Scientific Study Blueprint for Licensed Hair Practitioners – Part 1

Use Your Status and Expertise to Advance Science

Week 6

CITI Module 3

Informed Consent

What is Involved in Informed Consent?

The process includes:

- Recruitment efforts encompassing the means of first creating awareness or contact and spanning everything from medical record review to advertisements and other recruitment materials.
- Providing specific information and answering questions about the study to subjects in a way that is understandable to them while giving subjects adequate time to consider participation.

What is Involved in Informed Consent? cont.

- Obtaining the voluntary agreement of subjects to take part in the study. While the subject may agree to participate in the study, subjects may withdraw at any time. Part of the ongoing nature of the consent process is verifying the subject's continued interest in participating in the study.
- Making plans for the provision of new information to be shared with former subjects, even after the study ends.

Requirements

Elements of the consent must include:

1. A statement that the study involves research, an explanation of the research's purposes and the expected duration of the subject's participation, a description of the procedures to be followed, and identification of any procedures that are experimental.
2. A description of any reasonably foreseeable risks or discomforts to the subject.
3. A description of any benefits to the subject or to others, which may reasonably be expected from the research.
4. A disclosure of appropriate alternative procedures or courses of treatment, if any, that might be advantageous to the subject.

Requirements cont.

5. A statement describing the extent, if any, to which confidentiality of records identifying the subject will be maintained and that notes the possibility that the FDA may inspect the records.
6. For research involving more than minimal risk, an explanation as to whether any compensation and an explanation as to whether any medical treatments are available if injury occurs and, if so, what they consist of, or where further information may be obtained.
7. An explanation of whom to contact for answers to pertinent questions about the research and research subjects' rights, and whom to contact in the event of a research-related injury to the subject.
8. A statement that participation is voluntary, that refusal to participate will involve no penalty or loss of benefits to which the subject is otherwise entitled, and that the subject may discontinue participation at any time without penalty or loss of benefits to which the subject is otherwise entitled.

Guidelines in Providing Information

- Information from advertising and recruitment is usually the first form of communication given to prospective subjects. The following must be considered:
  - Laws, guidelines, or organizational policies that govern advertising for study subjects, particularly in multi-site research.
  - Whether compensation for study subjects is allowed where the research is proposed, and how it will be noted in recruitment materials.
  - What the "norms" for recruiting are in the particular location where recruitment will occur and with the proposed population.

Guidelines in Providing Information cont.

- Procedures to screen potential subjects for eligibility must protect the rights and welfare of prospective subjects.
- The information should be clearly communicated in an organized fashion and with understandable language, and allow for questions the subject may have.
- The information communicated should not use exculpatory language either in the written consent or in discussions about the research.

Understanding of Consent

Guidelines:

- Providing consent in a language that is understandable to the subject or his/her legally authorized representative (LAR).
- Providing non-English speaking subjects a translated informed consent document that is accurate (as determined by the IRB).
- If a translator is used, providing a written translation of the consent document is still required. Some IRBs allow use of a short form translation of the IRB consent document (see 45 CFR 46.117[b][2]).
- Giving the subject enough time to think about his/her participation in the research before giving consent.

Special Challenges

- Language Issues
  - Translation or translator may be needed
  - Illiteracy must be considered
- Cultural Issues
  - Researcher may be regarded as an authoritative figure
  - Compensation may influence participation

Telephone/Oral Consent

FDA

- Verbal approval is not the same as a signed consent
- As long as the potential subject or LAR has a written copy, the content can be discussed via telephone
- Signed documents can be signed and returned via fax

HHS

- Documentation is required unless a waiver is granted by the IRB
- The exchange of consent can take place in person, by mail telephone, fax or video

CITI Module 4

Social and Behavioral Research (SBR) for Biomedical Researchers

SBR Overview

SBR is research that involves human attitudes, beliefs, and behaviors. They involve:

- Questionnaires (written questions) or interviews (oral questions, either by phone or in-person). These may be open-ended or fixed-answer with pre-established categories (such as, a Likert scale). Medication diaries and behavior logs are actually special forms of open-ended questionnaires. Some biomedical researchers may also use standardized questionnaires (such as, intelligence tests or psychiatric diagnostic assessments).
- Opinion data and other oral data from key informant interviews, focus groups, or group discussions. Biomedical researchers may use these data collection methods to provide qualitative data to enrich or support their physiologic data in testing hypotheses.

