

Comparison of “Huge, Data-Thin” Cohorts (e.g. U.K. BioBank) And “Small, Data-Thick” Cohorts (e.g. Southampton)

Cohort Attribute	Huge – Thin	Small – Thick
Cost Per Subject due to:	Low (e.g. < \$500. / data-wave)	High (if > \$1,000. / data-wave)
Sample Size due to choice of:	500,000 ⁺	< 30,000
Exposures	Cheap-to-collect/store measures – e.g. genetic	Expensive, balanced mix of environmental and genetic measures
Outcomes	Cheap-to-collect administrative data – e.g. hospitalizations for diagnoses/deaths (dichotomous) → ↑ SS.	Expensive, directly measured biochemical physiologic, imaging, functional outcomes (often continuous) → ↓ SS.
Leading “Exposure-Measure Bias”	Large environmental exposure error >> genetic factor errors	“Better balanced errors” for environmental versus genetic factors
Leading to:	Biased main effects and interaction results	Less biased results

Asymmetry political,
economic & cultural as
well as technical

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Your Ancestral Motherline



Would you like to find out from which people your personal maternal lineage is descended?

Most of us can trace our family history for a few generations - possibly down to our great-great-grandparents - but certainly not thousands of years into the distant past, when Europe and other continents were settled by prehistoric tribes and peoples.

Others of us have little knowledge of even fairly recent ancestors and suspect that they may hark from an exotic land - but until now have had no way of knowing for sure.

As shown in the [BBC's documentary "Motherland - A Genetic Journey"](#) and [PBS's recent film "African American Lives"](#) modern genetics shows us a way to address these questions. In the genetic material in each of us, a mass of historic information is encoded, with which experts can for the first time gain clues to our past ancestors. Over the last ten or so years, groundbreaking work by geneticists has shown that mitochondrial DNA (mtDNA) - which is passed from mother to child unaltered for many generations - is a very reliable tool for discovering personal family history.

The Roots for Real mtDNA tracing service uses a small sample of your mtDNA - easily obtained by a simple home saliva test. With it, we match you to people around the world who share your own very specific motherline - people who are in effect distant cousins. The Roots for Real service is based on up-to-date genetic knowledge and processes, is carried out in highly qualified laboratories, and uses the largest available global geographic database of human mtDNA.

National cohort
studies

-> Q: overcoming
these asymmetries?

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Extensions of
scorecard.org?



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- ▶ Toxic Chemical Releases
- ▶ Lead Hazards
- ▶ Superfund

AIR

- ▶ Smog and Particulates
- ▶ Hazardous Air Pollutants

WATER

- ▶ Clean Water Act
- ▶ Watershed Indicators

AGRICULTURE

- ▶ Animal Waste

ENVIRONMENTAL JUSTICE

- ▶ Community Center
- ▶ En Español

HEALTH HAZARDS

- ▶ Chemical Profiles
- ▶ Health Effects
- ▶ Regulations

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Get answers to the most commonly asked questions on nationwide pollution.

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[Tell EPA not to weaken pollution reporting!](#)

We think American citizens have a right to know what toxic chemicals are being released into their communities. But the EPA recently proposed to limit the information that companies are required to disclose about the hazardous chemicals they release into our environment. By reducing the reporting requirements of its Toxics Release Inventory program, the EPA would take away an important tool for protecting public health and reducing industrial pollution.

There is no justification for weakening this successful program, other than to please

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**builds on various laws &
government-mandated
databases**

**-> Open Q:
prospects for
epidemiologically relevant
information being sustained?**

Extensions of scorecard.org

longitudinal

Extensions of scorecard.org

- **longitudinal**
- **interface with local organizing**
 - > **grassroots pressure to sustain environmental data collection & centralized data bases?**
 - > **Open Q:**
“self-surveillance”?

**-> Open Q:
agent-oriented focus in
social epidemiology?**

**traditional emphasis on exposures
impinging on subjects**

->

**elucidate people's resilience
and reorganization of their
lives and communities in
response to social patterns**

Open Qs:

Optimism re: genetic diagnosis?

Heterogeneity overlooked—why?

How to expose heterogeneous factors?

Can genome-typing be useful for:

- * public policy?**
- * personalized therapy?**

Prospects for epidemiologically relevant information being sustained?

Longitudinal “self-surveillance”?

Agent-oriented focus in social epidemiology?

How to engage scientists on open Qs?

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**Qs, Insights, Discussion points:
On paper // Pair-share //
Whole group discussion**