

# Health Care Ethics in Vulnerable Populations: Clinical Research through the Patient's Eyes

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**Abstract**—Chronic conditions carry with them strong emotions and often lead to charged relationships between patients and their health providers and, by extension, patients and health researchers. Persons are both autonomous and relational and a purely cognitive model of autonomy neglects the social and relational basis of chronic illness. Ensuring genuine informed consent in research requires a thorough understanding of how participants perceive a study and their reasons for participation. Surveys may not capture the complexities of reasoning that underlies study participation. Contradictory reasons for participation, for instance an initial claim of altruism as rationale and a subsequent claim of personal benefit (therapeutic misconception), affect the quality of informed consent. Individuals apply principles through the filter of personal values and lived experience. Authentic autonomy, and hence authentic consent to research, occurs within the context of patients' unique life narratives and illness experiences.

**Keywords**—ethical dilemmas, open source technology, patient education, psychology of decision making

## I. INTRODUCTION AND BACKGROUND

**C**LINICAL research ethics is a domain of international focus that has been in a state of rapid evolution since the publication of the World Medical Association Declaration of Helsinki in 1964 [1]. As medical science advances, so does the challenge to protect the human subjects who carry research forward.

The ethics that guide reasoning and decision making in human subjects research in the United States have evolved around a very specific set of principles rooted in the same spirit of protection articulated in the Declaration of Helsinki. These principles are known as the "Three Pillars" of human subjects research.

They were laid down in 1979, by the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research in the Belmont Report, a document defining basic ethical principles to guide the conduct of research involving human beings.[2] These principles have come to be known as the "Three Pillars" of protection of human subjects in research.

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The first principle is respect for persons. This principle is grounded in a fundamental respect for human dignity to which there is virtual universal ascription.[2] Respect for persons and their natural right of self-determination is the source of guidelines for the informed consent of research subjects. The second principle is beneficence, which requires that researchers maximize the potential benefits to the subjects and minimize the risks of harm. The final principle is justice, fair distribution of the benefits and burdens of research, which considers the question of who receives the benefits of research and who bears its burdens.[3]

The Three Pillars are enforced through standard requirements for research protocols and informed consent (IC) documents. Because of the existence of regulations at the federal level, the "Common Rule," [4] as well as oversight at individual institutions (e.g. Institutional Review Boards, IRBs), there is a high degree of conformity among protocol requirements and informed consent documents in the United States. A culture of research has grown up around the Three Pillars that, like culture in general, is learned, shared, transmitted through generations, and expressed in group norms and values. [5] The purpose of informed consent is to assure that research subjects understand their rights with respect to participation in research and, perhaps equally important, that researchers themselves are clear on the rights of participants and their own duties toward them.

## II. STATEMENT OF THE PROBLEM

Use of plain language has been a guideline for development of IC documents for many years. IRBs typically offer plain language templates to help investigators create understandable documents that touch on all points of potential concern. However, because of differences in research participants' background and experience, it is possible to agree to "words" in a document but to interpret those words in a way that negates authentic understanding. If a researcher is to obtain truly informed consent from an individual, the researcher has to make sure that he or she sees the implications of participation through the participant's eyes.

It is a truism that prospective participants in clinical research on chronic illness are likely to suffer from chronic conditions. The principle of self-determinism supports the autonomy of individuals, both ill and well, to choose to participate in research. The vulnerability that is inherent in individuals with chronic illness[6] however, interferes with autonomy and greater care is needed to assure that such vulnerable individuals understand the risks and benefits of participation in research as well as their right to freely choose participation or another path.[7] In chronic illness, choices are frequently circumscribed by the demands of one's condition, reducing the range of choices that still support well-being. As demonstrated in the context of compliance vs. non-compliance with treatment regimens, individuals with chronic conditions

have been shown to redefine themselves in the context of the conditions with which they live.[8] Beauchamp and Childress (2001)[3] distinguish agency from strict autonomy with the former defined as the capacity to rationally guide one's reasoned desires into actions. If an individual with a chronic disease chooses to participate in research for the wrong reason, he or she has not exercised agency and neither justice, nor beneficence, the remaining Pillars, are served.

