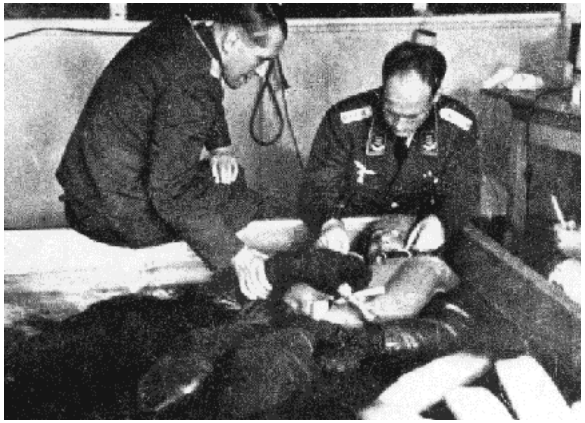
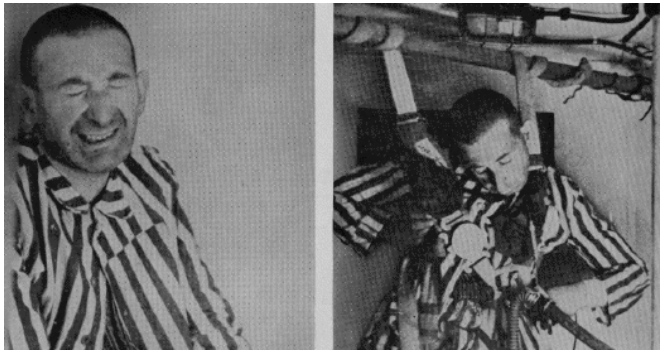
Research Ethics in Human Subjects Research

Nuremberg War Crimes Trials

- 23 German doctors were charged with crimes against humanity
- One outcome was an anatomy book used into the ‘90s



Hypothermia Experiments with Submersion

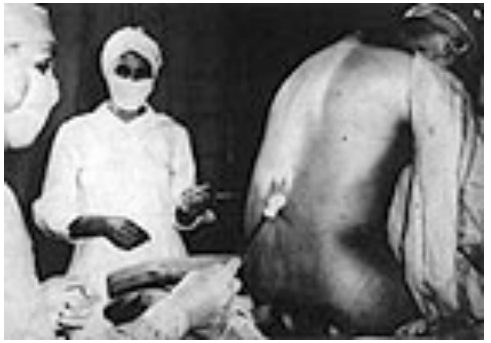


Altitude Experiments at Dachau

Mengeles Research on Twins

Tuskegee Syphilis Study ('32-'72)

"I don't know what they used us for. I ain't never understood the study".
~ a survivor ~



(Courtesy National Archives)

- 399 vulnerable subjects were lied to and went untreated
  - Even after '47 (penicillin)
  - Men died; Families infected
- Compensation:
  - free medical exams; free meals; free burial insurance
- Stopped in 1972 after PHS employees leaked info to the press

http://www.cdc.gov/nchstp/od/tuskegee/

National Research Act

1974 National Research Act (Pub. L. 93-348)

- Required IRBs at institutions receiving HEW (HHS) support for human subjects research
- Led to Belmont report (1979) http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.htm
- Key is “common rule”

Principles of Research with Human Subjects

- Respect for Persons
  - individuals have autonomy and choice
  - people can not be used as a means to an end
  - provide protection to the vulnerable
  - provide informed consent and privacy
- Beneficence
- Justice

Principles of Research with Human Subjects

- Respect for Persons
- Beneficence
  - kindness beyond duty
  - obligation to do no harm
  - obligation to prevent harm
  - obligation to do good
  - minimize risks, maximize benefits
- Justice

Principles of Research with Human Subjects

- Respect for Persons
- Beneficence
- Justice
  - treat all fairly
  - share equitably burdens and benefits

