Commentary
Experiences in Biostatistics

Sarah Anoke

25 July 2014

My Background

From Tulsa, Oklahoma.

High school at the Oklahoma School of Science and Mathematics.

A.B. in Chemistry from Harvard College in 2009.

Took $\approx$ three years off.

- One year as a bank teller.
- One year at a math program (+ SPQS '11).
- Nine months as a research assistant.

Matriculated in August 2012.

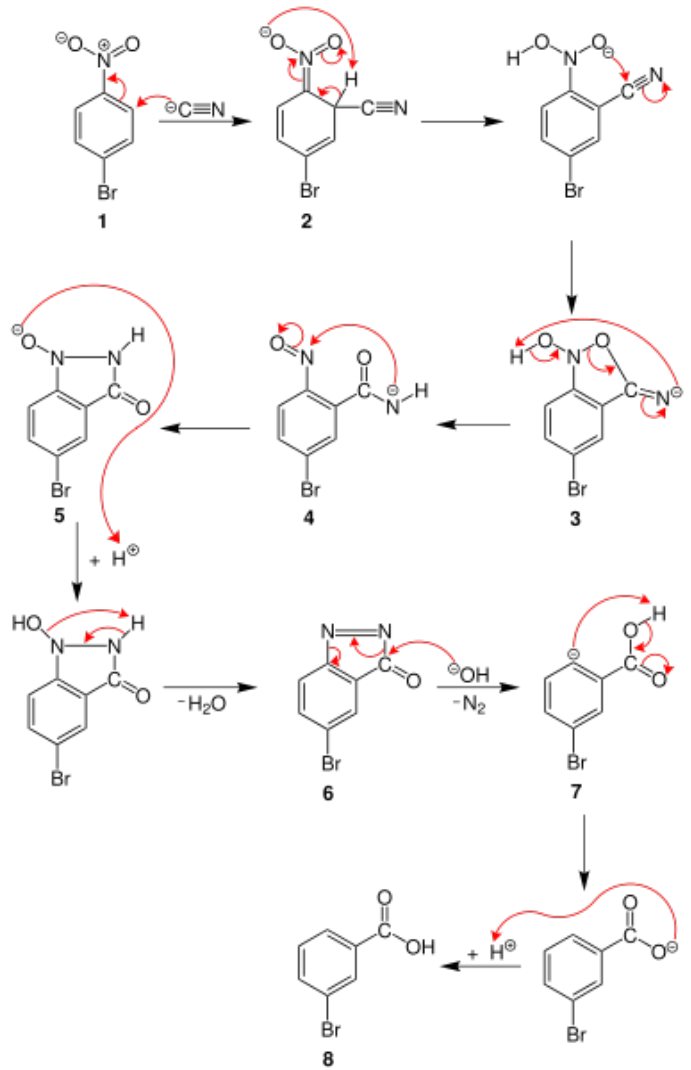
My Background: Chemistry

Taught a set of "tools" and how/when each tool is used.

Learned how to select the most appropriate tool(s) for the situation.

Biostatistics is very similar!

☛ Decided to switch fields.



The Von-Richter rearrangement is the "... chemical reaction of aromatic nitro compounds with potassium cyanide giving carboxylation ortho to the position of the former nitro group".

(Wikipedia)

My Background: Math Post-Baccalaureate Program

One-year program for women at Smith College.

Took several math and statistics classes.

Real analysis, more Calculus, Statistical Computing.

Linear algebra and analysis are **critical**!

Experiences in the Department: Collaborative Work

. . . with classmates on problem sets.

. . . with professors on research projects.

. . . with collaborators as a statistician.

. . . within a teaching staff in running a course.

- The ability to take & learn from constructive criticism.
- The ability to identify what information I don't know and seek it out.

Experiences in the Department: Communication of Ideas

. . . within a study group.

. . . to my advisor on a research project.

. . . to collaborators as a statistician.

. . . to students when teaching a class.

. . . to the scientific community through articles.

☛ Adaptation of message to recipient.

