Extracting Information

Issues of Measurement, Inference and Linkage

Key Ingredients for Valid Inference

- 1. Data generating process needs to be known
- 2. Framework already available for small data
- 3. Data access and linkage is essential part

1. Data Generating Process

Who? What? Why?

Who is missing? Who is counted repeatedly? What is not said / measured? ..and why?

... designed or organic?

Measurement Representation Population Mean \overline{Y} Coverage Construct μ_i Error Validity Sampling Frame Y_c Sampling Error Measurement Y_i Sample \overline{Y}_{s} Measurement Nonresponse Error Error Response y_i Respondents \overline{Y}_r Adjustment Processing Error Error Response y_{ip} Postsurvey Adjusted Data Survey Statistic

Groves et al. 2004

2. Framework

Total Survey Error

- Successful use in 'small data'
- Good starting point
- Development needed

Always in light of

- Research question
- Hypothesis

3. Access and Linkage

Essential to understand data quality and break-downs

Challenged by ... different privacy requirements

- Open issues of ownership
- Lack of trusted third parties

However likely leads to good data documentation

- + Reproducible research
- + Transparency

fkreuter@umd.edu rpeng@jhsph.edu