Comparative Effectiveness Research: Investigating Patient Views on Alternative Consent Models

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I. Introduction

In this paper I will first provide background on comparative effectiveness research (CER) and on the current movements (i.e. Learning Healthcare Systems) in advancing such research. Second I will describe implementation, legal and ethical challenges facing the advancement of CER. Third, I will identify three consent models with two being alternatives to what we have today. Fourth, I will summarize a few empirical studies on patient opinions for the different consent models. Fifth, I will delineate a current proposal for an opt-out consent model for pragmatic randomized controlled trials. Sixth, I will argue for four ethical criteria we ought to follow if we implement such a proposal. Seventh, I will reveal patient opinions for alternative models of consent. And lastly, I will describe the consequences these patient opinions have on my proposal.

II. Background

Comparative Effectiveness Research:

In many contexts, we resort to the systematic evaluation of products and services to help guide our decision-making. Millions of Americans subscribe to Consumer Reports, a magazine that regularly reviews and compares consumer products and services, in order to find the product or service that best matches their needs. An evaluation by Consumer Reports will assess different
characteristics of a product or service such as cost, quality, and durability (Consumer Reports, 2014). Furthermore, high school seniors and parents may use a tool such as *U.S. News & World Report College Compass* to guide them in choosing a college based on factors of ranking, academic life, campus safety, costs and financial aid. In medicine, there is no comprehensive guide because very few research studies investigate whether a drug works better than another drug (Green, 2006).

For many medical problems, we do not know the best way to treat patients because of the lack of research studies that compare similar interventions (Faden, 2013). This type of research that evaluates the impact of different options available for treating a given medical condition for a set of patients is known as comparative effectiveness research (CER) (DeMaria, 2009). CER seeks to identify the relative benefits and harms of interventions in the ‘real world setting’ (Faden, 2013). It is important to note the distinction between *efficacy* research and *effectiveness* research. Efficacy research studies investigate whether a treatment produces the desired outcome in a controlled environment (Laken, 2013). On the other hand, effectiveness research studies are conducted in the “real world” in clinical practices, and are intended to investigate which interventions are the most effective (Laken, 2013). An efficacy study, for example, may investigate whether drug A treats hypertension. An effectiveness study, instead, will investigate whether drug A or drug B is better at treating hypertension. While it is important to conduct both efficacy and effectiveness research, most medical research today is the former and looks to see whether medicines work in the first place (Faden, 2013).

*Movement to a Learning Health Care System:*

There have been recent proposals to develop a healthcare system that promotes comparative effectiveness research (Olsen, 2007). These proposals revolve around the idea of
obtaining and analyzing electronic health records (EHR) obtained from the clinical setting in order to provide data for CER studies. For example, researchers have described the great need for EHR in evidence development for cancer clinical care and research (Miriovsky, 2012). They argue that in order to fully utilize the potential of EHR, we ought to capture routine clinical information to provide mechanisms in which EHR’s can facilitate comparative effectiveness research (CER). Ideally real-time analytics of EHR data can provide improved point-of-care evidence to oncologists (Miriovsky, 2012). A practical implication, to this improved point-of-care evidence, could be an oncologist entering information about a patient with prostate cancer and receiving a list of recommendations based on the current empirical evidence of all the prostate cancer patients with similar characteristics.

An initiative to promote this integration of information generated by EHRs for analysis in CER studies was galvanized after the Institute of Medicine roundtable on an Evidence-Based Medicine Learning Health Care System workshop in July 2006 (Olsen, 2007). This roundtable discussion convened to discuss issues with healthcare delivery so that evidence is made available when needed and applied in healthcare in a more effective manner than it is today (Olsen, 2007). Additionally, this workshop called for reevaluating how health care is structured in order to develop and apply evidence. It described the need for a “sustainable system that gets the right care to people when they need it and then captures the results of improvement. [This nation] needs a healthcare system that learns” (Olsen, 2007).

After this workshop, research around this idea of a learning healthcare system (LHCS), or a model in which data generated by routine clinical care feed databases that support clinical decision support, gained momentum (Miriovsky, 2012). A LHCS is a healthcare system that both provides care to patients and routinely does research in order to improve that quality of care.
Every time a patient goes to a doctor, clinic, or hospital becomes an opportunity to learn and do research, using information doctors record about each patient. The system learns about what works and what doesn't work from each patient visit and changes care accordingly. This allows for rapidly accumulating clinical information in an accessible form (Miriovsky, 2012).

Several healthcare institutions have already adopted systems that integrate electronic health information in order to better conduct research. I will describe three such programs of varying degrees already in place: the first uses electronic health records to improve recruitment for research, the second uses such health records to generate research findings and the third uses electronic health information to provide empirical conclusions that is rapidly integrated to promote clinical care (full learning healthcare system). First, in 2005, the US National Institutes of Health (NIH) funded the electronic Primary Care Research Network (ePCRN) as one of 12 pilot programs intended to facilitate clinical research by using primary care electronic health records (Peterson, 2006). ePRCN works to assist primary care practitioners in identifying suitable participants for research by extracting health record information (Peterson, 2006). For example, a primary care provider would be notified when the patient they are treating is eligible (based on characteristics present in the health care records) to perform a research study. The provider could then ask the patient whether the patient was interested. This was designed to make recruitment of these patients easier by extracting health care information from the patients (Delaney, 2012). Second, Cleveland Clinic investigated the risk of coronary artery disease, congestive heart failure and mortality using patients from their own electronic health record (Pantalone, 2009). They utilized electronic health records with CER in order to examine if there was a relationship between risk for coronary artery disease and usage of various oral diabetes medication. Furthermore, they studied the mortality risks associated with those taking different
oral diabetes medication (Pantalone, 2009). This information would be impractical to gather in a clinical trial because of the amount of time required from point of intervention (oral diabetes medication) to outcome (death). Consequently, this sheds light on the potential information that can be gathered through combining electronic medical records and CER in the clinical setting.

Third, Kaiser Permanente integrated its health information technology and electronic health records into a large database engine which works to inform oncologists (Miriovsky, 2012). Utilizing their electronic health records system, Kaiser has implemented several point-of-care evidence based systems. For example, oncologists will be alerted about potential prevention options (e.g. breast cancer screening) and questionable results in x-rays and blood tests (Wallace, 2007). Additionally, the electronic medical system can inform clinicians of standardized treatment plans for cancer patients based on evidence from patients with similar characteristics (Wallace, 2007).

As mentioned above, current healthcare systems have integrated electronic medical records in order to conduct comparative effectiveness research. This integration can be used to recruit more patients from CER, to generate research and to create a learning health care system.

III. Challenges in Integrating Electronic Medical Information and CER

While there are clear benefits to integrating electronic medical records with comparative effectiveness research, there are several limitations. There are implementation, legal and ethical challenges that prevent the research integration of electronic medical information with comparative effectiveness research.

*Implementation Challenges:*
There are several technical challenges that must be overcome in order to properly integrate the information we obtain from electronic medical records with comparative effectiveness research. The main challenges are the lack of (1) interoperability of different electronic medical record systems, (2) standardization of electronic health records codes, (3) development of real time analytics and (4) access of data (Miriovsky, 2012).

First, we must improve the interoperability, or ability for a system to exchange data across sectors, of current electronic medical records systems (Miriovsky, 2012). For example, we need to ensure that the information gathered from the clinical laboratory department is easily accessible to the radiology department. This makes it easier for radiologists to take a look at patients’ labs. The more interoperability of electronic information, the faster the healthcare system can learn. Making electronic medical systems from different hospitals interoperable, will increase the amount of patient data collected. This will increase the sample size of patients used for research and ultimately increase the scientific validity of such research.

The second challenge is to increase the standardization of health record codes. The idea is that if one health system uses labels of white and black for race and another use labels of Caucasian and African American, then extra variables are created which cause problems in data analysis (Miriovsky, 2012). We ought to create standardized codes across health care systems in order to improve the first challenge of interoperability and facilitate the correct analysis of data sets.

The third challenge is that we must develop analytical processing systems that continuously assess the aggregating data. In order to achieve a learning healthcare system that gathers new information every time a new patient is entered into the system, we must develop and incorporate an analytical processing system into the health care system. The development of
such a system could begin by having an initial analysis of the current electronic medical records. Then outcomes would be tracked by the system and the confidence in the evidence would grow as more patients are enrolled. This would improve the clinical support and overtime, the cycle time for analysis would decrease which would “ultimately [reach] a state with continuous data aggregation and analysis” (Miriovsky, 2012).

The fourth challenge is to improve access of data. Even if healthcare systems were very interoperable, their data was standardized and analytical processing systems were in place, the benefits would not be realized if there was no access to the information. Due to legal and ethical concerns, there is an enormous challenge in accessing patient information. Without the ability to access this information, the benefits of integrating electronic medical information and comparative effectiveness research cannot be realized.

**Legal Challenges:**

In order to address the fourth challenge to integrating electronic medical records and comparative effectiveness research, we must understand the legal and policy barriers to accessing electronic medical information. There are three main concerns with utilizing electronic health record data for purposes beyond treatment: (i) the variable interpretation of federal laws governing secondary uses to EHR (ii) the challenges related to IRB review and (iii) the potential variability in state laws (McGraw, 2012).

The two most important federal laws that are related to the usage of health information are the Health Insurance Portability and Accountability Act (HIPPA) and the Common Rule (McGraw, 2012). In the US, the HIPAA Privacy Rule prevents researchers from accessing practice data to identify subjects for research studies (Delaney, 2012). The HIPPA Privacy Rule
only allows for “covered entities,” which includes healthcare providers to “access, use, and disclose identifiable personal health information for treatment, payment and healthcare operations without the need to first obtain a patient’s consent” (McGraw, 2012). The Common Rule safeguards the privacy by requiring the consent of human research participants and ensuring ethical oversight (Lee, 2009). The first legal issue is that these federal laws attempt to create a distinction between information collection for internal use and that information that is intended to contribute to the scientific healthcare community (McGraw, 2012). This means that these laws allow for the extraction of health care information for the purposes of internal quality improvement but not for external publication. And due to the interpretation of these federal laws, health care organizations tend to not make clinical data accessible for secondary purposes outside their own internal quality improvement uses (McGraw, 2012). The second legal issue is that organizations tend to have a heavy reliance on IRB review. The issue is that this could introduce selection bias because those who consent to have their information used for research purposes may differ in relevant ways to those who do not consent (McGraw, 2012). The third legal issue is the wide variability among state laws. Many states have their own privacy laws that are stricter than the federal HIPPA rules. Some states have privacy laws that apply to all health information while other states have laws that only apply to sensitive information (e.g. HIV test results). Integrating electronic medical records and research becomes a difficult task across healthcare institutions with different privacy laws (McGraw, 2012).