Self-Interest: High Profile Shutdowns

- April 1998 Office of Protection from Research Risks (OPRR) cites the University of Maryland at Baltimore for "certain systemic weaknesses [in its protections for human research subjects]." The citation acknowledges that although informed consent documents "generally complied" with federal requirements, there were several documents that failed to properly inform subjects about research risks.
- October 1998 OPRR suspends research at Rush–Presbyterian–St. Luke's Medical Center in Chicago, citing improper subject enrollment. **Some subjects were ineligible because of preexisting symptoms; one died after an experimental treatment.**
- May 1999 OPRR suspends research at Duke University Medical Center. The university could not ensure the safety of subjects. OPRR found the administrative aspects of Duke's Institutional Review Board (IRB) inadequate.
- August 1999 The Chancellor of the University of Illinois Chicago resigns after an OPRR suspends research. Violations include failure to obtain proper informed consent from all subjects in research projects and failure to obtain IRB approval before beginning research.
- September 1999 Office of Human Research Protections (OHRP) suspends gene-therapy trials at the University of Pennsylvania, where Jesse Gelsinger, aged 18, died in a gene-therapy study. In November 2000, the Federal Drug **Administration (FDA) notifies researchers that it had found evidence of numerous violations** of the rules for conducting the research project. FDA notified the Principal Investigator he "repeatedly and deliberately violated federal regulations" and that the agency **was moving to bar him permanently from conducting further drug research on human subjects.**
- January 2000 OPRR cites researchers at Virginia Commonwealth for **mailing inappropriate questionnaires that asked twins sensitive questions about their family histories.**
- January 2000 OPRR suspends research at the University of Alabama at Birmingham where regulators determined that the IRB had not followed all mandatory requirements. In particular, regulators said **that the board had rarely discussed how to minimize risks** to subjects **and ways to protect subjects' confidentiality** .
- July 2000 **OHRP suspends research at the University of Oklahoma**, citing numerous deficiencies in the treatment of subjects in a skin cancer study. Findings include failure to disclose to subjects and regulators that safety risks had been discovered and the misrepresentation of benefits. This was the OHRP's first action since evolving from OPRR.
- September 2000 OHRP suspends research with prisoners and juvenile detainees, subjects at University of Texas and University of Miami, respectively. Regulators also directed the University of Florida and Yale University to improve their oversight procedures for prisoner research.
- June 2001 OHRP suspends research at Johns Hopkins, the leading recipient of government research fund, when an otherwise healthy young woman died in an experimental asthma therapy trial. Hopkins admitted that they did not do what moral researchers must do in such experiments — obtain an iron-clad informed consent and **have an in-house committee carefully monitor all experiments that are done simply to obtain knowledge and not to benefit the subject.**