SBR Overview cont.

- Direct observation of behavior and interactions. This may involve a pre-coded form for noting observations, or recording (audio, video, or other) of actual behavior.
- Data already collected for other purposes (such as, records from education, healthcare, social service programs, employment, and insurance coverage). These kinds of data are often used by health researchers in outcomes studies and epidemiological studies, or as adjuncts in clinical or basic science research.
- Non-invasive physiological measurement (such as, skin impedance and pupil dilation as reflection of emotional arousal or attention). Although these are considered physiological measures, they are often used by SBR researchers to document the physiological components of behavior

Risks and Benefits Unique to SBR

- They may include psychosocial stress and discomfort, disruption of personal and family relationships, economic harms, and even political harms that may result from identifiable data falling into the wrong hands. Stress and discomfort may result from being asked personal questions, from being deceived, or from being subjected to research procedures designed to manipulate emotions, feelings, and thoughts.

Risks and Benefits Unique to SBR cont.

- They may be less predictable, more subjective and variable, and less remediable than physiological harms. For example, it is more difficult to predict how an individual will respond to answering a question about childhood sexual abuse than to predict an individual's reaction to having blood drawn. Questions about certain behavior, attitudes, and beliefs may result in "inflicted insight." This can cause distress from learning something about oneself that one would not have learned without having taken part in the study.
- They may be more dependent on socio-cultural factors than physiological harms. For example, collecting demographic information from undocumented immigrants may be more risky than collecting the same information from citizens.

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CITI Module 5

Records-Based Research

Definition and Risks

Researchers can make important advances in the fields of education, medicine, psychology, and public policy without any in-person interaction with human subjects. Rather, hypotheses can be posed and answered by analyzing documented information in various types of paper or electronic records (such as, medical, motor vehicle, criminal justice, or school records). When data is obtained from those resources, it is called **Records-Based Research.**

"Risks associated with records-based research stem from possible invasion of privacy and breaches of confidentiality. For example, the possibility that disclosure of the information could reasonably place the subject at risk of criminal or civil liability and/or be damaging to the subject's financial standing, employability, or reputation."

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Privacy

Privacy can be defined in terms of having control over the extent, timing, and circumstances of sharing oneself (physically, behaviorally, or intellectually) or information about oneself with others. In the context of research, privacy risk pertains primarily to the methods used to obtain information about subjects. Whereas privacy risks are obviously very low in studies when a subject actually consents to providing personal information, they are much higher, in records-based research, when information is obtained for research purposes without the consent of subjects.

Confidentiality

Confidentiality pertains to the actual treatment of the personal information once it is obtained. In other words, now that the researcher has obtained private information, how will it be used, stored, and reported in a way that is consistent with the manner under which it was originally obtained from the individual? Information from public records, and information obtained under a relationship of trust, as in the doctor-patient relationship, will require different considerations for protecting confidentiality.

Minimizing Risks

- Obtain informed consent from subjects
- Deidentifying data
- Minimize risks from breaches
- Obtain a Certificate of Confidentiality (CoC) to have protection of subpoena from legal consequences

Type of Information Obtained Dictates Actions

- Record-based research activities may not meet the federal definition of human subjects research. HHS regulations define a human subject as "a living individual about whom an investigator (whether professional or student) conducting research obtains[:]
  - Data through intervention or interaction with the individual, or
  - Identifiable private information."
- When records-based research requires access to individually identifiable ("protected") health information, additional requirements of the federal Health Insurance Portability and Accountability Act (HIPAA) must be met.