Proposals have been made to make changes in both HIPAA and the Common Rule, governing research uses of HER, in order to clarify research rules and processes which may reduce necessary reliance on IRBs (Delaney, 2012). In order to make changes in these federal
laws, that prevent access to patient information, it is necessary to understand the conceptual ethical framework behind the policy.

**Ethical Challenges:**

Legal challenges arise from ethical concerns regarding human subject research. There are three main biomedical ethics principles that are used to assess policy regarding research: beneficence, justice and autonomy (Gostin, 1991). Beneficence, applied to research, is the principle to do good to participants. But this is more than simply respecting a patient’s wishes. Researchers ought to maximize the benefits and minimizes the risks to human participants. The second principle of justice requires that persons to be treated equally unless there is a strong moral reason to do otherwise. Researchers need to ensure that participants are not selected based on vulnerability but rather factors that are relevant to the problems being studied (Gostin, 1991). It would be unethical, for example, to do research on homeless people (for a study where homelessness is not relevant) because they are the easiest to exploit. Lastly, adhering to the ethical principle of autonomy is to respect person’s individual choices and decision making processes. This principle requires that all research participation is completely voluntary and not due to coercion.

Federal regulations on research attempt to address all three of these principles. However, for this paper, the focus will be on HIPPA’s privacy law which only allows for the sharing of a patient’s information with the patient’s consent.

**IV. Informed Consent in Research**

As aforementioned, the HIPPA privacy law seeks to respect the ethical principle of autonomy by only allowing for the access and use of patient health care information (by non-
covered entities) with the patient’s consent. However receiving consent for large studies can be burdensome and costly which has prompted some to propose alternative models of consent that are less burdensome (Damschroder, 2007). On the other hand, some have argued that the increased burdens of consent does not warrant forgoing the traditional consent process and that policy makers ought to find other ways to reduce this burden (Elsayyad, 2014).

In the following section, I will outline three different models of receiving patient consent for disclosing access to patient records.

Models of Informed Consent:

**Opt-In:** In this model, patients are provided information about objectives, risks, burdens, benefits, and alternatives of each study and are asked individually if they are willing to participate. Although information may be provided in hard copy or electronically, there is typically also personal interaction with a staff member. Under this traditional consent model, a patient may not be enrolled in research without that patient’s explicit acknowledgement, usually documented in writing, that the patient has read and understood the information and voluntarily agreed to enroll.

**Opt-Out:** In this approach, patients are provided the same information about objectives, risks, burdens, benefits and alternatives for each study which again, can be provided in hard copy or electronically. However, unlike the traditional consent model, opt-out information explains that the patient will be enrolled in the study unless the patient specifically requests otherwise. Thus, patients are given study-specific information and a study-specific opportunity to opt-out, but expressed prior informed consent is neither solicited nor required.
General/Broad: In this model, patients are informed through stated institutional policies, newsletters, posters in waiting rooms and patient information sheets that their clinicians and care settings routinely conduct certain types of studies when studies in no way compromise clinical care. Patients are informed of whom to contact with concerns about this policy and may have the option of requesting to be exempted from the policy. Unlike opt-out consent, there is no disclosure to patients about particular studies and no study-specific opportunity for patients to opt-out of participation (Damschroder, 2007).

Perspectives on Informed Consent in Research

There have been several studies that have investigated patient views on alternative consent models. A study that surveyed Veterans Affairs patients revealed that 74% of respondents preferred an opt-in model while 26% of respondents preferred an opt-out model of consent for medical research. Of those respondents who chose an opt-out model, 35% preferred a one-time blanket consent while 39% respondents preferred a traditional consent for each study model (Damschroder, 2007). Other studies have shown that 32.7% of sick patients (n=597), with some serious genetic or chronic medical condition, agreed that researchers should be able to get their medical records without respondents permission. When this request was qualified by stating that the database would be set up anonymously, 71% thought this was a good idea (Kass NE, Natowicz MR, 2003). On the other hand, the majority of healthy patients (13/17) prefer opt-in consent over broad consent (3/17) and opt out (1/17) consent (Nair, 2004). Those who are healthy are more likely to prefer an opt-in model than those who are unhealthy which reveals that health status is a factor that affects patient’s opinions on informed consent.

VI. Proposal for Opt-Out Consent for Pragmatic Randomized Research
Observational vs. Experimental Study Designs

The difference between observational and experimental study designs is that in experimental study designs “the presence or absence of undergoing an intervention defines the groups” (Song, 2010). On the other hand in observational studies there is no intervention, rather the investigator will observe the relationship between the exposing agent and the disease outcome (Song, 2010). Randomized control trials (RCTs) are a type of experimental study in which participants are assigned randomly to the intervention or placebo groups. RCTs are known as the highest form of evidence based medicine (Song, 2010). However, RCTs require a more controlled environment than observational studies which makes RCTs very far removed from clinical practice (Hotopf, 2002). Some argue that despite having good internal validity, they lack external validity which compromises their utility in applying the conclusions to clinical practice (Hotopf, 2002). Pragmatic randomized controlled trials (PRCTs) seek to provide the best of both worlds: the scientific rigor of RCTs and the external validity of observational studies. PRCTs have several key features: they reflect the heterogeneity of patients in general practice, minimize exclusion criteria, focus on groups with a wide range of diagnoses, define patient groups by presentation rather than diagnosis, may not employ placebos and may not be blinded (but must carefully conceal allocation during randomization) (Hotopf, 2002). As a result of PRCTs’ middle-of-the-road approach, this makes it a very appealing option for conducting comparative effectiveness research.

Blurring Clinical Care and Clinical Research

The field of research ethics has attempted to analyze how clinical research is fundamentally different from clinical practice (Kass, 2013). However, “drawing a sharp distinction between research and therapy can be appealing, but a growing number of activities in
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health care cannot be comfortably classified as either research or therapy, the one excluding the other” (Kass, 2013). Participating in a clinical trial, for example, might be the best treatment option for a woman with melanoma (Kass, 2013).

In “The Research-Treatment Distinction: A Problematic Approach for Determining Which Activities Should Have Ethical Oversight” Nancy Kass and her colleagues’ propose that healthcare providers should be allowed to randomize and collect data on medical therapies with similar risk profiles. Because there is no morally relevant difference between clinical care and clinical practice, Kass proposes we do not distinguish them. Kass acknowledges that some clinical research undeniably uses an algorithm to determine which intervention a patient-subject receives. However, she argues that there is also an element of chance in the treatment options in clinical practice. Kass says, “Which intervention any given patient will receive in standard practice can be determined by geographic location or hospital catchment area, or by which surgeon they see, than by their health characteristics.” Kass essentially is commenting on the fact that many medical conditions have multiple effective treatment options. But because there is little data on showing which therapy is the most effective, Kass suggests that when treatment options have similar risks, healthcare providers ought to be allowed to randomize the type of therapy given and collect data. Kass supports this claim by suggesting there is often disagreement and as a result wide practice variation within the clinical community for varying medical interventions (2013).

In “Bioethicists Propose Routine Randomization of Therapy in Clinics,” Susan Matthews describes how for many medical conditions doctors and patients choose from several treatment options approved by the US Food and Drug Administration (FDA). Matthews explains how Kass’ proposal may address the need to assist people choose amongst a multitude of
treatment choices available today. A man diagnosed with prostate cancer is made to select somewhat arbitrarily from surgery, chemotherapy or monitoring, even though millions of patients before him have already decided on one of these treatment options (Matthews, 253). She comments that if healthcare institutions had collected outcome data for each patient, doctors might have learned one approach was the most successful (Matthews, 253).

VII. An Ethical Framework for Opt-Out Randomized Research

We suggest implementing a system of routine randomization of therapies — also known as an opt-out consent for pragmatic randomized trials — that does not simply justify compromising patient’s needs for the sake of more generalizable knowledge. As a result, we ought to consider at least these four criteria when dealing with the routine randomization of therapies in clinics. I am not arguing that these are the only considerations when dealing with the protection of human subjects in such a scheme, for there may be more considerations. I am arguing these four conditions must be minimally met in order for routine randomization of therapies to be ethical.

Criterion #1: Randomization must not compromise a patient’s health and wellbeing.

There has been much discussion about the potential conflict between patient care and the standardization of the scientific method (Grunberg, 2003). Jerry Menikoff states, “doing research is often going to involve some level of risk to research subjects, risk that is being imposed for a purpose other than for their benefit” (2013, S30). While we have monitoring review boards and regulations on what is the acceptable amount of risk, I would like to focus the discussion on the additional risks that potentially may be imposed by randomization.

Imagine the following extreme and unethical example: a man diagnosed for appendicitis by his physician is randomized into a “watchful waiting” intervention group. Because it is known
within the medical community that an appendectomy is in fact the best treatment for the patient, it would be unethical for a healthcare system to randomize such interventions for a person diagnosed with appendicitis. I will assume that most will agree randomization when one intervention is known to be so much more effective is unethical.

Now let us turn to another example where the line is not so clear. For example, imagine a scenario in which a patient has a persistent cough and there are two cough suppressant medications. Additionally, there is insufficient data on the compared effectiveness of both drugs. Randomization in this example would satisfy criterion #1 because it is not clear that receiving one specific cough suppressant over another would compromise a patient’s health and wellbeing. The reason the randomization scenario with the appendectomy is unethical while the randomization scenario with the cough suppressant is ethical is based on whether the patient’s health is being compromised due to the randomization. Thus, as long as the randomization scheme does not undeservedly compromise patient health and wellbeing, it fulfills my first criterion.

Criterion #2: A patient’s personal preferences must be accommodated.

