Nothing Beats A Good Pair of Genes: UC 260

The Law and Genetic Research
Edward B. Goldman, J.D.
University of Michigan
November 18, 2003

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

- 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

- 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

- 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

- 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

Patient or Subject?

- 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"

Consent issues: Language

- "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"

Consent issues: Language

- "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 of Tissue

- Case Study:
- Clinical tissue read as benign
- Tissue requested for research
- Tissue used for research
- Research tissue read and identified as NOT benign.
- What if anonymous/identifiable?

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

Commercial Applications

- 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"
- See: IRB Sept.-Dec. 1995 V. 17 #5,6 1-9.

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

- Schuklenk, et. al. The Ethics of Genetic Research on Sexual Orientation, Hastings Center Report July-Aug. 1997, V. 27, #4 6-13
- Reilly, et. al., Ethical Issues in genetic research: disclosure and consent, Nature Genetics V. 15, Jan. 1997, 16-20

References

- Weir and Horton, DNA Banking and Informed Consent, IRB V. 17,#4 and #5,6 July-Aug. 1995 (Part 1) 1-4 Sept.-Dec. 1995 (Part 2) 1-16
- Powers, Publication-Related Risks to Privacy: Ethical Implications of Pedigree Studies, IRB V. 15 #4 7-11

References

- Glass et. al., Structuring the Review of Human Genetics Protocols Parts I-III, IRB V. 18 #4, 1996 1-9; V. 19 #3,4, 1997, 1-13; V. 21 #2 1999.
- Clayton et. al., Informed Consent for Genetic Research on Stored Tissue Samples, JAMA Dec. 13, 1995 V. 274 #22, 1786-1792

References

- Knoppers, Research and Stored Tissues Persons as sources, Samples as persons?, JAMA Dec. 13, 1995, V. 274 #22 1806-7.
- Earley and Strong, Certificates of Confidentiality: A Valuable Tool for Protecting Genetic Data, Am. J. Hum. Genet. 57:727-731, 1995.

References

- **Federal repository guidance:**
- **http://ohrp.osophs.dhhs.gov**
- **UMHS IRBMED guidance document:**
- **www.med.umich.edu/irbmed/**