Four areas of difficulty: Informed consent, informational risk, privacy, and making decisions in the face of uncertainty

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Applying principles can be hard. Four area of difficulty:

1. Informed consent
2. Informational risk
3. Privacy
4. Making decisions in the face of uncertainty

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Simple idea, Counter-example(s), better idea, advice

Informed consent

Simple idea: informed consent from all participants

The Mark of a Criminal Record[1]

Devah Pager
Northwestern University

http://www.jstor.org/stable/10.1086/374403

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Field experiments to study discrimination, at least 117 studies in 17 countries (Riach and Rich, 2002; Rich 2014)

Principles-based argument

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- the limited harm to the employers
- the great social benefit of having reliable measure of discrimination
- the weakness of other methods of measuring discrimination
- the fact that deception does not strongly violate the norms of that setting

Rules-based argument

- Dozens of IRBs approved (probably based on Common Rule 46.116, part (d))

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- US courts have also supported the lack of consent and use of deception in field experiments to measure discrimination (No. 81-3029. US Court of Appeals, 7th Circuit).

- Simple idea: informed consent for all research

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- Actual rules and principles: some for of consent for most research

- Is desire for consent motivated by respect for persons or beneficence? (think Encore)

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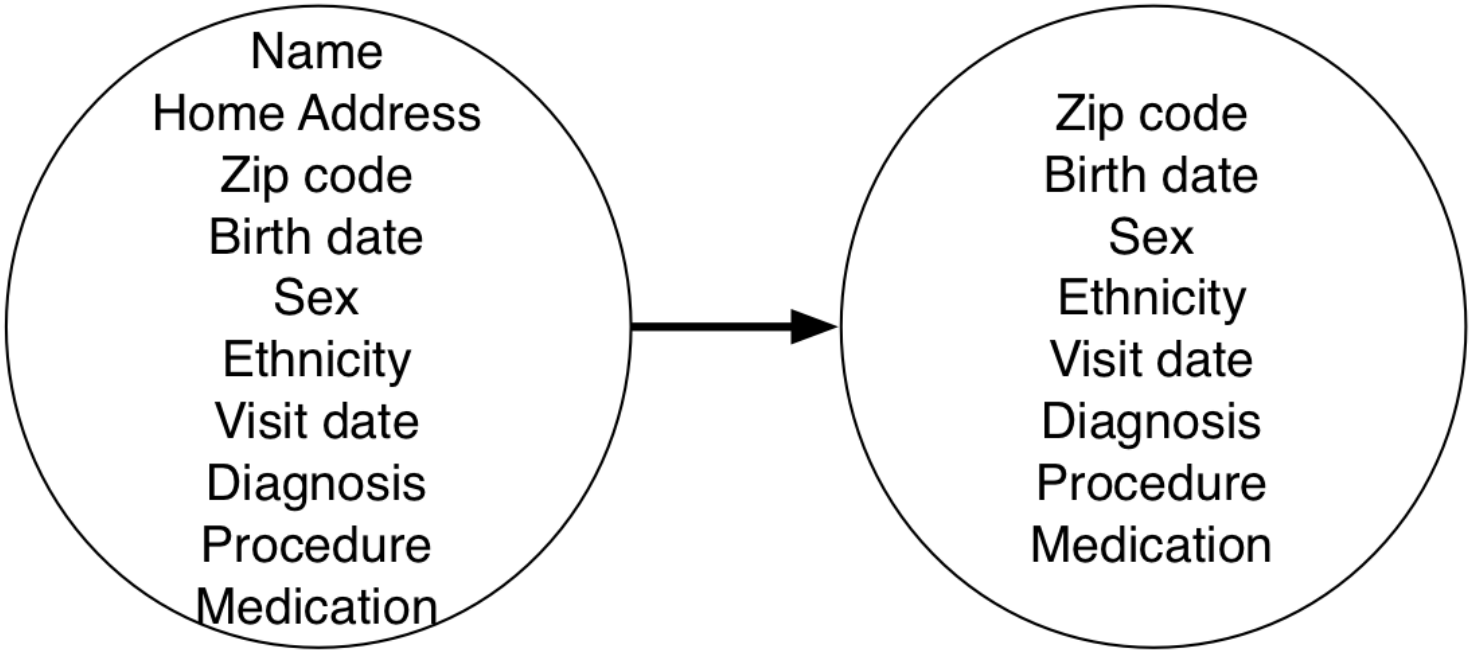
- Ideas for alternatives in Bit by Bit, Sec 6.6.1