One issue with clinical research is that patient needs may not be put first (Kass, 2013). This can be especially problematic because each individual patient has his/her own desires and preferences that may not necessarily align with the drug. For example, let us imagine a violinist who goes to her primary care physician for an asthmatic condition. Of the three drugs (X, Y, and Z) that are routinely prescribed, one drug is not known to be more effective than any of the other two drugs at treating asthma. However, both drug X and Y have the side effect of mild hand tremors while drug Z does not. Under a randomization scheme, the violinist has almost a 67% chance of receiving a drug that could cause her hand tremors. Here the patient has less flexibility
to receive a medicine that fits her needs because of the randomization scheme. A randomization scheme that only accounts for drugs with similar effectiveness and that does not take the personal preferences for side effects may infringe on a patient’s autonomy over decisions concerning one’s body. Thus, we ought to incorporate a randomization system that accommodates patient’s personal preferences for other factors than drug effectiveness such as varying side effects.

Some may argue that the fact that the patient must consent to this randomization automatically fulfills this criterion. They may argue that if a patient’s preference is strong enough, the patient can refuse consent for randomization. While in this case providing consent for randomization is necessary, it is not sufficient to meet criterion #2. A process that would fulfill this criterion would be as follows: the physician would have to describe all treatments and all side effects of the treatments. Then after the patient understands the differences between treatment options (especially different side effects), then the patient should be asked to consent. Joel Kupersmith’s proposal for a simple additional document that only asks for consent of randomization would then not fulfill this criterion (Kupersmith, 2013, S43). It is necessary for the patient to fully understand the relative risks and side effects of each potential treatment option that a patient would randomly receive.

Ultimately so long as the patient’s personal preference in treatment does not call the patient’s competence into question, they ought to be protected and respected. One such example would be a model implemented by the Clinical Anti-psychotic Trials of Intervention Effectiveness in which participants may switch to any 6-FDA approved therapies without having to withdrawal from the trial based on a clinician’s or patient’s view that the drug is not working, that the drug is not tolerable or that another drug would be better” (Kass, 2013, S11). Therefore,
by giving a patient the option to consent to randomly receiving one of the FDA approved
treatment options (while understanding the differences in risks and side effects of each
treatment), we ultimately fulfill this criterion.

Criterion #3: A patient’s privacy ought to be respected.

My third criterion involves the protection of a patient’s privacy. Normally, in a clinical
care setting patient data is used for the sole purposes of treating the patient. On the other hand,
for a routine randomization scheme to provide generalizable knowledge, patient data must be
recorded and analyzed. We must be particularly careful of protecting the privacy and
confidentiality of patient information. Otherwise we may risk compromising patient’s privacy.
One concern to keep in mind is the reverse engineering of patient information. We must keep
safeguards to ensure that the details of a patient’s illness are put in a manner that makes it very
difficult to identify the patient. I would imagine a system that removes all personal indicators to
be sufficient to fulfill criterion #3.

Criterion #4: A physician has the ability to opt the patient out of a randomized intervention

Since many clinical research models have a pre-established protocol to assign treatments
to research participants, selection of certain aspects of the treatment regimen is taken out of the
hands of the treating physician (Grunberg, 2003). The fact that physician’s judgment is replaced
by randomization may cause less individualized patient care.

I will characterize two types of physician judgment: diagnostic and treatment judgment.
With diagnostic judgments, physicians develop a list of differential diagnoses based on a
patient’s symptoms. This is the type of judgment used when the doctor diagnoses a patient with
an illness. The physician’s treatment judgment is the decision on which medical intervention is
best suited, based on the diagnosis, to treat the patient. Kass’ proposal for randomization would
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decrease the input for physician’s treatment judgments when treatments appear to have similar risk profiles. Some have argued that Kass’ proposal would prevent physicians from making intuitive judgments on treatments (Menikoff, 2013, S30). While I will not endorse a physician’s intuitive treatment judgments in all cases, I will suggest at times, it is important for a physician to have the ability to act on his judgment.

The reason why we must allow for physicians to have the option to opt their patient out from receiving a randomized treatment is to ensure patients are still able to receive individualized care. For example, let us imagine there is an experienced interventional pediatric cardiologist who performs cardiac catheterization on children for the majority of his day, five days a week. Because this surgeon is in a sub-subspecialty and has a very particular skill set and performs the same surgery over and over again, this surgeon will have a clinical sense in performing this surgery. Subsequently, when there is no academic literature that describes the differences in effectiveness of surgery approach A versus surgery approach B; I would imagine that the experienced surgeon’s judgment would be the patient’s best option. While most surgeons may have a strong bias one way or another, surgeons who have decades of experience with a very specific illness would have a better sense in which treatment is best for the patient based on individual characteristics of the patients. The implication of this is that if we established a randomization of therapies, we would have to allow for the physician to change therapy if he believes that the randomized therapy is not working, not tolerable or another therapy would be better. I am not saying that physicians should be able to change therapies simply on a hunch, but rather suggesting that we allow for physicians to have the opportunity to switch a patient into another intervention after a patient is randomized to one with adequate justification.

One last consideration is that some will say that some health systems have similar in-
house treatment protocols that are not a part of research. These protocols are simply system-wide standards in treating an illness. They would then ask whether these protocols raise the same issues as routine randomization. Well this really depends. If the protocols were based on empirical evidence for which treatment works best for a certain scenario, then it would appear justifiable to have such protocols (assuming treatments do not have significant cost differences). Nonetheless, these protocols ought to have the flexibility to allow for a physician to change a treatment when the physician has reason to believe another treatment would be best suited for a patient when there is no existing literature comparing treatments. To sum up, criterion #4 is important in order to provide the opportunity for physicians to provide patients necessary treatments based on individual characteristics.

**Significance**

Before we can implement the abovementioned proposal, we must survey major stakeholders on their opinion regarding an opt-out randomization proposal. While there is empirical evidence on patient opinions for observational research as mentioned above, there is very little literature on patient’s opinions on informed consent for experimental randomized research. This project provides an opportunity to support health policy decisions regarding informed consent models in order to better evaluate clinical interventions. Understanding patient opinions regarding use of clinical data for research is critical to understanding the ethical implications of adopting these alternative informed consent approaches. Patients have the most to gain and the most to lose from this pragmatic comparative effectiveness research.

**VIII. Methods**

We conducted a mixed methods analysis that investigates patient opinions on different consent models for experimental randomized research. Due to the belief that most patients would
be unfamiliar with patient centered outcomes research and alternative consent options, eliciting views using only traditional surveys may have produced only snap or intuitive judgments (Fishkin 2005). Additionally, traditional surveys would not capture the decision making process of participants. Consequently, this study utilized both qualitative (deliberative engagement sessions) and quantitative (surveys) methods. For the qualitative data, we conducted two day-long (8 hour) deliberative patient sessions regarding consent options for PCOR studies. A deliberative patient engagement has been shown to capture participants informed preferences about complex issues (Fishkin 2003). Additional quantitative surveys were administered to patients before and after each deliberative session.

Study Participants
We selected a random sample of patients from two geographically diverse facilities: Geisinger Health System and Johns Hopkins Health System. At Geisinger, a group of 100 individuals with more than one chronic condition and a group of 100 individuals with no diagnosed chronic conditions living within a 35 mile radius of engagement session location, were selected at random from the Geisinger electronic health record (EHR) system. Inclusion criteria included: aged 18 or over, English speaking, and members of their respective health system for at least one year. We sampled so that approximately 1/3 of the group were aged 18-34, 1/3 were 31-64, and 1/3 were 65 or older and half were male and half were female. We invited 100 selected individuals to an all-day deliberative session. The same procedure was done to invite 100 individuals for Johns Hopkins. In total, 115 individuals (49 from Geisinger and 66 from Hopkins) agreed to participate in the deliberative sessions.

Setting
These two sites were chosen because they differ in ways that may affect how patients perceive the consent, disclosure, and authorization models. Geisinger is a private, non-academic institution in rural Pennsylvania with strong commitments to integration of research and practice. Geisinger has predominantly white patients from rural communities. Johns Hopkins is a large academic health system situated in urban Baltimore. While significant clinical research is conducted at JHU, it does not currently have feedback loops for the integration of research finding into their clinical guidelines and formularies. JHU also has a more ethnically diverse patient population. Both systems have diverse pools of patients in terms of clinical morbidity, age and education.

*Deliberative Sessions*

We utilized deliberative methods in order to overcome some of the limitations of standard surveys. While surveys may reveal which consent model a respondent prefers, deliberative sessions can paint a picture on why a participant prefers such a consent model (Fishkin 2005). We began the deliberation session by giving participants background information about the need for comparative effectiveness research, requirement to protect privacy for such research, and the rules and regulations that can act as obstacles for such research. Afterward, we allowed participants to question experts and deliberate with other participants. During deliberation, we asked participants to imagine they were on an Institutional Review Board (IRB) and asked them at the end their preference and justification for each model (opt-in, opt-out and general) for both observational and randomized study designs.

*Qualitative Data Analysis*

Initial coding schemes for small group discussions were developed based on all topics the small groups were asked to consider throughout the day. We structured analysis around key questions
discussed in groups, including most importantly, reactions to the cases and consent options, particular features of cases that caused changes in views about appropriate consent options and types of statements made by others in the group that changed individuals’ opinions. We began analysis by reading all of the small group deliberative discussion transcripts. Then, transcripts were reviewed slowly and assigned thematic codes. These thematic codes represented justifications for why participants chose certain consent models. For example, one participant mentioned he did not like the general consent model because “everybody in the hospital is on this study and they’re only gonna give you information through their newsletter or the newspaper. How many people get the paper or actually read that all the time and how many people go on to the computer?” This was coded under the thematic code “inaccessibility of information.” Some other thematic codes were “lack of study awareness,” “fear of exploitation,” “concerns over privacy.” These thematic codes, along with many more, helped us count how many times certain qualitative reasons were mentioned for liking or disliking a consent model.

After the coding schemes were established across groups, transcripts were coded a second time. A second coder reviewed the first 5 transcripts using the updated coding system. Disagreements between primary and secondary coders were discussed and the coding scheme was updated. The second coder then coded 5 more transcripts, and this process continued until the primary and secondary coders applied codes with more than 85% consistency. This is above the acceptable range of inter-rater reliability scores for qualitative research (Perrin 2014).

Quantitative Data Analysis:

We administered a survey before and after the deliberation session. Survey data was downloaded to Excel as above. Data was analyzed (a) across all pre-tests and (b) across all post-tests. Analysis was conducted to be descriptive for the degree to which various consent options were
preferred, acceptable and unacceptable for each consent option. Questions were examined to
determine patterns across self-reported demographic characteristics, research experience, and
baseline attitudes about importance of research and trust in research with attitudes and
preferences regarding consent both initially and after discussion. Surveys are attached in the
appendix.