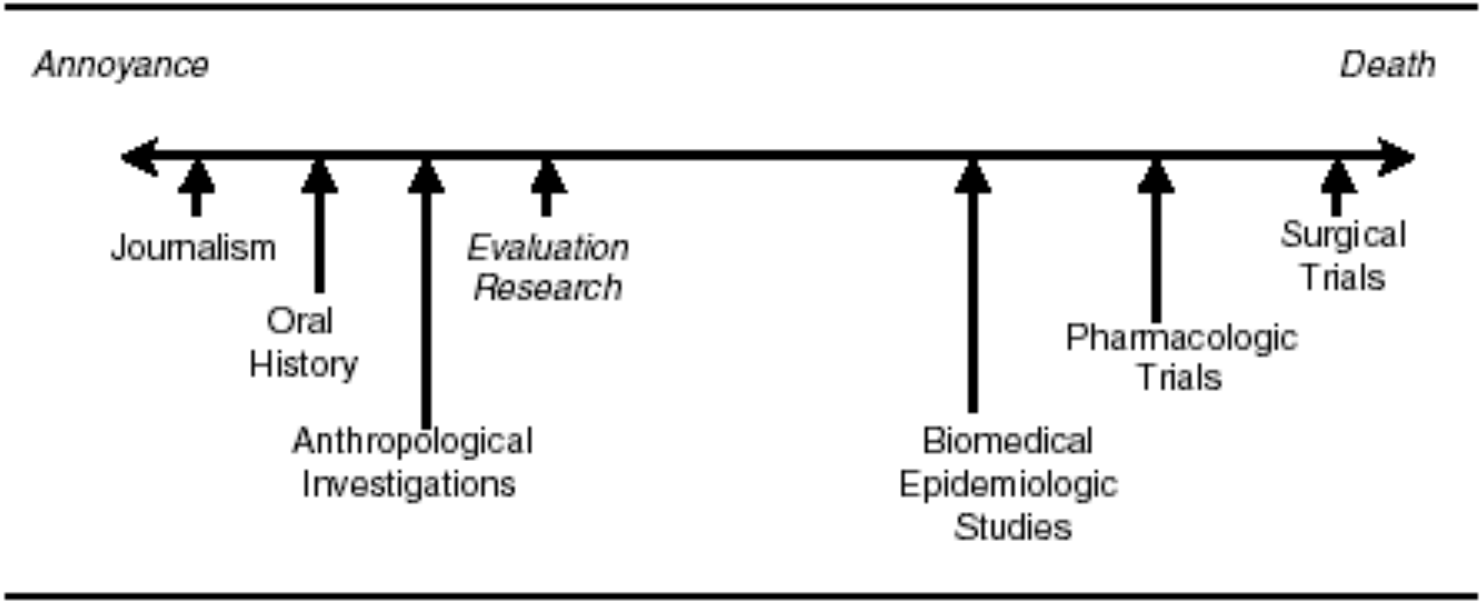
Training To Do Human Subjects Research

- All human subjects research at CMU must be reviewed by the IRB http://www.cmu.edu/osp/regulatory-compliance/human-subjects.html
- Researchers have a responsibility to know how to conduct research ethically
- Federal government requires training for ethics in research
  - You need to complete training
  - Many have an explicit health/medical focus

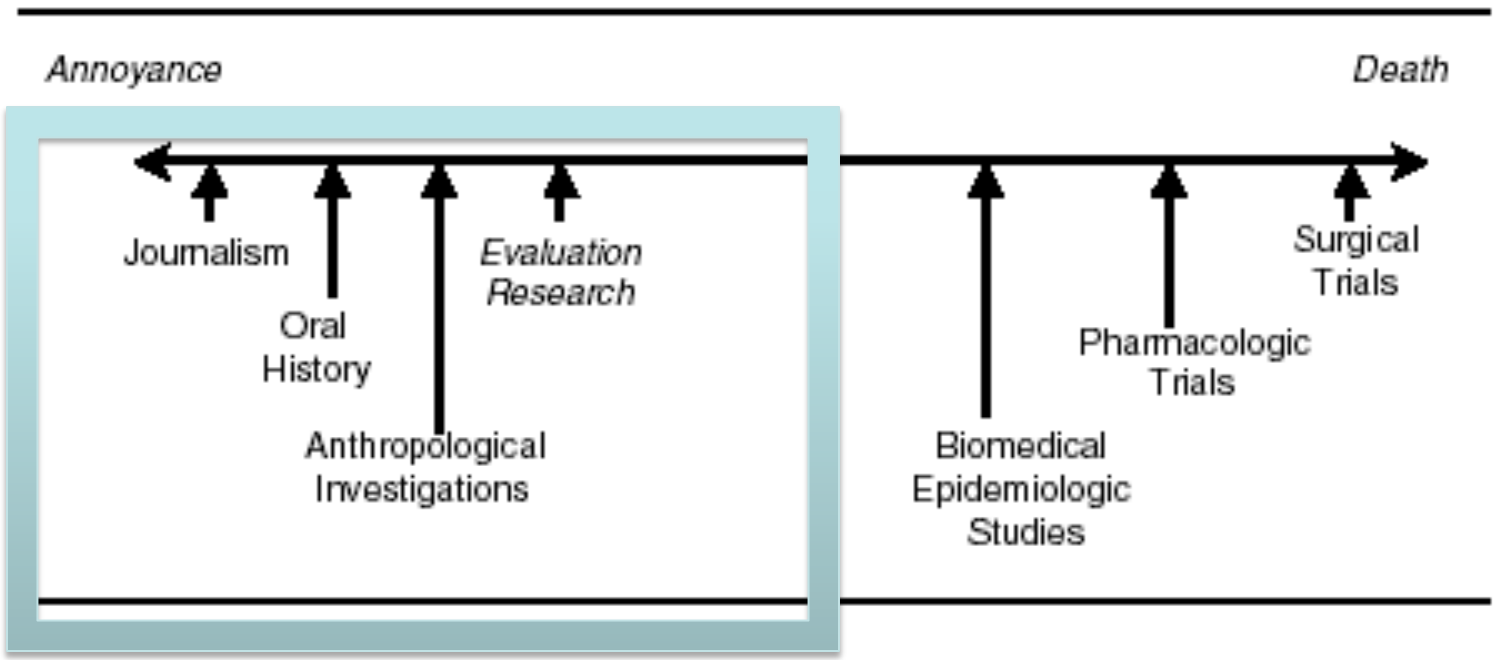
Risk Should Be Proportional to Benefit

- Risk = prob of harm x magnitude
- Most behavior. rsrch involves minimal risk
  - i.e. no more that experienced by participant in non-research setting
- Even highly risky research can be justified if the potential benefits are great enough
- Even minimal risk research isn't justified if no one benefits
  - E.g., Because of poor research design

Spectrum of Risk



Spectrum of Risk



What harms exist in our field?