Understanding and managing informational risk

Biggest risk from much of computational social science is informational risk. Harms from the disclosure of personal information could be:

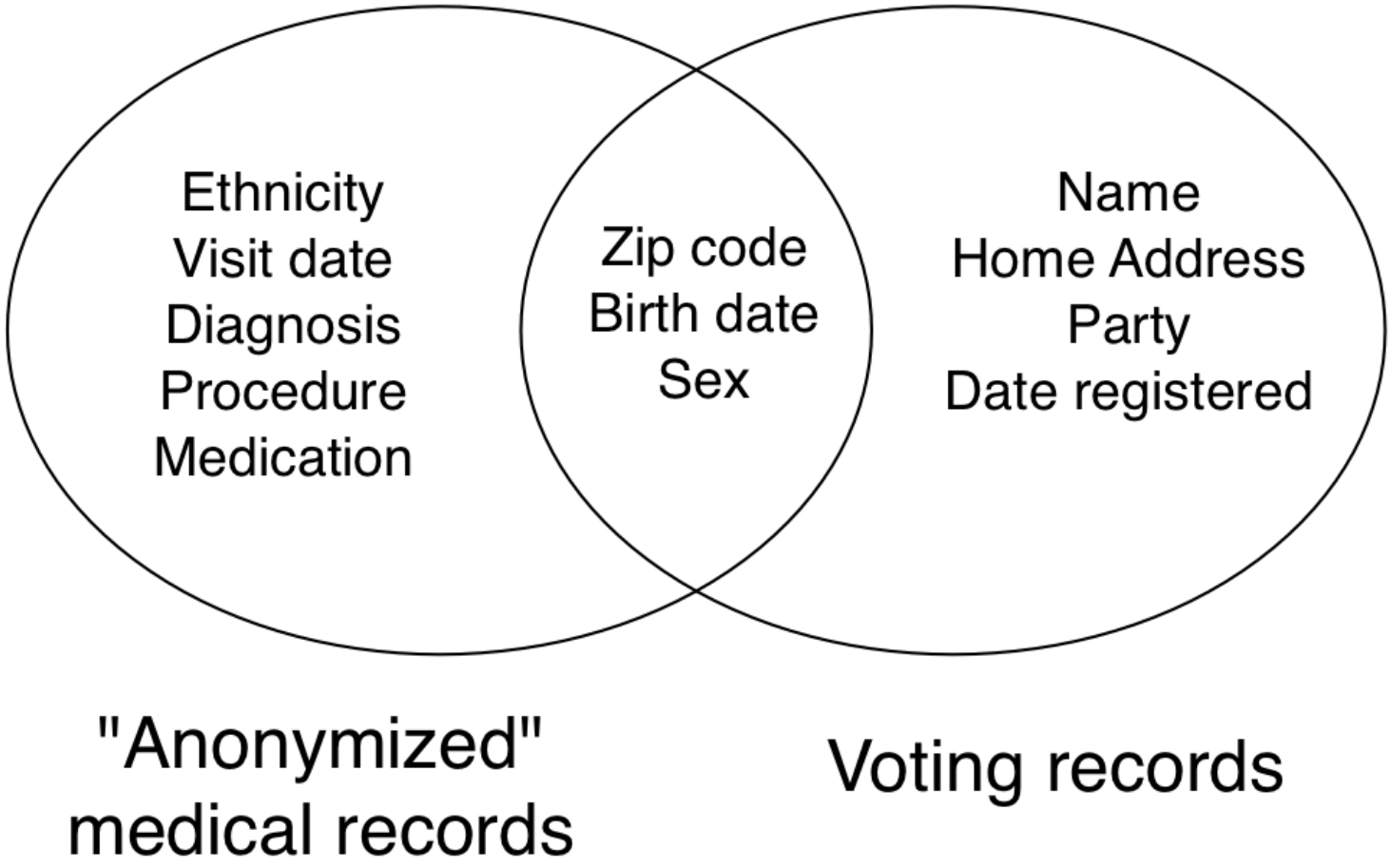
- economic (e.g., losing a job)
- social (e.g., embarrassment)
- psychological (e.g., depression)
- criminal (e.g., arrest for illegal behavior)