**IX. Quantitative Results**

Table 1A summarizes and compares patient characteristics between the two sites. Likert scale
questions have been dichotomized by responses from Hopkins and Geisinger. Chi-square or
Fishers exact test were used to compare differences between sites. Table 1B looks at each
individual question and all possible answers to examine any subtle differences between JHU and
GHS. Fisher’s exact test was used to compare proportions.

**Table 1A. Baseline Characteristics, N=115**

<table>
<thead>
<tr>
<th>Question #</th>
<th>Characteristic</th>
<th>All Patients N=115</th>
<th>GHS N=49</th>
<th>JHU N=66</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Male</td>
<td>58</td>
<td>24</td>
<td>34</td>
<td>0.788</td>
</tr>
<tr>
<td>2.0</td>
<td>Age 60 or order</td>
<td>54</td>
<td>24</td>
<td>30</td>
<td>0.765</td>
</tr>
<tr>
<td>3.0</td>
<td>GED or Less</td>
<td>32</td>
<td>16</td>
<td>16</td>
<td>0.320</td>
</tr>
<tr>
<td>5.0</td>
<td>White</td>
<td>77</td>
<td>47</td>
<td>30</td>
<td>0.000</td>
</tr>
</tbody>
</table>

*1 JHU missing Age, 1 GHS and 2 JHU missing race

**Table 1B. Patient Characteristics by Group (JHU vs. GHS)**

<table>
<thead>
<tr>
<th>Question #</th>
<th>Group</th>
<th>Answer = 1</th>
<th>Answer = 2</th>
<th>Answer = 3</th>
<th>Answer = 4</th>
<th>Answer = 5</th>
<th>Answer = 6</th>
<th>Answer = 7</th>
<th>Exact P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 1, Gender</td>
<td>GHS</td>
<td>24</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.851</td>
</tr>
<tr>
<td>Question 1, Gender</td>
<td>JHU</td>
<td>34</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question 2, Age</td>
<td>GHS</td>
<td>8</td>
<td>17</td>
<td>13</td>
<td>9</td>
<td>2</td>
<td></td>
<td></td>
<td>0.288</td>
</tr>
<tr>
<td>Question 2, Age</td>
<td>JHU</td>
<td>15</td>
<td>20</td>
<td>23</td>
<td>7</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question 3, Education</td>
<td>GHS</td>
<td>3</td>
<td>13</td>
<td>11</td>
<td>9</td>
<td>1</td>
<td>9</td>
<td>3</td>
<td>0.530</td>
</tr>
</tbody>
</table>
We asked participants to indicate their preferences on a scale 1-5 (1- Dislike, 2- somewhat dislike, 3-neutral, 4-somewhat like and 5- like) for each consent model. Table 2 shows responses for both JHU and GHS.

Table 2. Consent Preferences (All Respondents)

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer = 1</th>
<th>Answer = 2</th>
<th>Answer = 3</th>
<th>Answer = 4</th>
<th>Answer = 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Observational'</td>
<td>16 (13.9%)</td>
<td>26 (22.6%)</td>
<td>31 (27%)</td>
<td>32 (27.8%)</td>
<td>10 (8.7%)</td>
</tr>
<tr>
<td>Opt-Out Observational'</td>
<td>2 (1.7%)</td>
<td>11 (9.6%)</td>
<td>18 (15.7%)</td>
<td>53 (46.1%)</td>
<td>31 (27%)</td>
</tr>
<tr>
<td>Opt-In Observational'</td>
<td>2 (1.7%)</td>
<td>2 (1.7%)</td>
<td>6 (5.2%)</td>
<td>28 (24.3%)</td>
<td>77 (67%)</td>
</tr>
<tr>
<td>General Randomized'</td>
<td>24 (20.9%)</td>
<td>34 (29.6%)</td>
<td>26 (22.6%)</td>
<td>24 (20.9%)</td>
<td>7 (6.1%)</td>
</tr>
<tr>
<td>Opt-Out Randomized'</td>
<td>1 (0.9%)</td>
<td>15 (13%)</td>
<td>20 (17.4%)</td>
<td>52 (45.2%)</td>
<td>27 (23.5%)</td>
</tr>
<tr>
<td>Opt-In Randomized'</td>
<td>2 (1.7%)</td>
<td>4 (3.5%)</td>
<td>5 (4.3%)</td>
<td>30 (26.1%)</td>
<td>74 (64.3%)</td>
</tr>
</tbody>
</table>

Table 3a and 3b compare the relationship between pre and post answers for each of the outcome variables of interest. Due to small sample size and subsequent small cell counts in paired tables, the outcome variables were dichotomized into ‘Agree or Strongly Agree’ (representing ‘Agree’) versus “Neutral, Disagree, or Strongly Disagree” (representing ‘Disagree/Neutral’). While some may argue that the “Neutral” response is far from disagreeing, we wanted to see if there was any statistical significance to this type of pairing. We also conducted an analysis dichotomizing neutral representing “Agree” and another one having “Agree,” “Neutral” and “Disagree” below.

Paired comparisons were assessed by McNemars test. This tests whether there was a significant increase (or decrease) in the percentage of those who ‘Agreed’ in the Post test compared to the Pre Test. Comparisons were made individually for each Observational, Randomized, General, Opt-In, and Opt-Out Designs. Additionally, comparisons were made separately for JHU and
GHS. However, one will notice that the pattern of associations (and subsequent statistical significant) are very similar for almost all designs.

There were statistical difference in Observation Opt-In designs, with a significant decrease in the percentage who agreed at both JHU and GHS groups. Similarly, there were statistically significant decreases in the percentage who agreed with Randomized Opt-In designs at both JHU and GHS. Additionally, in Randomized General designs – JHU had a statistically significant increase in percentage of people who agreed with this consent, while GHS had no significant change.

There were marginal increases in agreement with Observational General consents, but this did not reach statistical significance.

Table 3a. JHU – Summary of Agreement for Each Design by Time-Point

<table>
<thead>
<tr>
<th>Observational/Randomized</th>
<th>Type</th>
<th>Label</th>
<th>Disagree (%)</th>
<th>Neutral (%)</th>
<th>Agree (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observational General</td>
<td>Pre</td>
<td>31.8</td>
<td>25.8</td>
<td>42.4</td>
<td></td>
</tr>
<tr>
<td>Observational General</td>
<td>Post</td>
<td>36.4</td>
<td>7.6</td>
<td>56.1</td>
<td></td>
</tr>
<tr>
<td>Observational Opt-Out</td>
<td>Pre</td>
<td>12.1</td>
<td>15.2</td>
<td>72.7</td>
<td></td>
</tr>
<tr>
<td>Observational Opt-Out</td>
<td>Post</td>
<td>18.2</td>
<td>13.6</td>
<td>68.2</td>
<td></td>
</tr>
<tr>
<td>Observational Opt-In</td>
<td>Pre</td>
<td>3.0</td>
<td>3.0</td>
<td>93.9</td>
<td></td>
</tr>
<tr>
<td>Observational Opt-In</td>
<td>Post</td>
<td>15.2</td>
<td>15.2</td>
<td>69.7</td>
<td></td>
</tr>
<tr>
<td>Randomized General</td>
<td>Pre</td>
<td>48.5</td>
<td>28.8</td>
<td>22.7</td>
<td></td>
</tr>
<tr>
<td>Randomized General</td>
<td>Post</td>
<td>48.5</td>
<td>7.6</td>
<td>43.9</td>
<td></td>
</tr>
<tr>
<td>Randomized Opt-Out</td>
<td>Pre</td>
<td>18.2</td>
<td>16.7</td>
<td>65.2</td>
<td></td>
</tr>
<tr>
<td>Randomized Opt-Out</td>
<td>Post</td>
<td>25.8</td>
<td>10.6</td>
<td>63.6</td>
<td></td>
</tr>
<tr>
<td>Randomized Opt-In</td>
<td>Pre</td>
<td>4.5</td>
<td>3.0</td>
<td>92.4</td>
<td></td>
</tr>
<tr>
<td>Randomized Opt-In</td>
<td>Post</td>
<td>13.6</td>
<td>16.7</td>
<td>69.7</td>
<td></td>
</tr>
</tbody>
</table>

Table 3b. GHS – Summary of Agreement for Each Design by Time-Point

<table>
<thead>
<tr>
<th>Observational/Randomized</th>
<th>Type</th>
<th>Label</th>
<th>Disagree (%)</th>
<th>Neutral (%)</th>
<th>Agree (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observational General</td>
<td>Pre</td>
<td>42.9</td>
<td>28.6</td>
<td>28.6</td>
<td></td>
</tr>
<tr>
<td>Observational General</td>
<td>Post</td>
<td>46.9</td>
<td>8.2</td>
<td>44.9</td>
<td></td>
</tr>
<tr>
<td>Observational Opt-Out</td>
<td>Pre</td>
<td>10.2</td>
<td>16.3</td>
<td>73.5</td>
<td></td>
</tr>
<tr>
<td>Observational Opt-Out</td>
<td>Post</td>
<td>24.5</td>
<td>10.2</td>
<td>65.3</td>
<td></td>
</tr>
<tr>
<td>Observational Opt-In</td>
<td>Pre</td>
<td>4.1</td>
<td>8.2</td>
<td>87.8</td>
<td></td>
</tr>
</tbody>
</table>
Table 4a shows participant preferences for an observational case study design. The outcome variables were stratified into ‘Like or somewhat Like’ versus “Neutral” and “Dislike, or Somewhat Dislike.” The opt-in model was favored the most with 91.3% participants indicating a 4+ preference. The second most favored was the opt-out with a 73.0% indicating a 4+ preference. The least favored of the three models was the general consent with only 36.5% indicating a 4+ preference.