Chronic conditions further carry with them strong emotions and often lead to charged relationships between patients and their health providers[9] and, by extension, patients and health researchers. Persons are both autonomous and relational[8] and a purely cognitive model of autonomy neglects the social and relational basis of chronic illness.[10] Ensuring genuine informed consent in research requires an understanding of how participants perceive the utility of research in their lives, its impact on their relationships with clinicians and others, and how this perspective influences their consent. The typical, IRB-approved informed consent process entails informing prospective participants of their unconstrained right to participate or refuse participation, describing the risks and benefits of the specific research project, and querying their understanding of what has been presented and whether they want to participate. Participants' assertion of understanding and consent, however, does not necessarily assure that they understand the project, their rights or, perhaps most significantly, why they even consented to participate.

Wasan and colleagues[10] found that participants in pain research gave contradictory reasons for participation, for example, an initial claim of altruism as rationale and a subsequent claim of expected personal benefit (therapeutic misconception). The quality of informed consent in this instance was degraded not because the participant's initial claim of altruism was insincere, but because the initially unrevealed motive of seeking pain relief was unfounded; the researchers could make no such guarantee. The reasoning that led to the participant's consent was likely complex and not fully available to him for examination. According to Dual Process Theory [11], decision making takes place along a continuum from the intuitive to the analytical. Analytical decision making is the conscious weighing of pros and cons in a given situation. Intuitive decision making, conversely, is the automated response to a recognized situation. The individual unconsciously matches the current pattern to a familiar one and chooses the response that has previously been adaptive. Patients' unique life narratives, including their illness experiences, therefore, provide the context for their understanding of research and informed consent to participation. Guidance for improving the quality of informed consent may be found in how similar needs have been addressed in disciplines outside of clinical research, notably, moral schema theory, the dimensions of culture, and cultural tailoring of health education materials.

### III. OBJECTIVE

The goal is to describe the multidisciplinary synthesis of theory in the preliminary design of a tool to help researchers identify and address the perceptions and norms held by

prospective subjects that may interfere with their understanding of the ethical principles guiding clinical research and may impinge on their free exercise of choice in deciding to consent to be research participants. The tool will provide a Biomedical Decision Making (DMS) scale to pinpoint areas of potential conflict and a set of educational materials that address those specific areas. Focus will be on research in the domain of chronic illness (as typified by diabetes and chronic hyponatremia) since effective educational materials target specific users and specific situations.[12]

### IV. CONTRIBUTION FROM MORAL SCHEMA THEORY

The Defining Issues Test (DIT, later revised as the DIT2)[13-15] is a validated test of ethical reasoning that has been widely used in general contexts where an understanding of an individual's approach to ethical problem-solving is desired. It operates on the principle that individuals can and do make ethical judgments independent of whether or not they can explain the process they used to come to a conclusion or defend that conclusion in a logical argument. It therefore employs recognition tasks as opposed to expostulatory tasks. This approach is a pragmatic advantage in situations where it is important to understand the perspective of another in a quick and efficient manner, as is the case in obtaining informed consent from prospective research participants.

