Nothing Beats A Good Pair of Genes: UC 260

The Law and Genetic Research
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Introduction

• Issue: What problems exist using subjects in genetic studies?
• Underlying issue: Promotion of public health Vs. Privacy/Autonomy.
• What safety/privacy issues should be considered?
• Are family members subjects?

Introduction

• Federal rules of informed consent
• IRB issues in genetic research
• Distinctions between subjects and patients
• Specific genetic consent issues
• Subsequent use of blood/tissue
• Commercial applications of research

The Rules of Research

• Experienced Knowledgeable investigator
• Good risk-benefit ratio (Beneficence)
• Proper distribution of the risks and benefits of research across the population (Justice)
• Informed choice to participate (Respect for persons)
• Impartial review of the research (IRB)

The Federal rules of consent 1

• Informed consent (informed choice) as a process
• Documentation as an outcome
• Required elements of informed choice: 45 CFR 46 Sec. 46.116
  • 1. Description of the research
  • 2. Risks
  • 3. Benefits

The federal rules of consent 2

• 4. Alternatives
• 5. Confidentiality
• 6. Voluntary participation
• Optional elements:
  • 1. Unforeseeable risks to subject/fetus (family?)
  • 2. Costs
The Federal rules of consent

- 3. Consequences of withdrawal
- 4. Will significant new findings be shared with subject?
- 5. Approximate number of subjects in study
Issue: Do the current rules cover genetic problems?

IRB issues in genetic research

- How will results be used?
  46.111(a)(2) says do not consider effects on public policy
- Who owns the tissue?
- How can/from whom should consent be obtained?
- Privacy: Who “needs to know”?

IRB issues in genetic research

- Confidentiality: No re-disclosure by those who “need to know”.
  1. Pedigree studies: How keep confidential? Should relatives consent?
  2. Federal Certificates of Confidentiality: Are they useful?
- Who has access to information gained /retained?

IRB issues in genetic research

- Will products be developed for commercial gain?
- Will sensitive biological information be discovered? (non-paternity, etc.)
- Consequences of study findings: subject may learn of a genetically increased risk for illness; insurance/discrimination issues

IRB issues in genetic research

- How to describe the study?
- Who is on the research team? (Commercial partners?)
- Privacy rules for the researchers (What will the commercial partner know?)
- Archiving of DNA/cell lines plan
- Distribution/other uses of the DNA?

IRB issues in genetic research

- Testing of children:
  1. Will research confer a direct benefit?
  2. Does child want to know the genetic condition?
  3. What if no treatment is currently available?
Patient or Subject?

• Patients:
  • 1. Doctor-Patient Relationship
  • 2. Duty to provide appropriate care
  • 3. Right to know/participate in care plan
  • 4. Right to access/obtain records
  • 5. Right to donate tissue

• Subjects:
  • 1. Right to informed choice
  • 2. Right to sue for malpractice
  • 3. Right to donate tissue (and profit from its use?)
  • 4. Rights provided by federal regulations for protection of human subjects and HIPAA Privacy.

Consent issues: General

• What standard is used: reasonable researcher? Reasonable subject? Individual subject?
• Language from consent forms:
  • “We want to store your sample under your name and save it for future research”
  • “We will share information with other researchers but without your name”

Consent issues: Language

• “Confidentiality will be protected as allowed by law”
• “Results may affect your insurability”
• “You can refuse to allow storage”
• “Genetic information may apply to/be relevant to family members”

• “We will not provide information about you to family members but pedigree studies may reveal information so we will ask if you are willing to share information with family”
• “Tissue may be used to develop commercially valuable products; you waive any claim to profits”

• “Genetic information will be seen with your racial/ethnic group”
• “We will not tell you what we find out nor will we contact you if a test/treatment becomes available in the future”
• “You waive any right to consent/be notified of future research using your DNA”
Consent issues: Language

- “Presence/absence of a genetic marker doesn’t mean you will/will not develop a disease”
- “Study is likely to be of no benefit to you. Testing may become available in the future but you will have to receive it through your doctor”

Collection of Tissue

- Why was the material (tissue, DNA) obtained?
  - Clinical purpose
  - Research purpose
  - Mixed

Collection of Tissue

- Tissue is discarded if:
  - obtained for clinical purposes and
  - released by the Tissue Procurement Core.
  - It is not discarded if you ask the surgeon for “some left-over pieces” or “just cut a bit more off the side”.