Table 4a: Responses to Observational Case Study (Dislike vs. Neutral vs. Like)

<table>
<thead>
<tr>
<th>Observational case study</th>
<th>Dislike and Somewhat Dislike</th>
<th>Neutral</th>
<th>Like and Somewhat Like</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
</tr>
<tr>
<td>General</td>
<td>42</td>
<td>37%</td>
<td>31</td>
</tr>
<tr>
<td>Opt-out</td>
<td>13</td>
<td>11%</td>
<td>18</td>
</tr>
<tr>
<td>Opt- In</td>
<td>4</td>
<td>3%</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 4b shows participants consent preferences for a randomized case study design. Similar to the views for observational design, the participants preference was highest for opt-in (90.4%), then opt-out (68.7%), and then lastly general (27%).

Table 4b: Responses to Randomized Case Study (Dislike vs. Neutral vs. Like)

<table>
<thead>
<tr>
<th>Randomized case study</th>
<th>Dislike and Somewhat Dislike</th>
<th>Neutral</th>
<th>Like and Somewhat Like</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
</tr>
<tr>
<td>General</td>
<td>58</td>
<td>50%</td>
<td>26</td>
</tr>
</tbody>
</table>
Lastly, we examined the relationship between the patient characteristics and all 12 outcome variables (Only Randomized Opt-Out and Randomized Opt-In are shown below). We used the dichotomized outcome of ‘Agree’ and present the Odds ratio for ‘Agree’ compared to disagree for each of the characteristics listed in the table. In some cases, there was not enough variation in the data to perform a statistical test. In these instances a ‘NA’ is given.

Tables 5a and 5b summarize associations with Randomized Opt-Out and Randomized Opt-In. However, given that there are so many patient characteristics and so many outcomes – we strongly caution the results from any one association presented below. This amount of tests is bound to reveal spurious associations. We grouped the sites together and examined whether ‘site’ had a statistically significant associations with any of the outcomes. It was non-significant across all outcomes, providing further evidence that sites can be grouped together.

Table 5a. Associations with Agreement – Randomized Opt-Out

<table>
<thead>
<tr>
<th>Question</th>
<th>Question Description</th>
<th>All Patients</th>
<th>Disagree/Neutral</th>
<th>Agree</th>
<th>Odds Ratio (CI)</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>Group: JHU</td>
<td>66 (57)</td>
<td>23 (64)</td>
<td>43 (54)</td>
<td>0.68 (0.30, 1.52)</td>
<td>0.343</td>
</tr>
<tr>
<td>1.0</td>
<td>Male</td>
<td>58 (50)</td>
<td>23 (64)</td>
<td>35 (44)</td>
<td>0.45 (0.20, 1.01)</td>
<td>0.054</td>
</tr>
<tr>
<td>2.0</td>
<td>Age 60 or order</td>
<td>54 (47)</td>
<td>15 (43)</td>
<td>39 (49)</td>
<td>1.30 (0.58, 2.90)</td>
<td>0.521</td>
</tr>
<tr>
<td>3.0</td>
<td>GED or Less</td>
<td>32 (28)</td>
<td>9 (25)</td>
<td>23 (29)</td>
<td>1.23 (0.50, 3.02)</td>
<td>0.648</td>
</tr>
<tr>
<td>5.0</td>
<td>White</td>
<td>77 (69)</td>
<td>22 (65)</td>
<td>55 (71)</td>
<td>1.30 (0.55, 3.07)</td>
<td>0.543</td>
</tr>
<tr>
<td>6.0</td>
<td>Health = Excellent/Very Good</td>
<td>51 (44)</td>
<td>14 (39)</td>
<td>37 (47)</td>
<td>1.38 (0.62, 3.09)</td>
<td>0.427</td>
</tr>
<tr>
<td>7.0</td>
<td>Decision myself, w/ or w/o doctor</td>
<td>39 (35)</td>
<td>9 (26)</td>
<td>30 (38)</td>
<td>.</td>
<td></td>
</tr>
<tr>
<td>7.0</td>
<td>Decision together with doctor</td>
<td>65 (58)</td>
<td>20 (57)</td>
<td>45 (58)</td>
<td>0.68 (0.27, 1.68)</td>
<td>0.250</td>
</tr>
<tr>
<td>7.0</td>
<td>Doctor Decision, w/ or w/o my input</td>
<td>9 (8)</td>
<td>6 (17)</td>
<td>3 (4)</td>
<td>0.15 (0.03, 0.72)</td>
<td>0.022</td>
</tr>
<tr>
<td>8.0</td>
<td>Ever been Asked for research</td>
<td>32 (28)</td>
<td>9 (25)</td>
<td>23 (29)</td>
<td>1.23 (0.50, 3.02)</td>
<td>0.648</td>
</tr>
<tr>
<td>Question</td>
<td>Question Description</td>
<td>All Patients</td>
<td>Disagree/Neutral</td>
<td>Agree</td>
<td>Odds Ratio (CI)</td>
<td>P-Value</td>
</tr>
<tr>
<td>----------</td>
<td>---------------------</td>
<td>--------------</td>
<td>------------------</td>
<td>-------</td>
<td>----------------</td>
<td>---------</td>
</tr>
<tr>
<td>0.0</td>
<td>Group: JHU</td>
<td>66 (57)</td>
<td>5 (45)</td>
<td>61 (59)</td>
<td>1.70 (0.49, 5.94)</td>
<td>0.404</td>
</tr>
<tr>
<td>1.0</td>
<td>Male</td>
<td>58 (50)</td>
<td>7 (64)</td>
<td>51 (49)</td>
<td>0.55 (0.15, 1.99)</td>
<td>0.362</td>
</tr>
<tr>
<td>2.0</td>
<td>Age 60 or order</td>
<td>54 (47)</td>
<td>4 (36)</td>
<td>50 (49)</td>
<td>1.65 (0.46, 5.98)</td>
<td>0.445</td>
</tr>
<tr>
<td>3.0</td>
<td>GED or Less</td>
<td>32 (28)</td>
<td>1 (9)</td>
<td>31 (30)</td>
<td>4.25 (0.52, 34.61)</td>
<td>0.177</td>
</tr>
<tr>
<td>5.0</td>
<td>White</td>
<td>77 (69)</td>
<td>6 (55)</td>
<td>71 (70)</td>
<td>1.97 (0.56, 6.96)</td>
<td>0.291</td>
</tr>
<tr>
<td>6.0</td>
<td>Health = Excellent/Very Good</td>
<td>51 (44)</td>
<td>6 (55)</td>
<td>45 (43)</td>
<td>0.64 (0.18, 2.22)</td>
<td>0.477</td>
</tr>
<tr>
<td>7.0</td>
<td>Decision myself, w/ or w/o doctor</td>
<td>39 (35)</td>
<td>6 (55)</td>
<td>33 (32)</td>
<td>.</td>
<td></td>
</tr>
<tr>
<td>7.0</td>
<td>Decision together with doctor</td>
<td>65 (58)</td>
<td>5 (45)</td>
<td>60 (59)</td>
<td>2.18 (0.62, 7.70)</td>
<td>0.970</td>
</tr>
<tr>
<td>7.0</td>
<td>Doctor Decision, w/ or w/o my input</td>
<td>9 (8)</td>
<td>0 (0)</td>
<td>9 (9)</td>
<td>NA</td>
<td>.</td>
</tr>
<tr>
<td>8.0</td>
<td>Ever been Asked for research</td>
<td>32 (28)</td>
<td>2 (18)</td>
<td>30 (29)</td>
<td>1.82 (0.37, 8.94)</td>
<td>0.459</td>
</tr>
<tr>
<td>9.0</td>
<td>Ever taken part in research</td>
<td>23 (20)</td>
<td>2 (18)</td>
<td>21 (20)</td>
<td>1.14 (0.23, 5.67)</td>
<td>0.874</td>
</tr>
<tr>
<td>10.0</td>
<td>Pre: Somewhat/Very Important Research for Medicine</td>
<td>99 (86)</td>
<td>8 (73)</td>
<td>91 (88)</td>
<td>2.63 (0.62, 11.18)</td>
<td>0.192</td>
</tr>
</tbody>
</table>

Table 5b. Associations with Agreement – Randomized Opt-In
Figures 6a and 6b illustrate patient preferences before and after deliberation. There were statistically significant decreases in the percentage of participants who agreed with Randomized Opt-In designs at both JHU and GHS. Initially 90.4% of participants believed an opt-in model was acceptable for a randomized case study. However, after deliberation only 69.6% of participants thought an opt-in model was acceptable.
X. Qualitative Results

I will focus on the thematic results of the two critical sections: attitudes for opt-out randomized and opt-in randomized.

*Opt-In Randomized*

The single most common response for preferring Opt-In randomized was that this model provided the most information. Most respondents didn’t clarify exactly what they meant by more information. Intimately tied to having more information, respondents believe that this model provided the most choice in participating in the study. One participant said, “I’m one of those people that if you ask me nicely, I’ll do anything for you. But if you tell me to do it, hell, I’m out of there.” Some respondents also liked how this model provided them more control. Among reasons for respondents preferring a study with “more control,” the most prevalent was this idea that control is removed in randomization so more control ought to be provided in the consent model. One participant said, “I might completely agree with the study, sign all the papers for option three, but I want to have that option. I want to be able to make that decision.”
Respondents were concerned about this model causing a time burden on both physicians and patients. Additionally, respondents felt that this model would cause researchers to have less data because it would be difficult to recruit patients and doctors to the study. Only two participants preferred an opt-in model due to a lack of trust in the researcher. One of those participants mentioned “cause who’s to say if I opt out and it didn’t get on my record.”

**Opt-Out Randomized**

The most frequently cited reason for preferring the opt-out consent model for randomized studies was that it was the middle ground approach between opt-in and general. Many felt that this model gave more choice than general consent to patients when deciding whether or not to participate in the study initially. Some participants expressed concern that randomization removes control from the patient and felt that having a choice about study participation returned some of that control. One participant said, “So I'm thinking with a random study you better give 'em more choice because they don't have the choice of the medicine, so they better have a choice to opt in or out.” Another participant said, “I think if you're doing random, you should always let the patient have control.” Of those who cited choice as a reason for preferring this model, a minority mentioned that they felt the patient should retain the choice to change her mind during the study. It appeared that these participants felt that in a general consent model, patients had no way of backing out of the study. One participant commented, “general from the position that we gather the information that we need but the individuals have no way to come back and say ‘I changed my mind.’”