The DIT2 is a short instrument consisting of five brief scenarios involving ethical conflict. It asks participants to qualify (Likert scale) their agreement or disagreement with a given action to resolve the conflict. Subsequently, participants are asked to rate and rank the "defining issues" (approximately one dozen) associated with the scenario. Response patterns characterize an individual's ethical understanding and approach to problem-solving. Educators use the information presented by the DIT to do a better job of tailoring ethical instruction to individual learners. A significant characteristic of ethical reasoning is that it is highly sensitive to education.[16]

Notably, in the case of the DIT/DIT2, defining issues are associated with schema that are based on a developmental theory of ethics, [13] as opposed to the principle-based schema that drive ethics in clinical research. However the notion of an individual's recognition of defining issues in ethical reasoning and decision making transfers between the two theoretical perspectives without essential conflict. In the DIT/DIT2, defining issues were used to characterize an individual's thinking within a "Maintaining Norms" schema or a "Postconventional" schema. The DMS uses the construct of defining issues to distinguish reasoning that is grounded in research norms from reasoning that is grounded in norms that have guided the individual in his or her decision making outside of research.

A well-defined set of norms, derived from the Three Pillars and generally accepted by the research community is preliminary to understanding how research participants' own norms may conflict and degrade the validity of their consent to research participation. A review research protocols and IC documents approved by the MedStar IRB (IRB of record for the current project) over the past four years led to the

identification of 21 components aimed at assuring the ethical conduct of research involving human subjects. Analysis of these 21 components revealed eight key concepts that underlie the application of the Three Pillars to the practical conduct of research. These concepts are: 1) the right to knowledge, 2) the legitimacy of personal and social contexts in ascribing meaning to participation in research, 3) consent at all phase of research is voluntary, 4) health research is not health care, 5) the fair selection of participants and consideration of vulnerable populations, 6) creating knowledge is the goal of research, 7) participants must be cared for and protected, and 8) the right to privacy and confidentiality. These eight concepts have also been identified with key function in human subjects protection in community research[17] and may be seen as “normative” to what researchers and participants must understand in the same way for consent to be authentic. Each of these concepts provided the basis for a scenario (modeled on the design of the DIT2) of ethical conflict in the context of participating in research. See Table 1 for a sample preliminary DMS item.

#### V. CONTRIBUTION FROM CULTURAL DIMENSIONS THEORY

Formation of norms is a function of culture. Vulnerable individuals presenting as potential research subjects, of course, participate in a variety of cultures in the usual sense of the word (e.g. national, religious and ethnic backgrounds) as well as in subcultures rooted in shared lived-experiences such as poverty and disability. Over the past several decades, Hofstede and colleagues[18] have identified seven “Dimensions of Culture” that help explain how norms tend to distribute across nations. These cultural dimensions are: Power Distance (small vs. large), Individualism (vs. Collectivism), Masculinity/Femininity, Uncertainty Avoidance (vs. Tolerance), Long-Term Orientation (vs. Short-Term Orientation), Indulgence (vs. Restraint), and Monumentalism (vs. Self-effacement). Each dimension represents a continuum.

The VSM08,[19] the widely validated instrument used to measure dimensions of culture, consists of 28 items, four for each dimension, measured across a 5-point Likert scale. The VSM09 items provided guidance in generating a preliminary list of norms that may be held by vulnerable individuals and interfere with their ability to understand of the norms of research as the research community intends. Moral judgment and cultural ideology are not the same, but studies have demonstrate that the two constructs combine predict moral thinking.[20] These norms provided the basis for the defining issues that accompany each of the eight scenarios of ethical conflict that form the core of the preliminary DMS.

#### VI. DMS REFINEMENT PROCESS

Focus groups of patients with diabetes and chronic hyponatremia, clinicians who work with patients with chronic conditions, and clinical research coordinators will review the preliminary DMS to validate the framing of ethical scenarios and corresponding defining issues. Biomedical ethics experts and research participant advocates will further serve as key informants in refining the DMS. Subsequently, it will be administered, with demographic and other personal measures,

as a computer-based assessment to 70 patients with diabetes and chronic hyponatremia and 30 clinicians. Regression methods [21, 22] will be employed to examine how participants’ individual parameters relate to ethical decision-making with DMS score treated as dependent variable. Differences between groups defined by medical diagnosis, ethnicity, age and gender, as well as identity (patients vs. health care providers) will be explored using parametric and non-parametric statistical methods with and without covariates such as the t-test, ANOVA and ANCOVA.