What harms exist in our field?

- Physical or psychological harm during procedures
- Revealing private, privileged or embarrassing information,
  - results in criminal or civil liability
  - is damaging to the subjects' financial standing, employability, or reputation

Minimizing Harm

Maintaining confidentiality of data is your responsibility

- Separate data from identifiers
- Keep data in secure location and available only to research staff (Poor computer security is a major problem)
- Obtain special consent when collecting video, since subject is recognizable
- For high risk information, apply for Certificate of Confidentiality from NIH, which precludes government subpoena of data for civil or criminal cases.

Magnitude matters

- Degree of concern over physiological or psychological harm depends on amount and time
- Degree of concern over confidentiality depends on sensitivity of the information
  - E.g., Public opinion survey on pop culture vs. survey on criminal behavior that asks about crimes committed and drug use

Informed consent

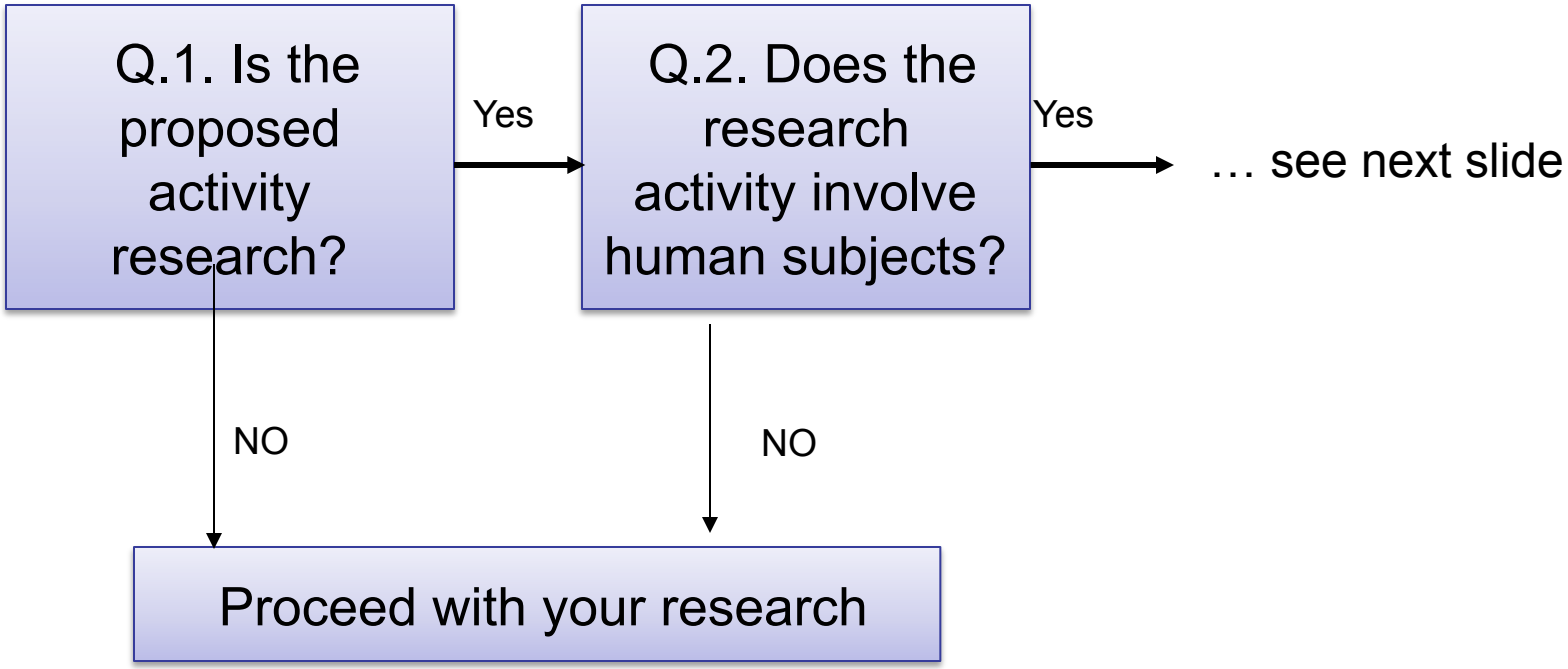
- Research participation must be completely voluntary
- Participants need all relevant information to help them make an informed decision about participation
  - Risks & benefits
  - Opportunity to withdraw
- **Inform participants in easy-to-understand language**
- Don’t use your power to coerce cooperation
  - E.g., teaching position
  - E.g., employee status
- Get informed consent from guardians of those who can’t give informed consent
  - Minors “assent”
- Behavior in “public place” is ambiguous in the Internet era