Collection and Consent

- Consent alternatives:
  - 1. Clinical use only-no research
  - 2. Only anonymous research use
  - 3. Protocol specific, no more contact
  - 4. Protocol specific, contact for future use
  - 5. Protocol and “related uses”

HIPAA Privacy and Research

- Consent must be specific and meaningful so a consent for “Any future use you researchers can dream up” will not be allowed so long as tissue is identifiable.
- De-identified means no ability to identify subject with sample (can keep key separately).
Storage of Tissue

- Identifiable (linked)-privacy and IRB issues
- De-identified (coded?)
- Anonymous (unlinked)-no privacy or IRB issues (except initial collection)
- Issues: Privacy protection. Sharing of results. Incidental findings (non-paternity)

What is Anonymous?

- No name, CPI #, Social Security #, address, etc. that could identify subject.
- HIPAA has 19 elements to de-identify.
- Issue: What about very rare conditions?

Tissue Collection from Minors

- Need for assent
- What happens when the minor turns 18? Re-contact? New consent?
- What if study is on-going?
- What if you want to do new research not mentioned in the original consent?

Rights of Family Members

- If you are obtaining confidential information about identifiable family members are they subjects? Must they consent? See: Virginia Commonwealth case discussed in Botkin article in JAMA V. 285
  - jama.ama-assn.org/issues
  - /v285n2/rfull/jlm00025.html

Subsequent use of tissue

- For the specific research project
- For subsequent research
  - 1. By the same researcher
  - 2. By other researchers
  - 3. “Your DNA will be in a freezer until we figure out some neat tests to do”

Subsequent use of tissue

- How do you obtain present consent for subsequent use?
- How do you find people in the future to get consent?
- Is a solution of anonymous samples only adequate?
  - JAMA Dec. 13, 1995 V. 274, #22 1786-92 Consensus Statement on Consent
Possible Language

• “I will use your DNA to study Alzheimer’s Disease. Your sample will not be identifiable. You will not receive any results back. Anything I learn I will publish and this may benefit people in the future. Would you like to participate?”

To Share or Not to Share?

• Research findings
• Predictive genetic information (for subject/family)
• Confirmatory information
• Unanticipated/incidental findings (misdiagnosis, non-paternity)
• Evolving information

Research Risks

• Impact on insurability
• Impact on employability
• Impact on sense of self-esteem
• Survivor guilt (“I’m normal but my sibling isn’t”)
• Family secrets

Commercial Applications

• The Uniform Anatomical Gift Act
• Moore v. Univ. of California (1990). Subject must knowingly consent to commercial use.
• “I agree that tissue/DNA removed from me may be used to develop a commercial product with financial benefit. I will not be responsible for

• Any costs of development nor will I be able to share in any profits”
• Alternative: “I accept $1 to bar any rights to future profits”
• Alternative: “You will give me a share (define) of future profits”

Conclusion

• The key is a fully informed subject (using the reasonable subject standard) who makes and documents a reasoned uncoerced choice to be an altruist and gives up specified “rights”. The trick is to anticipate and discuss foreseeable risks of genetic research.
Question and Answer

• All purpose legal answers:
• It depends
• It’s too soon to tell
• But on the other hand
• Let me do some research and get back to you
• Why do you want to know?
• Sorry, but I’m late for a meeting

Question

• If lawyers can be disbarred can electricians be delighted; musicians denoted; cowboys deranged; models deposed; tree surgeons debarked and dry cleaners depressed?

References

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• Powers, Publication-Related Risks to Privacy: Ethical Implications of Pedigree Studies, IRB V. 15 #4 7-11

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- UMHS IRBMED guidance document: www.med.umich.edu/irbmed/