.S. Census Bureau. She established the NORC/University of Chicago Data Enclave. She has authored over 65 refereed articles and edited or authored seven books, as well as co-editing the *Handbook of Science of Science Policy*. She has worked with several national governments to document the results of their science investments. She has testified on science investments to both the U.S. Congress and the European Parliament. She earned her M.S. in statistics and her Ph.D. in economics from the University of Missouri, Columbia.

Rena S. Lederman is professor of anthropology at Princeton University. Her research includes early work in rural Papua New Guinea regarding the politics and everyday practice of "gift" (nonmarket) exchange, gender relations, and historical consciousness. Her current work concerns the anthropology of academic practice and involves comparative research on disciplinary knowledge and expertise in the humanities and social sciences. Her recent publications have focused on the impacts on ethnography and

related research styles of institutional review board (IRB) regulations. She served as both chair and member on the American Anthropological Association's Committee on Ethics and as a member of Princeton University's IRB. She was a co-author of the American Anthropological Association's 2011 commentary on the proposed overhaul of IRB regulations (45 C.F.R. § 46). She has received research grants from the National Institutes of Health, National Science Foundation, American Philosophical Society, Columbia University, and Princeton University, as well as conference grants and sponsorship from the Wenner Gren Foundation and the National Endowment for the Humanities. Dr. Lederman holds a Ph.D. in anthropology from Columbia University.

Felice J. Levine is executive director of the American Educational Research Association. Previously she was executive officer of the American Sociological Association. Her work focuses on research and science policy issues, research ethics, data access and sharing, the scientific and academic workforce, and higher education. She served on the National Human Research Protections Advisory Committee of the U.S. Department of Health and Human Services and on the 2000 Decennial Census Advisory Committee. She was on the National Research Council panel on *Putting People on the Map: Protecting Confidentiality with Linked Social-Spatial Data* and chaired the NRC workshop on *Protecting Student's Records and Facilitating Education Research*. Currently, she is on the Executive Committee of the Consortium of Social Science Associations, and is past chair and on the Board of Directors of the Council of Professional Associations on Federal Statistics. She is a fellow of the American Association for the Advancement of Science, the American Educational Research Association, and the Association for Psychological Science and an elected member of the International Statistical Institute. Levine has a Ph.D. in social psychology from the University of Chicago.

Robert J. Levine is professor of medicine and lecturer in pharmacology at Yale University; chair of the Executive Committee, Yale Interdisciplinary Center for Bioethics; and director, Law, Policy, and Ethics Core, Yale Center for Interdisciplinary Research on AIDS. Most of his research, teaching, and publications during the past 35 years have been in the field of medical ethics, particularly the ethics of human subjects research. He is a fellow of The Hastings Center, the American College of Physicians, and the American Association for the Advancement of Science; a member of the American Society for Clinical Investigation and American Society for Pharmacology and Experimental Therapeutics; and past president of the American Society of Law, Medicine & Ethics. He was for many years chair of the Institutional Review Board at Yale-New Haven Medical Center and the founding

co-director of the Yale Interdisciplinary Center for Bioethics. He chaired the section on medico-legal matters and research and development administration of the American Society for Clinical Pharmacology and Therapeutics. He was associate editor of *Biochemical Pharmacology*, editor of *Clinical Research*, and founding editor of *IRB: Ethics and Human Research*. He chaired the Steering Committee for Revision of the International Ethical Guidelines for Biomedical Research Involving Human Subjects of the Council for International Organizations of Medical Sciences. He has received numerous awards for contributions to the field of research ethics and human research protection. He has an M.D. from the George Washington University School of Medicine.

Bradley A. Malin is the director of the Health Information Privacy Laboratory, associate professor of biomedical informatics, and associate professor of computer science at Vanderbilt University. His research focuses on the development and evaluation of data privacy technologies, with an emphasis on personal biomedical information. He was the organizing chair of the workshop on the HIPAA Privacy Rule's De-Identification Standard for the U.S. Department of Health and Human Services Office of Civil Rights in 2010 and chair of the Electronic Health Information & Privacy Conference in 2009. He was the scientific program chair of the Privacy Aspects of Data Mining Workshop at the Institute of Electrical and Electronics Engineers (IEEE) International Conference on Data Mining. He served on committees of the Association for Computing Machinery (ACM) International Health Informatics Symposium, the ACM/IEEE Model-Based Trustworthy Health Information Systems Workshop, and the IEEE Conference on Healthcare Informatics, Imaging, and Systems Biology. In 2010, he received the Presidential Early Career Award for Scientists and Engineers. He received his MPhil in public policy and management and his Ph.D. in computer science at Carnegie Mellon University.

