Definitions

- **Integrity** n. 1. Strict adherence to a standard of value or conduct. 2. Personal honesty and independence. 3. Completeness: unity 4. Soundness

- **Ethic** n. 1. A principle of right or good conduct. 2. A system of moral values. 3. ethics (sing. in number). The branch of philosophy dealing with the rules of right conduct.

Ethical vs. Unethical Studies

- Ethical studies protect subjects and are carried out using scientific principles
- Unethical research includes:
  - Scientific misconduct
  - Fraud, research protocol violations
  - Fabrication, falsification, forging of data
  - Plagiarism
  - Putting subjects at risk without consent

Elements of Ethical Research

- Protecting human rights
- Understanding informed consent
- Understanding institutional review of research
- Balancing benefits and risks in a study
Landmark Unethical Research Studies?

- Nazi medical experiments
- Tuskegee syphilis study
- Willowbrook study
- Jewish chronic disease hospital study

Nazi Medical Experiments

- World War II
- Purpose: To conduct extreme experiments
- Subjects: Concentration camp prisoners
- Problems: Too numerous to list!
- Led to Nuremberg Trial (1947)
Tuskegee Syphilis Study

- 1932-1972 (US Public Health Service)
- Purpose: To determine natural course of syphilis over time
- Subjects: Poor African-American men
- Problems:
  - Deception, vulnerable population
  - Appropriate treatment withheld

Willowbrook School Study

- 1956-1970s
- Purpose: To study effects of hepatitis
- Subjects: Mentally delayed children
- Problems:
  - Vulnerable population
  - Injected with hepatitis virus
### Jewish Chronic Disease Hospital

- **1960s**
- **Purpose:** To determine patients response to injection of live cancer cells
- **Subjects:** Elderly patients
- **Problem:**
  - Vulnerable population
  - Subjects not informed
  - Risk of disease

### History of Ethical Codes and Regulations

- Nuremberg Code (1949)
- Declaration of Helsinki (1964)
- Department of Health, Education and Welfare (DHEW) regulations (1973)
- National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (1978)
Declaration of Helsinki

- Right to self-determination and the right to make informed decisions
- Subject's welfare must always take precedence over the interests of science and society
- Ethical considerations must always take precedence over laws and regulations
- Recognition of the increased vulnerability of individuals and groups (surrogate consent)
- Careful assessment of risks and benefits

National Commission for the Protection of Human Subjects Guidelines

- Ethical principles:
  - Principle of respect for persons
  - Principle of beneficence
  - Principle of justice
Respect for Persons

- Self-determination (participation and withdrawing)
- No coercion (e.g., coercion could be large incentives)
- Full disclosure, no deception
  - Covert data collection
  - Misinforming participants about true purpose of study
- Provide ALL information about the study
- Voluntary consent
- Persons with diminished autonomy have special protections

Beneficence

- Freedom from harm
- Freedom from exploitation
- Risk/benefit ratios
  - High anticipated benefit may balance high risks
Categories of Harm

1. No anticipated effects
2. Temporary discomfort
3. Unusual levels of temporary discomfort
4. Risk permanent damage
5. Certainty of permanent damage

Protection from Exploitation

• Researcher will not use information against participants
• Examples:
  – Illicit drug use
  – HIV status
• Researcher-participant relationship should remain professional
Justice

• Fair treatment (even if the person chooses not to participate)
• Those who undertake the burdens of research must be likely to benefit from the research
• Right to privacy
  – Anonymity
  – Confidentiality

Title 45 Part 46: Protection of Human Subjects Regulations

• Protection of human subjects in research
  – Additional protection for pregnant women, human fetuses, neonates, children, and prisoners
• Documentation of informed consent
• Implementation of the IRB process
Institutional Review Board

- Any board formally designed by an institution to review, to approve the ignition of, and to conduct periodic review of research involving human subjects. The primary purpose of such review is to assure the protection of the rights and welfare of the human subjects.

IRB Reviews

Levels of IRB Review

- Full Board
  - More than "minimal risk" to subjects
  - Example: interventions involving physical or emotional discomfort or sensitive data
- Expedited
  - Not greater than minimal risk
  - Not one of the 6 Exempt Categories
  - Examples: Collection of biospecimens by noninvasive means, Research with existing documents/record collected for non-research purposes in which subjects are identifiable
- Exempt
  - Less than "minimal risk"
  - Not one of the 6 Exempt Categories
  - Example: Research with de-identified records, anonymous surveys

*Defined by Federal regulations (45 CFR 46)
Minimal Risk

• means that the **probability** and **magnitude** of harm or discomfort anticipated in the research are not greater in and of themselves than those **ordinarily** encountered in daily life or during the performance of **routine** physical or psychological tests. (45 CFR 46.102(i))

Exempt Research

1. Research conducted in established **educational** settings, involving normal educational practices
2. Research involving the use of **educational** tests, survey procedures, interview procedures, or observation of public behavior
3. Same as # 2, but covers **elected officials**
4. Research involving use of **existing data**
5. Research and demonstration projects by approval of agency heads
6. Taste and food quality
Expedited Categories

• Clinical studies of drugs and medical devices only under specific conditions
• Collection of blood samples
• Biological specimens obtained by non-invasive means
• Collection of data through non-invasive procedures
• Materials collected solely for non-research purposes
• Collection of data from voice, video, etc.
• Research employing surveys, etc.
• Continuing review under specific conditions

Additional Government Protections

• U.S. Food and Drug Administration (FDA)—regarding clinical investigations with human subjects involving products
• Animal studies also included
• Clinical trials for drug investigations must comply with FDA regulations
What is HIPAA?

