



# Big Data and health economics: What's the added value?

**Richard Grieve, LSHTM**

[richard.grieve@lshtm.ac.uk](mailto:richard.grieve@lshtm.ac.uk)

<http://theta.lshtm.ac.uk/>



# Big data: issues

- Large numbers, but..
- Key is 'granularity' many variables per unit ..often from many, linked sources
- Raises new opportunities and challenges for design (ignored) analysis (specific focus)
- Health economics can
  - Gain value from big data
  - add value to big data methods



# 1. Policy-relevant design

- Evaluations new health policies
  - Kreif et al, 2015, O'Neill et al 2016
- Clinical interventions
  - Sekhon and Grieve, 2015, Pennington et al 2015
- Evaluations for target populations
  - Hartmann, Grieve et al 2015, Steventon et al 2015

## 2. Methods from other disciplines



- Multivariate matching methods (Diamond and Sekhon 2015)
- Matching combined with Instrumental variable methods (Baiocchi et al 2010)
- Reweighting approaches that test for unobservables (Hotz et al, 2005)

# Bring back altruism. Our blood banks depend on it

## Polly Toynbee

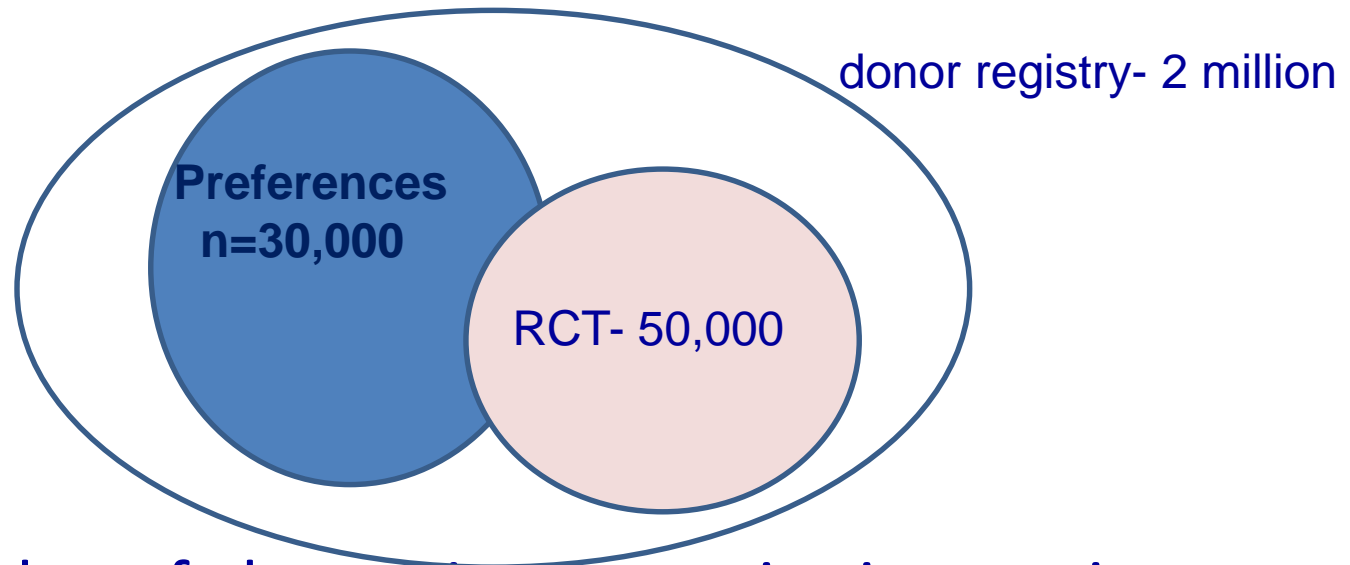


Donations are falling, but a US-style model of paying donors would be disastrous. From giving blood to paying tax, it's altruism that creates a decent civilisation



### 3. Different evidence e.g. preferences

- Health Economic Modelling of alternative blood donation strategies (HEMO)



- Goal: value of alternative strategies in practice..
- Future: harness big data to provide assessment of cost-effectiveness of strategies towards personalisation..



# References

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