Regulatory and Ethical Issues in Repository Research

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Agenda

- Review of Regulatory and Ethical Issues

    - Creating a Repository
    - Storing Data and Managing
    - Using the Repository

- Discussion and Debate

Paradigms Shifting

Traditional Research: (privacy/consent)	Biobank Research: (collective interests)
► Individual subject	► Families-Communities
► Established relationship	► Unknown future investigators
► Consent for explicit procedures	► Unknown future uses and pursuits
► Altruistic motivations	► Diverse motivations, long-term investments

Jeffers, 2001

NIH GWAS Data Sharing Policy

- “The full value of GWAS to the public can be realized only if the genotype and phenotype datasets are made available as rapidly as possible to a wide range of scientific investigators”…

dbGaP

GENOTYPES and PHENOTYPES

http://grants.nih.gov/grants/guide/notice-files/not-od-06-094.html

An Avalanche of Guidelines

- UK Biobanks Governance Framework (2003)
  - Are there alternative consent models?
- NIH Data Sharing Policy (2003)
  - Can we de-identify datasets?
- OHRP Guidance on Databanks (2004, 2008)
  - Who should count as a human subject?
- NIH Proposed GWAS Data Sharing (2006)
  - How can we preserve public trust?
- Consensus Statement on Personal Genome (2008)
  - Should we return results? How can you withdraw?

Creating a Repository

- Diversity of data and specimens
    - Purposes/Types of studies
    - Type, Associated information
    - Prospective/Retrospective
    - Level of identifiability
- Collection methods
- Consent procedures/Waivers
- HIPAA

DNA: “No Longer De-Identified”

- Individual identification is possible with access to a limited number of DNA markers – far fewer than used in GWAS
- Identification requires matching sample: is individual “readily identifiable?”
- Individuals can be identified from pooled genotype data

McGuire & Gibbs, Science 2006;312:370-1
Homer et al. PLoS Genet; 4(8): 1-9

Consent: what can we do?

- Opt-out
- Opt-in
- Specific designations of use
- Consent at admission (if hospital-based)
- Consent post-op
- Re-consent for specific use

- How should we decide what to use?

Storage and Management

- Storage: where and how long?
- Data release: what and to whom?
- Governance and oversight: who will perform gatekeeping functions?
- Responsibilities of data recipient: protection, stewardship, and returning results?

IRB Assessment of Risk

- Physical
- Psychosocial
- Group harms
- Privacy/confidentiality

Public Opinion

2008 randomized public survey of 4659 (58.4% response)

- 90% were concerned about privacy protections
- 60% would participate in a biobank if asked
- 48% would provide consent for all research if approved by an oversight board, 42% wanted to be asked for each
- 37% were worried the data could be used against them
- 92% would allow academic researchers to use data; 80% "govt researchers"; 75% industry
- Receiving research results, or $200, made a difference in interest in participating and lessened concerns about privacy