Four Types of Research

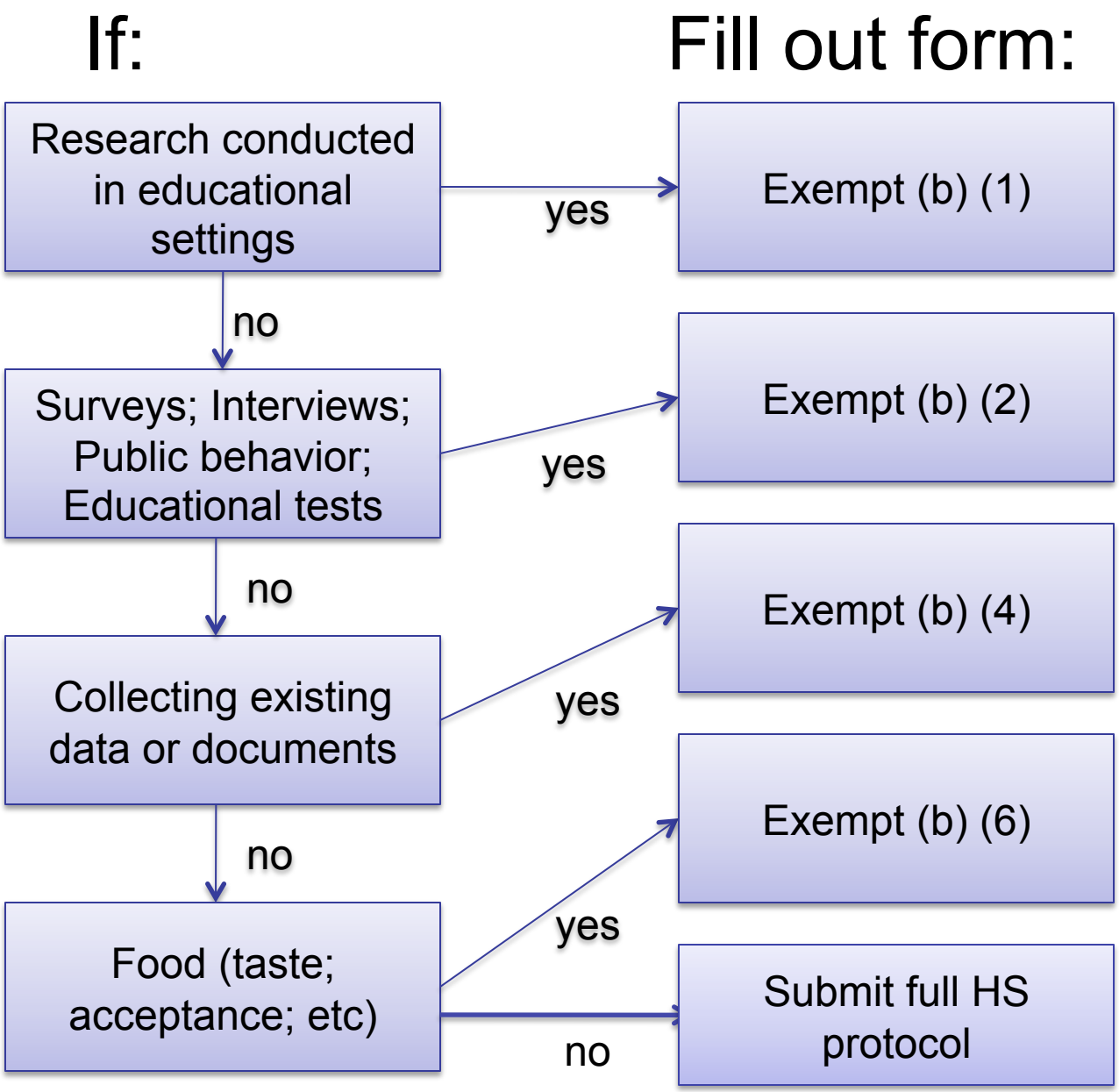
- Excluded: Either not research or no human subjects involved
- Exempt: Human-subjects, but exempt from federal regulations
  - IRB needs to give you the exemption
- Expedited review
  - Minimal risk
  - Reviewed by one IRB member, first-come-first serve
- Full board review
  - Not minimal risk
  - Reviewed at monthly meeting by full board

