



Actionable Data

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CDC'S PLEDGE TO THE AMERICAN PEOPLE

- Be a diligent steward of the funds entrusted to our agency
 - Provide an environment for intellectual and personal growth and integrity
 - Base all public health decisions on the highest quality scientific data that is derived openly and objectively
 - Place the benefits to society above the benefits to our institution
 - Treat all persons with dignity, honesty, and respect
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**Randomized, double-blind, placebo-controlled trials:
One of the great accomplishments of the 20th Century**

*Streptomycin 1946 British MRC,
first randomized controlled trial*

Editorial _____

Short-Course Chemotherapy of Tuberculosis

Hail Britannia (and Friends)!

Randomized controlled trials cannot automatically trump other evidence, they do not occupy any special place in some hierarchy of evidence, nor does it make sense to refer to them as “hard” while other methods are “soft.” These rhetorical devices are just that; metaphor is not argument, nor does endless repetition make it so.

Deaton A. *J Econ Literature* 2010;48:424-455.

SOME LIMITATIONS OF RCTs

- External validity (time, place, epidemiology, program)*
- Temporal changes (treatments, exposures, populations)
- Rare diseases
- Efficiency
- Design or implementation limitations (treatment standardization, placebo effects, randomization, controls)
- Population-level interventions and impacts
- Dark matter of clinical medicine – much of current practice not based on data & no realistic probability of an RCT soon

* See, e.g, *Bothwell et al. Assessing the Gold Standard – Lessons from the History of RCTs. NEJM 2016; 374:2175-81.*

SOME OTHER POTENTIAL DATA SOURCES

- Observational
- Program implementation and evaluation
- Epidemiological analyses
- Aggregated clinical information (potentially as prelude to RCT)
- Other

A HOLISTIC APPROACH TO HEALTH DATA

- Clarity about health outcome being sought
- Data sources fit to purpose to achieve health outcome
- Rigor in evaluating all data sources – RCT, observational, other
- Humility about conclusions – regardless of data source
- Focus on when data is sufficient for action
 - *Failure to act is also a decision*



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