The second most cited reason for preferring the, opt-out model for randomized studies was that it promoted awareness of the study. One participant stated, “For randomization though I think we should know, I go for number two only so that you know that you are being given
something that may or may not be what the doctor would have originally prescribed for you. Otherwise you’re kind of a guinea pig in this whole thing.” Participants also commented on how this model will both have more scientific validity than an opt-in model such as more patient recruitment and less of a time burden on researchers. One participant said, “But the time involved to go through consent forms and all of that, I think that really is unreasonable for what the study is.” Two participants preferred this model for the doctor’s clinical intuition is replaced by a computer. One of them said, “For randomized. Because it’s-- the doctor's not the one actually doing prescribing. It's being done by some other.” And another two participants did not mind randomization because both treatment outcomes are effective. One participant said, “…and it's just choosing which one works better of two comparable drugs, really.”

The majority of participants who preferred the opt-out model for randomized studies wanted the scientific validity (better participant recruitment and less time burden) of general approval while they also wanted more control and choice than the general approval model offers. They also felt that opt-in approval was too burdensome.

XI. Discussion

I will address how this data answers three questions: (1) which consent model do patients prefer for randomized case designs? (2) Why do patients prefer such a model? (3) Are there differences in patient preferences before and after deliberation sessions?

(1) Which consent model do patients prefer for randomized case designs?

Prior to deliberation sessions, participants consistently prefer the traditional opt-in informed consent model (91.3% of respondents) to the new proposed alternative models in observational study designs. There is no statistical difference between preference for opt-in for demographic
characteristics such as age, gender and educational background. This finding is expected and is consistent with previous empirical data done in other settings (Damschroder, 2007).

Currently, there is not much literature on patient opinions for randomized study designs. My research shows that patients also significantly prefer opt-in (90.4%) over opt-out in randomized study designs. This is consistent with my initial hypothesis.

(2) Why do patients prefer such a model?

The qualitative data illustrated that patients prefer opt-in over opt-out because they felt that opt-in provided more information to patients and promotes patient choice more so than opt-out. I initially hypothesized that patients would prefer opt-in over opt-out in a randomization model because patients would fear being exploited by researchers. However, only two participants mentioned they preferred an opt-in randomization model due to a fear of being exploited as a research participant. It appeared that most participants believed that by making patients opt-in rather than opt-out, patients would obtain more information about the study. Offhand, I did not initially think this would be a concern for participants because it did not appear to me that the consent model would affect how much information would be delivered to patients.

(3) Are there differences in patient preferences before and after deliberation sessions?

I initially did not hypothesize any significant differences in patient’s preferences before and after patients had their deliberation sessions. My reasoning is I believed that participants would simply justify their results during deliberation rather than modify their preferences. My hypothesis was shown to be incorrect with statistical differences in preferences for several designs. One important difference was that there were statistically significant decreases in the percentage of participants who agreed with Randomized Opt-In designs at both JHU and GHS. As
Ahmed Elsayyad

abovementioned, initially 90.4% of participants believed an opt-in model was acceptable for a randomized case study. However, after deliberation only 69.6% of participants thought an opt-in model was acceptable. Which model did those participants think was acceptable after deliberation? The general model of consent. This is the most surprising result of this research. The general model of consent has the least choice for those individuals who do not want to partake in research. Yet, after a day of discussion a significant number of participants change their belief from general consent being not acceptable to acceptable. Furthermore, a day of discussion changes participant’s preference for opt-in (the traditional consent model) from acceptable to unacceptable.

There are several potential explanations for this. One is that patients did not understand the pros and cons adequately enough in the pre-survey of the alternative models. Once patients realized that this research is only comparing which drug is better, participants may be on board for a general consent model. One participant said, “...and it's just choosing which one works better of two comparable drugs, really.” This could explain why participants thought general was acceptable but why did participants think opt-in was unfavorable? In deliberation, many patients discussed how general consent allowed for more patient recruitment due to the lesser time burden of the recruitment process. One participant who thought opt-in was unfavorable said, “But the time involved to go through consent forms and all of that, I think that really is unreasonable for what the study is.” After deliberation, many patients felt that an opt-in consent model was not worth the costs of scientific validity and time compared to the nature of the study.

XII. Further Implications
There are three chief implications we can take from the results of this research:

First, new consent policies (i.e. opt-out) need to address patient concerns of having fewer choices due to lack of information. If we want to implement policies of alternative consent
policies that are less burdensome to researchers such opt-out or general, we need to address patient concerns about these alternative models. One such concern is that opt-out consent models do not provide as much information about the study as opt-in study designs. One way policy makers could address this issue is to implement safeguards in an opt-out proposal where physician researchers ought to provide a certain threshold of information.

**Second, patient’s views on consent models are malleable.** The difference in responses between the pre-deliberation surveys and post-deliberation surveys illustrates that patient’s views on consent models can be changed after a day-long deliberation session. If we want more people to subscribe to alternative consent models, we need to get people talking about these issues. We see in the qualitative interviews that people’s main reservations against an opt-out model become less pronounced as they discuss these issues with their peers. Therefore, it appears in order for us to change patient’s views on consent we need to find ways to make patients have a deeper understanding of the different consent models and patient centered outcomes research.

**Third, researchers ought to combine their quantitative data approaches with qualitative approaches.** By mixing both quantitative and qualitative research and data, the researcher gains both breadth and depth of understanding while offsetting the weaknesses inherent to using each approach by itself (FoodRisc Resource Centre, 2015). In this research if only quantitative methods were used, then we would not be able to explain why participants preferred certain consent models to others. On the other hand if only qualitative methods were used, we would not be able to determine with statistical significance which consent models participants preferred. Additionally, we would not be able to determine if participants modified their opinions with statistical certainty. Furthermore, one of the most advantageous characteristics of mixed methods research is the ability to triangulate or approaching a phenomenon from different vantage points.
using different methods (FoodRisc Resource Centre, 2015). In this study, we could capitalize on the strength of quantitative survey methods to discover participant preferences and then discover why participants preferred certain models.

While there are many benefits aforementioned with conducting mixed method research, there are also several limitations. One such limitation in the qualitative deliberative sessions was that each session was eight hours and fatigue was apparent by the end of the sessions. However, our study results for observational study design are consistent with previous studies (Damschroder, 2007) (Kass et. Al, 2003). A second limitation is known as group-think or the tendency for groups to make choices similar to one another. This could be one explanation for the results for the post-survey data. However, our deliberative sessions utilized a method (many small groups, balanced moderator protocol) is less susceptible to group-think than other designs (Fishkin 2005). Additionally, the implementation of moderators in previous studies has been shown to keep the distribution of opinions expressed from polarizing the initial distribution of opinions to one extreme (Fishkin 2005). Lastly, around 40% of eligible participants declined to participate in our study. This may suggest our study is susceptible to healthy user bias, where those participants that voluntarily enrolled in a study are more concerned for their health and are not representative of the general population. (Li & Sung, 1999) While we sampled in order to avoid this as much as possible, we concede that simply being aware about one’s health could possibly be a precondition for becoming a subject of our study.

Now while my research investigates patient’s views on randomized models, in order to create policies we need to investigate other major stakeholders. More studies ought to investigate the views of stakeholders such as physicians, healthcare administrators, patient advocates and researchers who are also linked to policies addressing human-subject research.
XIII. Acknowledgments

I am immensely grateful to Ami Cox and the Johns Hopkins University Dean’s Undergraduate Research Award for providing funding and resources to complete this research. Additionally, I would like to thank my incredibly supportive and enthusiastic mentors. Specifically, I would like to thank Dr. Jennifer Schrack for her invaluable and consistent guidance. Additionally, I would also like to thank Professor Hilary Bok, whose mentorship was critical to the conceptual and bioethical portions of this project. Lastly, I would like to thank Dr. Nancy Kass for supervising the mixed methods data portion of this project.

XIV. Appendix

S1. MORNING SURVEY

CONSENT FORM (PAGE 1) We are asking you to help us with a research study today. The purpose of our study is to figure out the best ways to tell other people in the future about medical research studies. We are asking you to take part in a meeting today. The meeting today will last from about 8:30 am – 3:30 pm. Participation in this meeting is voluntary. If you decide to take part in this meeting today, we will talk with everyone about some examples of different types of medical research that might be done in the future. Then, we will talk about some different ways that researchers might tell people about those medical research studies. During the meeting, we will ask you to break up into small groups with other people at this meeting. In the small groups, you will talk to other people about the different ways that people might be told about medical research studies. This meeting is to let us know what people’s opinions are. There are no right and wrong answers. It is very helpful to us to know what patients from Johns Hopkins think about different ways to tell people about research. At the beginning and end of the meeting, we will ask you to complete short surveys. The surveys will be completed using iPads. We will give you an iPad to use for the day that you will turn in again at the end of the day.

TOUCH THE ARROW TO CONTINUE.

CONSENT FORM (PAGE 2) Some of the discussions today will be recorded. We will tell you before we record anything. Also, we will do everything we can to make sure no one can tell who is talking on the recordings. We also keep private who attended this meeting. We will ask other people at the meeting not to discuss who else was at this meeting today and we will not use your name in any reports based on this project. This is a very low risk project. You do not have to answer any questions you would prefer not to answer and you may choose to leave the meeting at any time. We will give you $200 in VISA gift cards for being at this meeting all day. The gift cards are meant to cover your travel costs and the time you spend at this meeting. You will be given the gift cards at the end of the day when you turn in your iPad. We hope everyone can stay all day, but if anyone has to leave at lunch time, they will receive $100 in VISA gift cards. If you have any questions after the interview is over, you can call Dr.
Nancy Kass at 410-614-5579. You may also contact the Johns Hopkins Bloomberg School of Public Health IRB Office at (410) 955-3193. Please let one of the staff members know if you have any questions or if you would prefer not to participate in the meeting.

TOUCH THE RIGHT ARROW TO CONTINUE. The left arrow will take you back to the previous page.

BEFORE YOU PROCEED (Required): Please tap the box below and then type in the number of the iPad assigned to you today.

READY? TOUCH THE RIGHT ARROW TO START THE SURVEY. We would like to get some background information about the people taking part in today’s meeting. Please answer the following questions. Thank you.