CITI Module 6

Genetics Research in Human Populations

What it's About and Why is it Important?

Most contemporary genetic research seeks to understand the relationship between genes and diseases, genes and behaviors, and genes and health-related traits like responses to drugs or environmental exposures.

Genomics tends to be used as a blanket term, describing the many relationships between the DNA sequence in a cell and the resulting biological function.

Genetics tends to refer to the relationship between inherited differences in DNA sequence between individuals, and the effect (if any) that those gene sequence differences have on biological function.

Genetic Determinism: the belief that only genetic codes impact our health and behavior.

Pharmacogenomics vs. Pharmacogenetics

Pharmacogenomics is the study of how the genetic makeup of individuals may affect their response to a particular drug or class of drugs.

Pharmacogenetics is a science that examines the inherited variations in genes that influence drug response and explores the ways to use these variations to predict how a patient will respond to a drug.

Pharmacogenomics is the key to "precision or personalized medicine;" the use of knowledge about an individual patient's genetic make-up to guide the treatment selection, drug(s), and doses physicians choose for that patient.

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Stored Biological Samples

Access of stored samples allows scientists to conduct studies long after the samples have been collected.

- As a safeguard, if samples can be stored, the possibility of future storage is disclosed within the consent form.
- If the researcher using the stored samples cannot determine the identities of the data or tissue samples, it is not considered to be human research.

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CITI Module 7

Populations in Research Requiring Additional Considerations and/or Protections

Vulnerable Populations

These are individuals who may be considered vulnerable because they do not have the decision-making capacity to provide voluntary informed consent or because of the situation they are in.

- Pregnant women
- Human fetuses
- Neonates
- Prisoners
- Children
- Individuals with physical disabilities
- Individuals with mental disabilities or cognitive impairments
- Economically disadvantaged
- Socially disadvantaged
- Terminally ill or very sick
- Racial or ethnic minorities
- Institutionalized persons (for example, persons in correctional facilities, nursing homes, or mental health facilities)

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Possible Abuses

Physical Control - Subjects who are physically forced to participate in research. This represents a complete lack of voluntariness. When subjects have no choice about whether or not to participate in research, and are under the complete physical control of the researchers.

Coercion - The use of a credible threat of harm or force to control another person. This also represents a lack of voluntariness.

Undue Influence - The misuse of a position of confidence or power to lead or influence others to make a decision they would not otherwise make.

Manipulation - The deliberate design and management of conditions or information intended to lead subjects to make a decision they would not otherwise make. Examples of information manipulation are lying, withholding information, or exaggerating.

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CITI Module 8

Vulnerable Subjects – Research Involving Children

Regulations and Guidance

Definition:
Persons who have not reached legal age for consent to treatments or procedures as it pertains to human research.

Permission and Assent:
Both parents must agree in order for a child to participate in research. Oftentimes, the IRB also requires assent from the child.

Categories of Allowable Research

1. Research Involving No Greater Than Minimal Risk

   Examples:
   - Venipuncture, bagged urine collection
   - Chest radiograph
   - Psychological tests
   - Classroom observation

2. Research Involving Greater Than Minimal Risk and No Prospect for Direct Benefit

Categories of Allowable Research cont.

Research Involving Greater Than Minimal Risk and No Prospect for Direct Benefit

Risks must meet the following criteria:

- The risks must be no more than a "minor increase" over minimal risk. No definition of minor increase is provided in the federal regulations. According to the National Commission (1977, 139-40), "while [minor increase] goes beyond the boundaries of minimal risk, it poses no significant threat to the child's health or well being." Interventions that might constitute a minor increase include:
  - Catheterized urine collection
  - Skin biopsy or bone marrow biopsy
  - MRI scan with sedation
  - Sensitive survey

Categories of Allowable Research cont.