Simple idea: Data can be made anonymous, and we can tell what data is sensitive



"Anonymization"

Sweeney (2002)



Sweeney (2002)

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$$\underbrace{\text{Baking soda}}_{\text{Safe}} + \underbrace{\text{Vinegar}}_{\text{Safe}} =$$

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https://www.flickr.com/photos/edenpictures/15962352215/

- Simple idea: Data can be made anonymous, and we can tell what data is sensitive

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- Better idea: All data are potentially identifiable and all data are potentially sensitive

Robust De-anonymization of Large Sparse Datasets

Arvind Narayanan and Vitaly Shmatikov
The University of Texas at Austin

dx.doi.org/10.1109/SP.2008.33

"[M]ovie and rating data contains information of a more highly personal and sensitive nature [sic]. The member's movie data exposes a Netflix member's personal interest and/or struggles with various highly personal issues, including sexuality, mental illness, recovery from alcoholism, and victimization from incest, physical abuse, domestic violence, adultery, and rape." *(Singel, 2009)*

"Five safes" data protection plan (Desai et al 2016)

- Safe projects

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"Five safes" data protection plan (Desai et al 2016)

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- Safe people
- Safe data
- Safe settings
- Safe output

- With a strong data protection plan most computational social science is minimal risk

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- More ideas *Bit by Bit*, Sec 6.6.2

Privacy

What is privacy?

Simple idea: Public/private dichotomy

Polit Behav (2010) 32:369–386
DOI 10.1007/s11109-010-9114-0

ORIGINAL PAPER

Affect, Social Pressure and Prosocial Motivation: Field Experimental Evidence of the Mobilizing Effects of Pride, Shame and Publicizing Voting Behavior

Costas Panagopoulos

WHO VOTES IS PUBLIC INFORMATION!

Dear registered voter:

On November 6, 2007, an election to select local leaders will be held in Ely, IA.

As a registered voter, you are eligible to vote in this election. We urge you to exercise your civic duty and vote on November 6th.

We also remind you that who votes is a matter of public record.

To promote participation in the election, we will obtain a complete list of registered voters who cast ballots on Election Day from local election officials. Shortly after the November 2007 election, we will publish in the local newspaper a complete list of all Ely registered voters who did not vote.

The names of those who took the time to vote will not appear on this list.

DO YOUR CIVIC DUTY! VOTE ON ELECTION DAY!

http://www.jstor.org/stable/40960943

- Simple idea: Public/private dichotomy
- Better idea: contextual integrity (Nissenbaum), think about flows of information

Key idea is “context-relative informational norms”

- actors (subject, sender, recipient)
- attributes (types of information)
- transmission principles (constraints under which information flows)

Making decisions in the face of uncertainty

Simple idea: Better safe than sorry ("precautionary principle")

Imagine a study similar to Emotional Contagion

- Someone might be harmed by the experiment

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- Someone might be harmed by the experiment
- Someone might be harmed if the experiment was not performed

There is no risk-free approach.

- Simple idea: Better safe than sorry ("precautionary principle")

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- Better idea: There is no risk free approach, and we should not take a narrow-field of view.

For fuller elaboration, see Sunstein (2005) Laws of Fear: Beyond the Precautionary Principle

Ways forward:

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- minimal risk standard

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- staged trials

For more details, see *Bit by Bit*, Sec 6.6.4

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Practical advice:

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- IRB is a floor not a ceiling
- Put yourself in everyone else's shoes
- Think of research ethics as continuous not discrete
- Not in book: Think of ethics as a research opportunity


FAT / ML
2017
2016
2015
2014
Organization
Resources
Mailing list
Fairness, Accountability,
and Transparency
in Machine Learning

Next step: Your turn.
You will work in groups to analyze a real case and apply these ideas.

Questions?