1. What is your gender?
   - Male
   - Female

2. What is your age?
   - Under 30
   - 30-39
   - 40-49
   - 50-59
   - 60-69
   - 70-79
   - 80 or over

3. What is the highest level of education you have completed?
   - Did not graduate from high school
   - High school diploma or GED
   - Some college
   - College degree
   - Some graduate school
   - Graduate level degree
   - Other: ____________________

4. What is your ethnicity?
   - Hispanic
   - Non-Hispanic
5. What is your race? (You may select more than one.)

- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- White or Caucasian
- Other (1): ____________________
- Other (2): ____________________

TOUCH THE RIGHT ARROW TO CONTINUE.

6. In general, how would you rate your health?

- Excellent
- Very Good
- Good
- Fair
- Poor

7. Which statement best describes how you like decisions to be made about your medical care? (Please select one answer.)

- I like to make the decision myself about which treatment I will have
- I like to make the decision myself about my treatment after I have heard my doctor’s opinion
- I like for my doctor and me to decide together about which treatment I will have
- I like for my doctor to make the decision about my treatment after hearing my opinion
- I like to leave the decision about my treatment to my doctor

8. Have you ever been asked to be part of a medical research study, either as a patient or as a healthy volunteer, whether or not you agreed to do it?

- Yes
- No

9. Have you ever actually taken part in a medical research study, either as a patient or as a healthy volunteer?

- Yes
- No
Now we want to know your opinions about medical research, doctors, and the places where you get your health care.

10. How important or unimportant do you think it is to do medical research to see how well different blood pressure medicines work?
   - 1. Not at all important
   - 2. Not very important
   - 3. Neutral
   - 4. Somewhat important
   - 5. Very important

11. How important or unimportant do you think it is for people to take part in medical research studies?
   - 1. Not at all important
   - 2. Not very important
   - 3. Neutral
   - 4. Somewhat important
   - 5. Very important

Next, we would like to know how much you agree or disagree with different statements. Please read each statement. Then tell us how much you agree or disagree with that statement.

12. Sometimes doctors care more about what is convenient for them than about their patients’ medical needs.
   - 1. Strongly disagree
   - 2. Somewhat disagree
   - 3. Neutral
   - 4. Somewhat agree
   - 5. Strongly agree

13. Doctors are extremely thorough and careful.
   - 1. Strongly disagree
   - 2. Somewhat disagree
   - 3. Neutral
   - 4. Somewhat agree
   - 5. Strongly agree
14. People can trust doctors’ decisions about which treatments are best.
   - 1. Strongly disagree
   - 2. Somewhat disagree
   - 3. Neutral
   - 4. Somewhat agree
   - 5. Strongly agree

15. A doctor would never mislead you about anything.
   - 1. Strongly disagree
   - 2. Somewhat disagree
   - 3. Neutral
   - 4. Somewhat agree
   - 5. Strongly agree

16. Doctors are completely trustworthy.
   - 1. Strongly disagree
   - 2. Somewhat disagree
   - 3. Neutral
   - 4. Somewhat agree
   - 5. Strongly agree

17. Johns Hopkins only cares about keeping medical costs down, and not what is needed for people’s health.
   - 1. Strongly disagree
   - 2. Somewhat disagree
   - 3. Neutral
   - 4. Somewhat agree
   - 5. Strongly agree

18. Johns Hopkins provides the highest quality of medical care.
   - 1. Strongly disagree
   - 2. Somewhat disagree
   - 3. Neutral
   - 4. Somewhat agree
   - 5. Strongly agree
19. When treating my medical problems, Johns Hopkins puts my medical needs above all other things, including cost.

- 1. Strongly disagree
- 2. Somewhat disagree
- 3. Neutral
- 4. Somewhat agree
- 5. Strongly agree

TOUCH THE RIGHT ARROW TO CONTINUE.

Now we want your opinion about different ways research studies could be done to compare different drugs for high blood pressure (also called hypertension). This is a longer question.

Sometimes, research studies are done to compare different medicines to each other. For many diseases, there are lots of different medicines that can treat the medical problem. Doctors know these different medicines all work, but doctors don't know if one of the medicines is any better than the others.

This is true for high blood pressure. When patients need to go on medicine for high blood pressure, there are different medicines that could be used. All of these medicines work to lower blood pressure. Some doctors prescribe one medicine and some prescribe another. Even though all of these medicines work, doctors don't know yet which of the medicines works best for which patients.

We want to tell you about a research study that could help answer that question.

Let's imagine a research study that compares two different blood pressure medicines to each other. Researchers want to find out if one medicine is any better than the other, or if they work the same. Let's call them “Medicine A” and “Medicine B.” Again, even though we know that both medicines work, the point of the study is to see which of the two medicines is better.

Let's also imagine that your hospital or clinic is always trying to learn from every patient visit in order to make health care better for patients as quickly as possible.

TOUCH THE RIGHT ARROW TO CONTINUE.

There are two different ways to do this research study comparing "Medicine A" and "Medicine B".

The first way is simpler and will give good information. The second way is more complicated but will give even better information.

TOUCH THE RIGHT ARROW TO CONTINUE. The left arrow will take you back to the previous page.

Here is the first way the research study could be done:

Patients will go to their doctors like usual. Some doctors will give Medicine A to their patients, just like they normally would. Other doctors will give Medicine B to their patients, as they normally would. Researchers will then look at information in patients’ medical records. Medical records have information about how the patients did on their medicines over time. By looking at patients' medical records, the
researchers can figure out whose blood pressure was better controlled over time – the patients who were given Medicine A or the patients who were given Medicine B.

So to review, in this research study:

- Patients get whatever blood pressure medicine their doctors usually use
- Researchers look at patients’ medical records to see whether patients who got Medicine A did any better or worse than patients who got medicine B.

All research studies are reviewed by an ethics board. The ethics board has three different ways it can approve this research study.

Now that we have told you about what would happen in this research study, we would like to know what type of approval you think this research study should get. No matter what kind of approval it gets,
patients will also be told that research studies like this are done all the time. Patients will also be told what policies are in place to protect them.

TOUCH THE RIGHT ARROW TO CONTINUE.

Remember, in this research study:

- Patients get whatever blood pressure medicine their doctors usually use
- Researchers look at patients’ medical records to see whether patients who got Medicine A did any better or worse than patients who got medicine B.

*The ethics board has three different ways it can approve this research study.*

Approval Type #1: Information about all studies, including information about the high blood pressure medicine study, will be described on websites and in newsletters. Patients who are part of the research study will not be told specifically about this study. This is called giving the study a “General Approval”.

20. How do you feel about using this type of “General Approval” for the research study?

- 1. I really don’t like this way
- 2. I somewhat dislike this way
- 3. Neutral
- 4. I somewhat like this way
- 5. I like this way very much

Approval Type #2: Patients who could be part of the research study are given a brief description of the study right before they are given their first blood pressure medicine. Patients are told that they will be part of the research study unless patients say that they do not want to be part of it. This type of approval is called “Opt-out Approval”.

21. How do you feel about using this type of “Opt-out Approval” for the research study?

- 1. I really don’t like this way
- 2. I somewhat dislike this way
- 3. Neutral
- 4. I somewhat like this way
- 5. I like this way very much

Approval Type #3: Patients who could be part of the research study are given a longer description of the research study right before they are first given their new high blood pressure medicine. Patients are
then asked if they would like to be part of the research study. Patients can only be part of the research study if they give their written permission.

This type of approval is called “Opt-in Approval”.

22. How do you feel about using this type of “Opt-in Approval” for the research study?

☐ 1. I really don’t like this way
☐ 2. I somewhat dislike this way
☐ 3. Neutral
☐ 4. I somewhat like this way
☐ 5. I like this way very much

TOUCH THE RIGHT ARROW TO CONTINUE.

Thanks for your thoughts about one way of doing research about high blood pressure medicine. Now we want to explain a different way researchers could do the research study. This second way is more complicated but will give even better information about whether one medicine is better than the other.

TOUCH THE RIGHT ARROW TO CONTINUE.

Here is the second way the research study could be done:

This second research study includes only patients whose doctors believe that they would likely get good blood pressure control with either Medicine A or Medicine B. So patients would only be included in the research study if doctors thought patients would do well on either medicine. Unlike the first research study, this time a computer assigns one or the other medicine to each patient. Based on what the computer says, doctors will give some patients Medicine A, and give some Medicine B. After each patient gets his or her medicine, patients will see their doctor for normal follow-up appointments. If a patient doesn't like the medicine or if the medicine isn't working well, the doctor will give that patient a different medicine. Later, researchers will look at information in patients' medical records. By looking at
patients’ medical records, the researcher can figure out whose blood pressure was better controlled over time - the patients who were given Medicine A or the patients who were given Medicine B.

So to review, in this research study:

- Patients get either Medicine A or Medicine B from their doctor based on what a computer assigns.
- Researchers later look at patients’ medical records to see whether patients who got Medicine A did any better or worse than patients who got Medicine B.

Recall that all research studies are reviewed by an ethics board. The ethics board has three different ways it can approve this research study.

Once again, we would like to know what type of approval you think this research study should get. No matter what kind of approval it gets, patients will also be told that research studies like this are done all the time. Patients will also be told what policies are in place to protect them.

TOUCH THE RIGHT ARROW TO CONTINUE.

Remember, in this research study:

- Patients get either Medicine A or Medicine B from their doctor based on what a computer assigns.
- Researchers later look at patients’ medical records to see whether patients who got Medicine A did any better or worse than patients who got Medicine B.

*The ethics board has three different ways it can approve this research study.*

Approval Type #1: Information about all studies, including information about the high blood pressure medicine study, will be described on websites and in newsletters. Patients who are part of the research study will not be told specifically about this study. This is called giving the study a “General Approval”.

23. How do you feel about using this type of “General Approval” for the research study?

- 1. I really don’t like this way
- 2. I somewhat dislike this way
- 3. Neutral
- 4. I somewhat like this way
- 5. I like this way very much

Approval Type #2: Patients who could be part of the research study are given a brief description of the study right before they are given their first blood pressure medicine. Patients are told that they will be part of the research study unless patients say that they do not want to be part of it. This type of
approval is called “Opt-out Approval”.  24. How do you feel about using this type of "Opt-out Approval" for the research study?

☐ 1. I really don’t like this way
☐ 2. I somewhat dislike this way
☐ 3. Neutral
☐ 4. I somewhat like this way
☐ 5. I like this way very much

Approval Type #3: Patients who could be part of the research study are given a longer description of the research study right before they are first given their new high blood pressure medicine. Patients are then asked if they would like to be part of the research study. Patients can only be part of the research study if they give their written permission.