Research Involving Greater Than Minimal Risk and No Prospect for Direct Benefit

Risks must meet the following criteria:

- Risks must be commensurate with those inherent in the subject's actual medical situation. According to the National Commission (1977, 9):

  The requirement of commensurability of experience should assist children who can assent to make a knowledgeable decision about their participation in research, based on some familiarity with the procedure and its effects.

- The research must be likely to yield knowledge of vital importance about the child's disease or condition.

CITI Module 9

Vulnerable Subjects – Research Involving Pregnant Women, Human Fetuses, and Neonates

What is Allowed

- Research is of benefit to mother and/or fetus and it is of minimal risk
- Research is greater than minimal risk but is beneficial to mother and/or fetus
- Research is of minimal risk but is not beneficial to mother and/or fetus
- It is NOT allowed if research is greater than minimum risk and of no benefit to mother and/or fetus

Needed Consent

- Mother Only:
  - Research poses no direct benefit and only minimal risk to mother or fetus (45 CFR 46.204 [b])
  - Research has prospect of direct benefit for mother only and minimal risk to the fetus (45 CFR 46.204[b])
  - Research has prospect of direct benefit for both mother and fetus (45 CFR 46.204[b])
- Both Parents
  Research has no prospect of direct benefit for mother, but does have prospect of direct benefit for the fetus only (45 CFR 46.204[e])

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CITI Module 10

FDA-Regulated Research

Investigational New Drug (IND)

Research involving a drug or biologic that has not yet reached the marketplace or that studies a new use of the marketed product requires an Investigational New Drug Application. A sponsor develops a research plan, which is then evaluated by the FDA. A sponsor can be a drug company, cooperative group, or even an individual physician. After careful review, the FDA will allow human studies to proceed if it determines that the risk of exposure to the drug is reasonable. This determination is based upon:

- Data from prior animal or human testing
- Methods of manufacturing
- Plans for testing and reporting significant toxicities
- A well-developed clinical research plan that minimizes risks to the subjects

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Investigational Use of a Marketed Drug

Researchers may want to use an approved product in the context of clinical studies. When the principal intent of the product's investigational use is to develop information about safety or efficacy, an IND may be required. However, the clinical investigation of a marketed drug does not require an IND if the following conditions are met:

- The data will not be used to support a new indication, new labeling, or change in advertising.
- The research does not involve a route of administration/dosage level or subject population that significantly increases the drug product's risks of harm.
- The research is conducted in compliance with Institutional Review Board (IRB) review and informed consent requirements.
- The research is conducted in compliance with requirements for promotion and sale.

Medical Devices

Definition:
Any healthcare product that does not achieve its primary intended purpose by a chemical interaction or by being metabolized.

- Surgical lasers
- Sutures
- Pacemakers
- Diagnostic aids such as reagents and test kits for *in vitro* diagnosis

Significant Risk Devices (SR)

SR device presents a potential for serious risk to the health, safety, or welfare of the subject and it:

- Is intended to be implanted into a human;
- Is used in supporting or sustaining human life;
- Is of substantial importance in diagnosing, curing, mitigating, or treating disease, or otherwise prevents impairment of human health; or
- Otherwise presents serious risk to health, safety, and welfare of a subject.

Consents with Electronic Records and Signatures

Electronic documents can be used in the regulatory process for drugs and devices. 21 CFR 11 Part 11 specifies that processes must be in place to assure that electronic documents and signatures are equivalent to paper documents and handwritten signatures.

Part 11 Requirements

- Computer systems utilizing electronic records and signatures must ensure accuracy, reliability, and consistent performance. Standard operating procedures (SOPs), audits, testing, and training are required.
- Computer systems must use and maintain secure, computer-generated, time-stamped audit trails independently recording the date and time of entries and actions that create, modify, or delete electronic records.
- Computer systems must use system checks ensuring that only those individuals authorized to use the system are allowed access to the system (and access only those parts of the system they have authorization to use), alter records, and perform operations.
- Procedures must be established to ensure that records are retained for a duration of time, in an appropriate format, and to meet FDA requirements at a minimum.