http://www.und.nodak.edu/dept/orpd/regucomm/irb/HS%20flow_chart.htm

Decision Tree for IRB Review



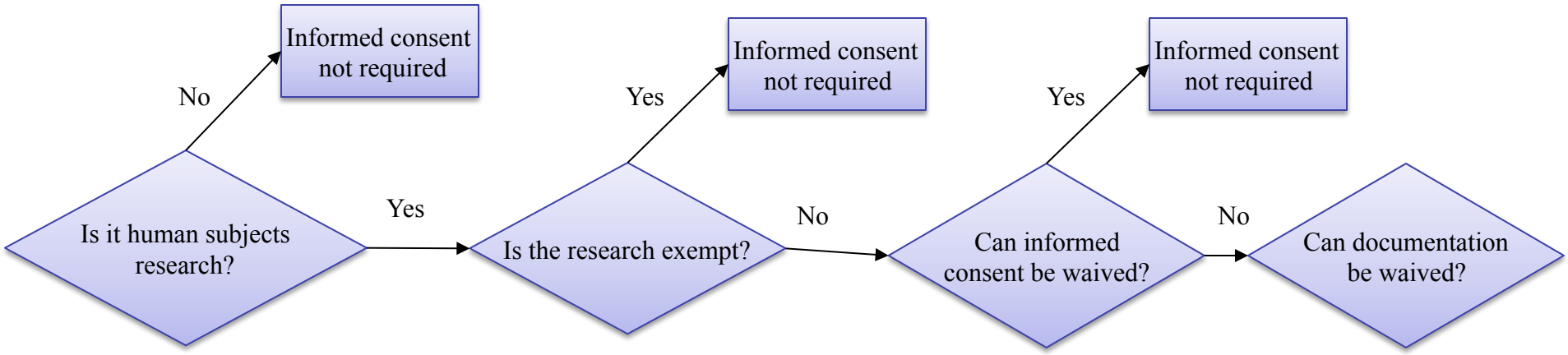
Research = systematic data collection designed to develop or contribute to generalizable knowledge.


If:
Fill out form:
Research conducted in educational settings
yes
Exempt (b) (1)
no
Surveys; Interviews; Public behavior; Educational tests
yes
Exempt (b) (2)
no
Collecting existing data or documents
yes
Exempt (b) (4)
no
Food (taste; acceptance; etc)
yes
Exempt (b) (6)
no
Submit full HS protocol

More Expedited Details

4. Collection of data through noninvasive procedures (not involving general anesthesia or sedation) routinely employed in clinical practice, excluding procedures involving X rays or microwaves.
5. Research involving materials (data, documents, records, or specimens) that have been collected or will be collected solely for nonresearch purposes (such as medical treatment or diagnosis).
6. Collection of data from voice, video, digital, or image recordings made for research purposes.
7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Is consent needed?



Consent can be waived if the following are true:

The research involves no more than minimal risk to the subjects;

The waiver or alteration will not adversely affect the rights and welfare of the subjects;

The research could not practicably be carried out without the waiver or alteration;

Whenever appropriate, the subjects will be provided with additional pertinent information after participation.

Documentation can be waived if:

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.

or

The only record linking the subject and the research would be the consent document and the principal risk would be potential harm resulting from a breach of confidentiality.

WHEN approved; proceed with your work

If you submit an exemption app, IRB determines if you are correct and notifies you

If you submit a full application, IRB may approve, disapprove, or request a mod

Do projects in this course require IRB approval?

- Yes, unless it isn't human subjects research
- You can't start data collection without IRB approval

Areas for thought

- Oral history? Is it research? Should it be regulated?
- Regulatory agencies suggested
  - Pre-planned questions
  - Don’t share or even keep the recordings
- Final ruling
  - If the results are not “generalized” or quantified, no IRB reg. is necessary

Ambiguity in expedited review

- Risk: Magnitude, likelihood, and duration all play a role
- Vulnerability: how important is it if the risk is low? What are the risks of excluding these populations?

Discussion of a sample case…

Project to build learned statistical models of IM responsiveness

Collects data on input events, what programs are running, etc. and on state of IM client, including buddy names and optionally text of messages