This type of approval is called “Opt-in Approval”.

25. How do you feel about using this type of "Opt-in Approval" for the research study?

☐ 1. I really don’t like this way
☐ 2. I somewhat dislike this way
☐ 3. Neutral
☐ 4. I somewhat like this way
☐ 5. I like this way very much

Thanks so much for taking the time to complete this questionnaire!  We really appreciate it.

TOUCH THE RIGHT ARROW IF YOU ARE FINISHED.

S2. AFTERNOON SURVEY

BEFORE YOU PROCEED (Required): Please tap the box below and then type in the number of the iPad assigned to you today.

READY? TOUCH THE ARROW TO START THE SURVEY.

We want to know your opinions about medical research, doctors, and the places where you get your health care.
1. How important or unimportant do you think it is to do medical research to see how well different blood pressure medicines work?

- 1. Not at all important
- 2. Not very important
- 3. Neutral
- 4. Somewhat important
- 5. Very important

2. How important or unimportant do you think it is for people to take part in medical research studies?

- 1. Not at all important
- 2. Not very important
- 3. Neutral
- 4. Somewhat important
- 5. Very important

TOUCH THE RIGHT ARROW TO CONTINUE.

Now we want your opinion about different ways research studies could be done to compare different drugs for high blood pressure (also called hypertension). This is a longer question.

Sometimes, research studies are done to compare different medicines to each other. For many diseases, there are lots of different medicines that can treat the medical problem. Doctors know these different medicines all work, but doctors don't know if one of the medicines is any better than the others.

This is true for high blood pressure. When patients need to go on medicine for high blood pressure, there are different medicines that could be used. All of these medicines work to lower blood pressure. Some doctors prescribe one medicine and some prescribe another. Even though all of these medicines work, doctors don’t know yet which of the medicines works best for which patients.

We want to tell you about a research study that could help answer that question.

Let's imagine a research study that compares two different blood pressure medicines to each other. Researchers want to find out if one medicine is any better than the other, or if they work the same. Let's call them “Medicine A” and “Medicine B.” Again, even though we know that both medicines work, the point of the study is to see which of the two medicines is better.

Let’s also imagine that your hospital or clinic is always trying to learn from every patient visit in order to make health care better for patients as quickly as possible.

TOUCH THE RIGHT ARROW TO CONTINUE.

There are two different ways to do this research study comparing "Medicine A" and "Medicine B."

The first way is simpler and will give good information. The second way is more complicated but will give even better information.

TOUCH THE RIGHT ARROW TO CONTINUE. The left arrow will take you back to the previous page.
Here is the first way the research study could be done:

Patients will go to their doctors like usual. Some doctors will give Medicine A to their patients, just like they normally would. Other doctors will give Medicine B to their patients, as they normally would. Researchers will then look at information in patients’ medical records. Medical records have information about how the patients did on their medicines over time. By looking at patients’ medical records, the researchers can figure out whose blood pressure was better controlled over time – the patients who were given Medicine A or the patients who were given Medicine B.

So to review, in this research study:

- Patients get whatever blood pressure medicine their doctors usually use
- Researchers look at patients’ medical records to see whether patients who got Medicine A did any better or worse than patients who got medicine B.

All research studies are reviewed by an ethics board. The ethics board has three different ways it can approve this research study.

Now that we have told you about what would happen in this research study, we would like to know what type of approval you think this research study should get. No matter what kind of approval it gets, patients will also be told that research studies like this are done all the time. Patients will also be told what policies are in place to protect them.

TOUCH THE RIGHT ARROW TO CONTINUE.

Remember, in this research study:

- Patients get whatever blood pressure medicine their doctors usually use
- Researchers look at patients’ medical records to see whether patients who got Medicine A did any better or worse than patients who got medicine B.

*The ethics board has three different ways it can approve this research study.*

Approval Type #1: Information about all studies, including information about the high blood pressure medicine study, will be described on websites and in newsletters. Patients who are part of the research study will not be told specifically about this study.
This is called giving the study a “General Approval”.

3. How do you feel about using this type of “General Approval” for the research study?

☐ 1. I really don’t like this way
☐ 2. I somewhat dislike this way
☐ 3. Neutral
☐ 4. I somewhat like this way
☐ 5. I like this way very much

Approval Type #2: Patients who could be part of the research study are given a brief description of the study right before they are given their first blood pressure medicine. Patients are told that they will be part of the research study unless patients say that they do not want to be part of it.

This type of approval is called “Opt-out Approval”.

4. How do you feel about using this type of "Opt-out Approval" for the research study?

☐ 1. I really don’t like this way
☐ 2. I somewhat dislike this way
☐ 3. Neutral
☐ 4. I somewhat like this way
☐ 5. I like this way very much

Approval Type #3: Patients who could be part of the research study are given a longer description of the research study right before they are first given their new high blood pressure medicine. Patients are then asked if they would like to be part of the research study. Patients can only be part of the research study if they give their written permission.

This type of approval is called “Opt-in Approval”.

5. How do you feel about using this type of "Opt-in Approval" for the research study?

☐ 1. I really don’t like this way
☐ 2. I somewhat dislike this way
☐ 3. Neutral
☐ 4. I somewhat like this way
☐ 5. I like this way very much

TOUCH THE RIGHT ARROW TO CONTINUE.

Thanks for your thoughts about one way of doing research about high blood pressure medicine. Now we want to explain a different way researchers could do the research study. This second way is more complicated but will give even better information about whether one medicine is better than the other.
Here is the second way the research study could be done:

This second research study includes only patients whose doctors believe that they would likely get good blood pressure control with either Medicine A or Medicine B. So patients would only be included in the research study if doctors thought patients would do well on either medicine. Unlike the first research study, this time a computer assigns one or the other medicine to each patient. Based on what the computer says, doctors will give some patients Medicine A, and give some Medicine B. After each patient gets his or her medicine, patients will see their doctor for normal follow-up appointments. If a patient doesn't like the medicine or if the medicine isn't working well, the doctor will give that patient a different medicine. Later, researchers will look at information in patients' medical records. By looking at patients’ medical records, the researcher can figure out whose blood pressure was better controlled over time - the patients who were given Medicine A or the patients who were given Medicine B.

So to review, in this research study:

- Patients get either Medicine A or Medicine B from their doctor based on what a computer assigns.
- Researchers later look at patients’ medical records to see whether patients who got Medicine A did any better or worse than patients who got Medicine B.

Recall that all research studies are reviewed by an ethics board. The ethics board has three different ways it can approve this research study.

Once again, we would like to know what type of approval you think this research study should get. No matter what kind of approval it gets, patients will also be told that research studies like this are done all the time. Patients will also be told what policies are in place to protect them.
The ethics board has three different ways it can approve this research study.*

Approval Type #1: Information about all studies, including information about the high blood pressure medicine study, will be described on websites and in newsletters. Patients who are part of the research study will not be told specifically about this study.

This is called giving the study a “General Approval”.

6. How do you feel about using this type of “General Approval” for the research study?

☐ 1. I really don’t like this way
☐ 2. I somewhat dislike this way
☐ 3. Neutral
☐ 4. I somewhat like this way
☐ 5. I like this way very much

Approval Type #2: Patients who could be part of the research study are given a brief description of the study right before they are given their first blood pressure medicine. Patients are told that they will be part of the research study unless patients say that they do not want to be part of it.

This type of approval is called “Opt-out Approval”.

7. How do you feel about using this type of "Opt-out Approval" for the research study?

☐ 1. I really don’t like this way
☐ 2. I somewhat dislike this way
☐ 3. Neutral
☐ 4. I somewhat like this way
☐ 5. I like this way very much

Approval Type #3: Patients who could be part of the research study are given a longer description of the research study right before they are first given their new high blood pressure medicine. Patients are then asked if they would like to be part of the research study. Patients can only be part of the research study if they give their written permission.

This type of approval is called “Opt-in Approval”.

8. How do you feel about using this type of "Opt-in Approval" for the research study?

☐ 1. I really don’t like this way
☐ 2. I somewhat dislike this way
☐ 3. Neutral
☐ 4. I somewhat like this way
☐ 5. I like this way very much

TOUCH THE RIGHT ARROW TO CONTINUE.

Last, we want your opinion about the meeting today. Please complete the questions on the next page.
Also, we would be grateful for any comments you want to add about how the meeting could have been better. Your advice about how to run meetings like this would be so helpful!

TOUCH THE RIGHT ARROW TO CONTINUE TO THE LAST PAGE OF QUESTIONS.

9. What did you think about the length of today’s meeting? Was it too short, too long, or about the right length?

☐ The meeting was too short
☐ The meeting was the right length
☐ The meeting was too long

Comments about Question 9: (Directions: Tap the box and then type in your comments.)

We want to know whether or not you liked the presentations at today’s meeting.

10. What did you think of the presentations that were made at today’s meeting?

☐ 1. Didn’t like them at all
☐ 2. Somewhat disliked them
☐ 3. Neutral
☐ 4. Somewhat liked them
☐ 5. Liked them very much

Comments about Question 10: (Directions: Tap the box and then type in your comments.)

We want to know whether or not you liked being in the small groups.

11. What did you think about being in the small group discussions?

☐ 1. Didn’t like them at all
☐ 2. Somewhat disliked them
☐ 3. Neutral
☐ 4. Somewhat liked them
☐ 5. Liked them very much

Comments about Question 11: (Directions: Tap the box and then type in your comments.)

12. Overall, did you like or not like being part of this meeting today?

☐ 1. Didn’t like it at all
☐ 2. Somewhat disliked it
☐ 3. Neutral
☐ 4. Somewhat liked it
☐ 5. Liked it very much

Comments about Question 12: (Directions: Tap the box and then type in your comments.)
13. If we were to hold another meeting and we invited your friends, would you tell them to attend or not attend?

☐ 1. Definitely do not attend
☐ 2. Probably do not attend
☐ 3. Neutral
☐ 4. Probably attend
☐ 5. Definitely attend

If we did another meeting like this in the future, how could it be better?

(Directions: Tap the box and then type in your comments.)

Any other comments you would like to share?

(Directions: Tap the box and then type in your comments.)

Thanks so much for taking the time to complete this questionnaire! We really appreciate it.

TOUCH THE RIGHT ARROW IF YOU ARE FINISHED.
Works Cited