• Also known as: Public Law 104-191
• Implemented in 2003 to protect individuals’ private health information
• HIPAA privacy rules are very strict
• Affects research studies by requiring patient consent to use private health information

IIHI

• Individually identifiable health information: Any data that can be correlated with an individual
  o Also called protected health information (PHI)
• Consent (in context of privacy): Written or verbal permission to allow use of your individually identifiable health information
IIHI

• Includes any subset of health information, including demographic information, that identifies the individual (or there is a reasonable basis to believe that the information can be used to identify the individual).
  1. Name
  2. All elements of dates except Year.
  3. SSN
  4. Driver's License Number
  5. Geographic subdivisions smaller than a State.
  6. URL's and IP's
  7. Vehicle Identifiers including VIN and License #
  8. Phone numbers

PHI

- Individually identifiable information becomes PHI when it is created or received by a covered entity:
  - US health plans
  - US health care clearinghouses
  - US health providers that transmit electronic health information
- A researcher is not a covered entity unless he/she is also a provider within a covered entity.
- Research is also governed by HIPAA if data is obtained from a covered entity.
- IRB may on occasion waive the HIPAA restrictions on use of PHI
De-Identification

- 87 percent of the U.S. population can be uniquely identified by five-digit ZIP code, gender, and date of birth
- Genomic data can aid in re-identification in clinical research studies
- Social security numbers can be predicted from public data

Figure: The overlapping data enabled identification of the governor.
(Adapted from Sweeney, 1997)
HIPAA Privacy Rule

• Protects individually identifiable health information
• De-identifying protected health information is allowed only if the following are removed:
  – Names, geographic information, dates, phone numbers (+fax/e-mail), social security numbers, medical record numbers, certificate numbers, vehicle identifiers, device identifiers, URLs, IP addresses, fingerprints/voiceprints, full-face photos, all identifying numbers

HIPAA Privacy Rule

• Data use agreement—must be included in the consent
• Covered entities
  – Health care providers
  – Health care plans
  – Employers
  – Health care clearinghouses
Right to Anonymity and Confidentiality

• Confidentiality: researcher refrains from sharing information with others
  – Breach of confidentiality: unauthorized access to raw data

• Anonymity: no one, not even the researcher, knows the identity of the subjects

Informed Consent

• Essential information for consent
• Comprehension of consent information
• Competence to give consent
• Voluntary consent
Essential Information for Informed Consent

1. Introduction of research activities
2. Statement of research purpose
3. Selection of research subjects
4. Explanation of procedures
5. Description of risks and discomforts
6. Description of benefits
7. Disclosure of alternatives
8. Assurance of anonymity and confidentiality

9. Offer to answer questions
10. Voluntary participation
11. Option to withdraw
12. Consent to incomplete disclosure

- Consent: subjects over 18 years of age
- Assent: minors (under 18 years of age)
- Waiver of Signed Consent
  - When the only record linking the subject and the research would be the consent document and the principal risk would be the potential harm resulting from a breach of confidentiality
  - When the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside of the research context
Sample Consent Form

UNIVERSITY OF NOTRE DAME INFORMED CONSENT STATEMENT FOR RESEARCH

1. Purpose of the Study

The purpose of this study is [insert purpose of the study]. The study is being conducted by [insert name of investigator] at the [insert institution] and sponsored by [insert sponsor]. The study involves [insert description of the study].

2. Participants

The study is open to participants of any gender, race, ethnicity, age, and education level. Participants must be at least 18 years old at the time of enrollment. All participants will be fully informed about the study and will be given the opportunity to ask questions before agreeing to participate.

3. Risks and Benefits

There are potential risks associated with participation in this study, which may include [insert potential risks]. Participants will be informed of any potential benefits to the subject or benefit to others that may reasonably be expected from the research.

4. Your Rights as a Research Participant

As a research participant, you have the right to [insert rights as a research participant]. You also have the right to [insert additional rights]. If you have any questions or concerns, please contact the researcher or study coordinator.

5. Consent

By signing this consent form, you are agreeing to participate in the study. You understand that you can withdraw from the study at any time without giving reasons.

6. Confidentiality

Your personal information will be kept confidential. Your information will not be shared with anyone outside the research team without your consent.

7. Payment

Participants may be compensated for their time and effort. The amount of compensation will be [insert amount of compensation]. Payment will be distributed to participants upon completion of the study.

8. Additional Information

For more information, please contact the researcher or study coordinator.

Participants: I have read and understand the information in this consent form and agree to participate in the study.

Signed: ____________________________
Date: ____________

Sample Consent Form

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Date: ____________
European Union General Data Protection Regulation

- The General Data Protection Regulation (GDPR) imposes new rules on organizations that offer goods and services to people in the European Union (EU), or that collect and analyze data tied to EU residents, no matter where they are located.
- Enforced on May 25, 2018

GDPR Data Definitions Regardless of Nationality or EU Residence

**Personal Data (from GDPR)**

"...means any information relating to an identified or identifiable natural person ('data subject'); an identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person."

Examples:

- Name
- Identification number (e.g., Social Security number)
- Location data (e.g., home address)
- Online identifier (e.g., e-mail address, screen names, IP address, device IDs)
- Genetic data (e.g., biological samples from an individual)
- Biometric data (e.g., fingerprints, facial recognition)

"The GDPR also requires compliance from non-EU organizations that offer goods or services to EU residents or monitor the behavior of EU residents."

Source: Brief: You Need An Action Plan For The GDPR; Forrester Research; October 2016
GDPR Basics

- Provide notification to data subjects, in clear and plain language
- Request and obtain the data subject’s affirmative and granular consent
- Discontinue with processing activities if the data subject denies consent
- Provide a mechanism for data subjects to withdraw consent
- Obtain affirmative consent from a child’s (under the age of 16) parent or guardian