- Kaufman et al. 2009

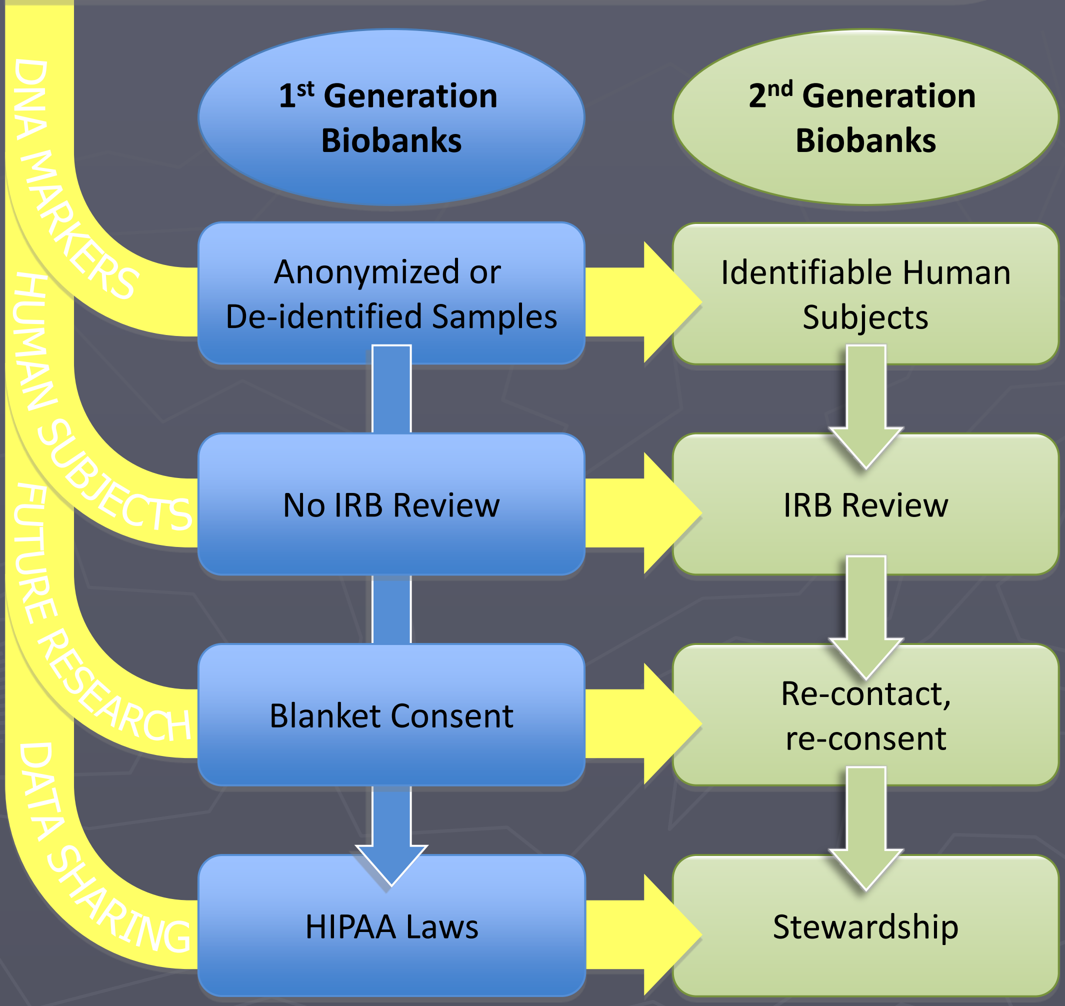
Benefits of Public Participation

Public participation in research can:

- Improve recruitment
- Enhance data collection
- Focus analysis and interpretation
- Facilitate dissemination
- Creates trust

Staley K. (2009) Exploring Impact: Public involvement in NHS, public health and social care research. INVOLVE, Eastleigh.

The New Research Ethics Reality



	1st Generation Biobanks	2nd Generation Biobanks
DNA MARKERS	Anonymized or De-identified Samples	Identifiable Human Subjects
HUMAN SUBJECTS	No IRB Review	IRB Review
FUTURE RESEARCH	Blanket Consent	Re-contact, re-consent
DATA SHARING	HIPAA Laws	Stewardship

Fullerton, et al. Under review

Questions for Discussion

- When is it appropriate to return research results to subjects?
- How much control should subjects have over future uses of their data/specimens?
- Is it possible to prevent group harm? How can this be prevented?
- How to assess risk, especially with genetic research?
- What kind of stewardship or oversight is appropriate for repository research?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OHRP Guidance (2008):

Coded Private Information and Specimens

"Under certain limited conditions, research involving **only** coded private information or specimens is not human subjects research."

45 CFR 46.102 Definitions:

(f) *Human subject* means a <u>living individual</u> about whom an investigator conducting research obtains:

(1) Data through intervention or <u>interaction</u> with the individual, or

(2) <u>Identifiable</u> private information.

http://www.hhs.gov/ohrp/humansubjects/guidance/cdebiol04.pdf

NIH GWAS Data Certification

- In order to minimize risks to study participants, data submitted to the NIH GWAS data repository will be de-identified and coded.
  - the identities of data subjects cannot be readily ascertained or otherwise associated with the data by the repository staff or secondary data users
  - the 18 identifiers enumerated by the HIPAA Privacy Rule are removed; and
  - the submitting institution has no actual knowledge that the remaining information could be used alone or in combination with other information to identify the subject of the data.

NIH Points to Consider (November 2007)