Richard E. Nisbett is Theodore M. Newcomb distinguished university professor and co-director of the Culture and Cognition Program at the University of Michigan. Dr. Nisbett's research interests have focused primarily on how lay people reason and make inferences about the world. His earlier work was concerned with inductive inference, causal reasoning, and covariation detection. More recent work on reasoning compares East Asians with Westerners. Dr. Nisbett is a member of the National Academy of Sciences, a fellow of the American Academy of Arts and Sciences, and recipient of a Guggenheim Fellowship. He won the American Psychological Association's William James Book Award in 2004. Dr. Nisbett has a Ph.D. in social psychology from Columbia University.

Charles R. Plott is Edward S. Harkness professor of economics and political science and founder and director of the Laboratory for Experimental Economics and Political Science at the California Institute of Technology. He was co-founder with Vernon Smith of the field of experimental economics and has applied the methodology of experimental economics to address public policy issues and challenges, including work on the design and implementation of computerized market mechanisms for allocating complex items such as markets for pollution permits in Southern California, the FCC auction of licenses for personal communication systems, the auctions for electric power in California, and the allocation of landing rights at airports. Dr. Plott is a member of the National Academy of Sciences, fellow of the American Academy of Arts and Sciences, fellow of the Econometric Society, fellow of the Society for the Advancement of Economic Theory, and distinguished fellow of the American Economic Association. He has a Ph.D. in economics from the University of Virginia.

Margaret Foster Riley is professor of law at the University of Virginia School of Law, where she teaches bioethics, law and ethics of human subjects research, food and drug law, health law, animal law, and public health law. She also has secondary appointments in the Department of Public Health Sciences at the University of Virginia School of Medicine and in the Batten School of Leadership and Public Policy. Her areas of interest include animal law and rights, biomedical ethics and research, biotechnology, chronic disease, food and drug law, genomics, health disparities, health institutions and reform, reproductive technologies, and stem cell research. She has a J.D. from the Columbia University Law School.

Yonette F. Thomas is a senior researcher with the Association of American Geographers. In addition, she is on faculty in the Department of Public Health Sciences at the University of Miami Miller School of Medicine where she teaches social epidemiology. She was formerly the associate vice president for research compliance at Howard University. Previously she served as the program director for the sociology epidemiology program and branch chief of the Epidemiology Research Branch at the National Institute on Drug Abuse, National Institutes of Health. She has faculty appointments in the Department of Psychiatry and Behavioral Sciences and in the School of Pharmacy at Howard University. She is a member of the Consortium of Social Science Associations Advisory Committee and the Steering Committee of the National Hispanic Science Network. Her primary research and publications have focused on the social epidemiology of drug abuse and HIV/AIDS and the link with geography. She has a Ph.D. in medical sociology and demography from Howard University.

David R. Weir is a research professor in the Survey Research Center, Institute for Social Research, at the University of Michigan. He is the principal investigator for the Health and Retirement Study, a longitudinal survey of over 22,000 persons over age 50 in the United States, supported by the National Institute on Aging. Previously, he was a visiting associate professor in the department of economics and research associate in the Harris School of Public Policy at the University of Chicago, where he received a Special Emphasis Research Career Award from the National Institute on Aging, and an associate professor of economics at Yale University. His current research interests include the use of longitudinal data to study chronic disease processes, especially diabetes and dementia; health care decision making at older ages; how couples jointly plan for risks of old age including retirement, widowhood, and disability; the role of personality factors in lifetime economic success; and the use of biomarkers, particularly genetics, in population surveys. He serves as an advisor to international studies linked to the Health and Retirement Study in Europe, the United Kingdom, Ireland, Japan, Israel, China, India, and Brazil. He has a Ph.D. in economics from Stanford University.