TABLE I  
 FORMATIVE CONCEPT: THE RIGHT TO KNOWLEDGE

<p>SCENARIO: Mike has chronic hyponatremia. People who have chronic hyponatremia have to seriously restrict their fluid intake and this is can be very difficult. Mike has been coming to the clinic at Georgetown for about 5 years. Mike did his research and chose Georgetown because it runs one of the most highly rated hyponatremia treatment centers in the country. Mike generally sees Dr. Williams in the clinic. Dr. Williams is a caring and meticulous physician who, in Mike’s opinion, has done a great job helping him keep his condition in check without a lot of discomfort or inconvenience. Dr. Williams has asked Mike to participate in a research study and has just finished telling him about it. Mike is feeling a little fuzzy mentally today and doesn’t really understand what the study is about or how he will be involved, despite Dr. William’s animated and detailed explanation. Dr. Williams, ever efficient, has papers for Mike to sign and has asked him if he has any questions. Mike doesn’t even know where to start. Dr. Williams has never let him down. Mike’s thinking to just sign and get the receptionist to make the call for his cab so he can get home. The playoffs are on cable tonight!</p>
<p><i>Do you think Mike should just sign the papers?</i>                  (Disagree-agree, 5-point Likert scale)</p>
<p><i>Rate the importance of the following issues in Mike’s decision.</i>                  (unimportant-important, 5-point Likert scale)</p> <ol style="list-style-type: none"> <li>1. Georgetown, the Hyponatremia Clinic and Dr. Williams are all top-notch.</li> <li>2. George lives for sports and watching the playoffs helps him maintain his quality of life.</li> <li>3. The excellent rapport George has with Dr. Williams is precious and worth cultivating further.</li> <li>4. George knows he is not “100%” mentally because of his chronic illness.</li> <li>5. Williams doesn’t recognize George’s present inability to focus.</li> <li>6. A patient has to maintain a certain amount of “face” with a healthcare provider just for the sake of human dignity.</li> <li>7. George isn’t considering the interests of anyone outside of himself and Dr. Williams.</li> </ol>
<p><i>Now, rank the top four issues from most to least important.</i></p>

#### VII. CONTRIBUTION FROM MICRO-TAILORING OF HEALTH EDUCATION MATERIALS

The literature on cultural tailoring of health education materials demonstrates that keying materials to individuals based on characteristics they actually have (micro-tailoring) as opposed to characteristics broadly ascribed to a group (macro-tailoring[23]) is effective in changing behavior. [24-26] Micro-tailoring of health information considers not only the norms of the culture of which individuals are part but also how individuals perceive and express those norms in their lives as determined by a brief assessment, comparable to the DMS. Micro-tailoring of health information was impractical and cost-prohibitive before computerization made it feasible to assess the cultural contexts of individuals and to prescribe

appropriately-framed information from a large and varied bank of materials. This approach will provide a model for connecting vulnerable individuals with appropriate informed consent educational materials as indicated by their DMS assessment. The ethical decision-making role-playing game (RPG) can provide an interactive platform for both the educational content and its assessment.

#### ACKNOWLEDGMENT

This project is an interdisciplinary collaborative pilot project sponsored by the Georgetown-Howard Universities Center for Clinical and Translational Science (GHUCCTS), a multi-institutional consortium of medical research institutions forged from a desire to promote clinical research and translational science. The members of the GHUCCTS consortium are: Georgetown University, Howard University, MedStar Health Research Institute, Oak Ridge National Laboratory, and the Washington Veteran's Affairs Medical Center. Support for this project was provided through the Medstar Health Research Institute, a component of the Georgetown-Howard Universities Center for Clinical and Translational Science (GHUCCTS) and supported by Grant U54 RR026076-01 from the NCRR, a component of the National Institutes of Health (NIH). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of NCRR or NIH.

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