Research: Methodological Interests

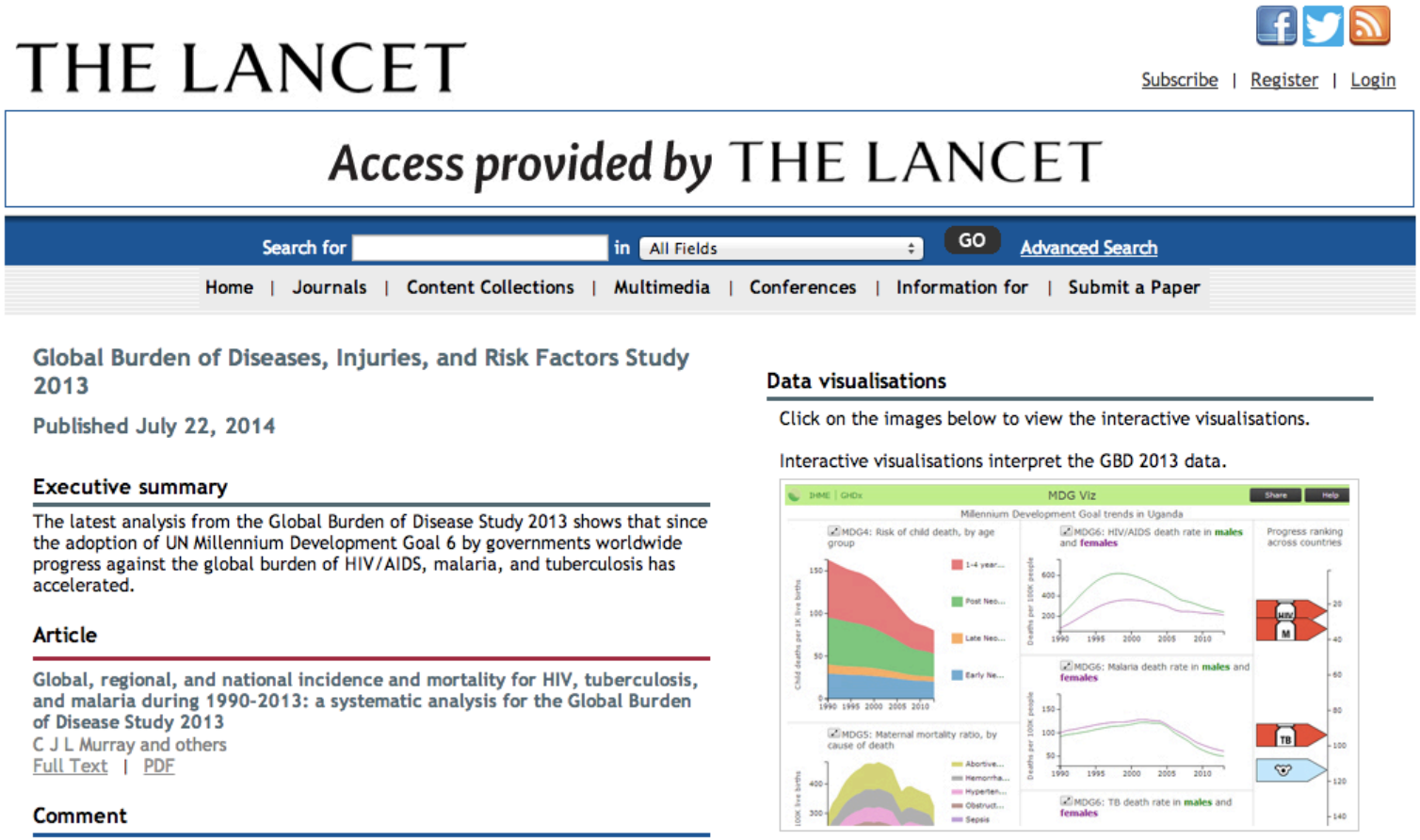
Bayesian approaches to causal effect estimation.

Treatment effect heterogeneity and identification of subgroups.

Research: Application Area Interests

Health program monitoring and evaluation in sub-Saharan Africa.

- Data sources are sparse; complex Bayesian approaches in use.
- Ideally, development of a sophisticated method and a more feasible complement.



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Global Burden of Diseases, Injuries, and Risk Factors Study 2013

Published July 22, 2014

Executive summary

The latest analysis from the Global Burden of Disease Study 2013 shows that since the adoption of UN Millennium Development Goal 6 by governments worldwide progress against the global burden of HIV/AIDS, malaria, and tuberculosis has accelerated.

Article

Global, regional, and national incidence and mortality for HIV, tuberculosis, and malaria during 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013

C J L Murray and others

Full Text | PDF

Comment

Data visualisations

Click on the images below to view the interactive visualisations.

Interactive visualisations interpret the GBD 2013 data.

Skills to Prepare for Grad School

Linear algebra, practice writing mathematical proofs.

Ideally, some exposure to probability.

Experience in computing.

Writing code that makes sense, and is readable by other people.

More important than the language is the thought-process.

Problems that involve the selection and justification of a solution from several viable alternatives.

Explain why the alternatives are not as appropriate.

How to research what other people have said about a topic

= literature review.