CITI Module 11

Research and HIPAA Privacy Protections

Regulatory Scope

Though HIPAA is the most prominent source, protections for individuals' health information are required by many federal laws and regulations.

In 2003, HIPAA formulated new data-focused protections. Even though they work together with the Common Rule and FDA protections, they are not a replacement.

Regulatory Scope

HIPAA's protections reach only a subset of individually identifiable health information -- formally called **protected health information** or simply "PHI" -- created in or by what HIPAA calls covered entities. **Covered entities** include individual healthcare providers, healthcare provider organizations, health plans, and health information clearinghouses that engage in electronic healthcare transactions. HIPAA's protections for PHI extend to non-U.S. citizens' data as well.

HIPAA Research

- Like the Common Rule, HIPAA defines research as a "systematic investigation, including research development, testing, and evaluation, designed to develop and contribute to generalizable knowledge".
- Regulations can be complex. So, to determine entity status, an organization's IRB, designated privacy official(s), or legal counsel is usually required to assure that an activity is "not research" and therefore subject to different HIPAA rules.

Enforcement of HIPAA Protections

"A covered entity may choose to rely on an IRB to assess compliance with both the FDA and Common Rule requirements and HIPAA research requirements. Alternatively, HIPAA provides that covered entities may create a Privacy Board to handle some research-related issues, notably determinations about eligibility for waivers, alterations, and exemptions from authorization processes. A covered entity may also leave some decisions about compliance with the research provisions of HIPAA to its designated privacy officer. It is critical that you understand the allocation of responsibilities at your organization."

Enforcement of HIPAA Protections cont.

"As with any other planned activity related to protected health information, research must be mentioned in a **privacy notice** that HIPAA requires be provided by covered entities to their patients/customers. The privacy notice must include the ways in which data subjects may register complaints and report problems, either locally or with federal authorities. Every researcher should be familiar with their organization's privacy notice, particularly the persons or departments it identifies as enforcement authorities for the organization."

Research-Related Rules

HIPAA generally requires explicit written **authorization** (consent) from the data subject for research uses, especially if the data contains PHI.

Research-related access is given without authorization when:

- The research involves only minimal risk.
- The research is used solely for activities preparatory to research.
- Only deceased individual's information is used.
- It is "grandfathered" research where all legal permissions were in place before HIPAA took effect.

Data that do not identify individuals can be used for research without specific authorization if:

- Only fully de-identified data are used.
- A "limited data set" is used, under an approved "data use agreement."

Minimum Necessary Uses

"Uses and disclosures of data for research that are allowed to bypass the authorization requirement are still subject to the **minimum necessary standard** -- that is, the uses/disclosures must be no more than the minimum required for the described research purpose. A covered entity may rely on a researcher's documentation -- or the assessment of an IRB or Privacy Board -- that the information requested is the minimum necessary for the research purpose."

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Disclosure Accounting

Individuals whose health information is covered by HIPAA have the right to an **accounting of disclosures** of their PHI. In this context, a *disclosure* occurs when PHI is communicated to an outside individual or entity, including another covered entity. Access within the covered entity -- for example, by members of a research team who are all part of the same organization's workforce -- is considered a *use* not a disclosure. There is no accounting requirement for these internal uses for research."

Note: When an authorization consent is required for research, it must be written in plain language so that individuals understand the information and are able to make an informed decision.

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CITI Module 12

Conflicts of Interest in Research Involving Human Subjects

Definition

Professionals have a conflict of interest when their interests or commitments compromise their judgments, compromise their research reports, or compromise their communications to research subjects, participants, patients, and/or clients. Conflicts of interest are of two major types:

1. Conflicts between the professional's personal or financial interests and the interests of a subject/participant, patient or client.
2. Conflicts that involve competing loyalties, to two or more subjects, patients or clients. Alternatively, the conflict may be between a subject/participant, client or patient and a third party to whom the professional owes contractual duties, for example, sponsors of research, insurance companies, employers, etc.

What Are the Ethical Concerns?

There are two important ethical concerns relating to conflicts of interest:

1. The preservation of sound science
2. The protection of human subjects.

Minimizing Conflicts of Interest

- Peer review of the study design.
- Independent oversight of the research.
- Insulating investigator from knowledge about the impact of financial interests through blind-trust type devices.
- Insulating the subject/participant from the influence of financial considerations on professional judgment by having an investigator with a conflict abstain from problematic aspects of the study.
- Disclosure of the financial interest to subjects on the consent form.
- Reporting of investigator's financial relations or conflicts of interests in all presentations, publications, and abstracts associated with the research.

CITI Module 13

Recognizing and Reporting Unanticipated Problems Involving Risks to Subjects or Others in Biomedical Research

The Common Rule

The code of federal regulation (45 CFR 46, Subpart A) requires that an organization have written procedures for ensuring prompt reporting to the IRB, appropriate institutional officials, and the department or agency head of (i) any unanticipated problems involving risks to subjects or others.

However, the regulations do not provide a definition of unanticipated problems. It is the responsibility of the organization, usually the IRB, to provide these written procedures.

Adverse Events

Any untoward or unfavorable medical occurrence in a human subject, including any abnormal sign (for example, abnormal physical exam or laboratory finding), symptom, or disease, temporally associated with the subject's participation in the research, whether or not considered related to the subject's participation in the research

Adverse events encompass both physical and psychological harms. They occur most commonly in the context of biomedical research, although on occasion, they can occur in the context of social and behavioral research.

CITI Module 14

Avoiding Group Harms – U.S. Research Perspectives

Groups

Researchers use the terms "populations," "groups," and "communities" in a variety of ways. Sometimes people are members of ethnic or racial groups (such as, Black or African-American, Hispanic, or Bantu), or religious groups (such as, Islamic, Taoist, or Christian Scientist). They may belong to groups described by geographic location (such as, New Yorkers, Parisians, or Paraguayans), or by occupation (such as, agricultural workers, physicians, or teachers). Other groups may be defined by physical condition (such as, obese, sight-impaired, or diabetic), or by behavior (such as, smokers, men who have sex with other men, or marathon runners).

Harms

Because of their special position in society, some groups may be at increased risk of suffering harm that may result if individual group members take part in research, including those who:

- Have suffered and continue to suffer discrimination (such as, Blacks or African-Americans, American Indians, and Alaska Natives);
- Have less access to education, social services, and healthcare (such as, underserved and low-income populations); or
- May be behaviorally or politically stigmatized (such as, commercial sex workers, injection drug users, or members of religious cults).

Minimizing the Risk of Group Harms

Ask the following questions as they pertain to your specific study:

- What are the possible harms that could result from my research? Is it possible that there will be harms to the group(s) of which my research subjects are members?
- Are there any possible unintended consequences of my research such as stigmatization or discrimination?
- If I were a member of this group, how would I feel about the research findings - positive and negative?
- Do the potential benefits of my research outweigh the harms to the subjects and to the population?
- Can I predict how the results of my research findings could be used by others (such as, the media or government)?

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CITI Overview: COMPLETED!

What's Next?

Be Ahead of the Curve

- Complete CITI training at your earliest convenience
- Conduct Research! Keep your eyes open for research opportunities with Mane Insights or other research entities
- Go to research symposiums/conferences and collaborate with others who complement your goals
- Future: Pick a meeting to present your work to your peers and keep in mind that I'm here to help! You have 2 personal hours to prep with me. Do so by the end of 2018!
- Keep in touch!

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