PHILOSOPHY, LINGUISTICS & THEORY OF SCIENCE
FLOV.GU.SE

CENTRE FOR ETHICS, LAW AND MENTAL HEALTH
CELAM.GU.SE

CENTRE FOR ANTIBIOTIC RESISTANCE RESEARCH
CARE.GU.SE

GOTHENBURG RESPONSIBILITY PROJECT
GRP.GU.SE

THE ETHICS OF ALLOCATION IN TRANSLATIONAL GENOMIC MEDICINE

Resource Allocation in Personalised Medicine: Evaluation, Translation & Ethics

University of Oxford, May 19. 2018

CHRISTIAN MUNTHE, PROFESSOR OF PRACTICAL PHILOSOPHY. EMAIL: CHRISTIAN.MUNTHE@GU.SE

My background

- **Philosopher** working on bioethics, healthcare ethics, public health ethics and research ethics
- **Special concentration**: the medical application of genetics and gene technology
- **Involvement in policy making** in Sweden within this area at national and regional level
- **Expert consultancy** on assessment, priority setting, resource allocation for new medical treatments
- **Learn more**: https://www.gu.se/english/about_the_university/staff/?userId=xmuntc

CHRISTIAN MUNTHE, PROFESSOR OF PRACTICAL PHILOSOPHY. EMAIL: CHRISTIAN.MUNTHE@GU.SE

Basic Assumptions (no deep philosophy)

- **Translational genomic medicine (TGM)**: genomic research facilities and activities directly used for/applied to clinical healthcare

- TGM incur costs, and these **costs need to be shown to reasonably balance opportunity cost for TGM in order to be justified** = benefits must be worth *lost* benefits

  – Healthcare: benefit = *bona fide* health improvement for treated patient
  – Research: benefit = scientific advance
  – Mix: ”social value” (2016 CIOMS guidelines on health-related research)

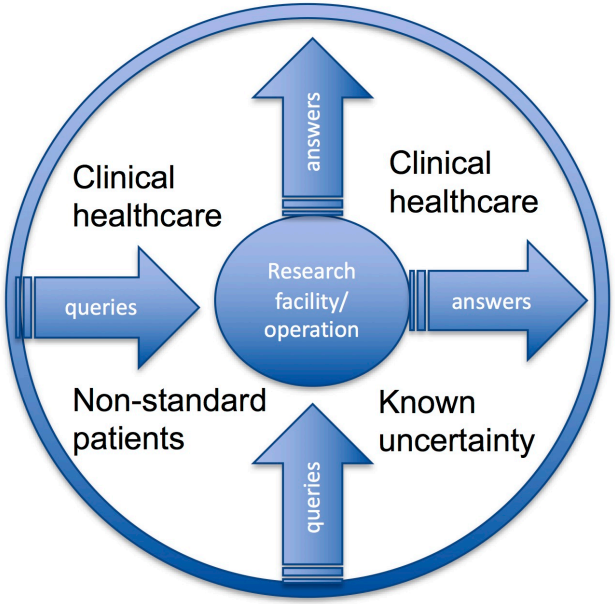
- Such balancing assumes **sufficient quality of evidence** to demonstrate costs and benefit-risk profiles. Standards different between clinical and research assessment

- **Ethical reasons fundamental** for deciding what counts as benefit and risk, how benefits and risks are balanced, how standards of evidence are set, how costs and opportunity costs are to be compared, and so on.

  – Case in point 1: orphan disease schemes in priority setting arrangements
  – Case in poit 2: The UK cancer fund (work of Karl Claxton, etc.)

Two models of TGM

Lab Assisting Clinic (LAC)

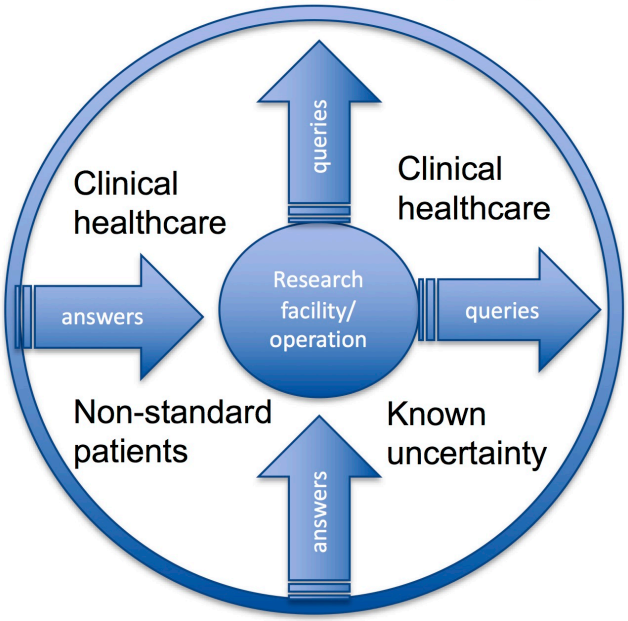


[+?]

purpose often unclear

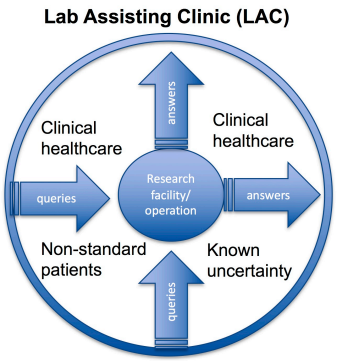
Ethical problems ensue

Clinic Assisting Lab (CAL)



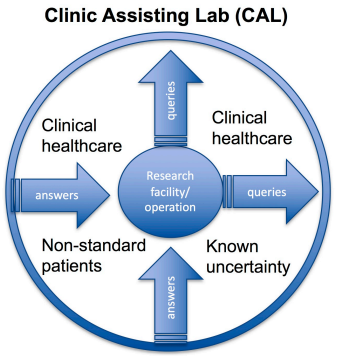
- Explorative hunt for diagnosis and treatment
- Personalised/precision medicine routine

- Opportunistic experimentation/ research on ”interesting” patients
- Organized trial format intergrated into clinical routine



LAC: Ethical allocation parameters

- **Cost: considerable** (infrastructure, staff, materials)
- **Healthcare benefit: possible but difficult to demonstrate or predict**
  - Diagnosis alone not sufficient (albeit scientifically informative)
  - Scientifically challenging to prove effect of single intervention unique to single instance
  - Lack of rigourous controls (except maybe historical, if documentation is good)
  - Even if restricted to very badly off patients with lack of known treatment options, experimental interventions bring risks of considerable harm
  - **Benefit of concept rather than intervention: requires long time with multi-central controls that moves LAC over to CAL (next slide)**
- **Opportunity cost**: benefits to other patient groups
  - More demonstrable and possibly larger benefit
  - Equal or almost equal need of help
- **Research benefit**: unclear, unless move from LAC to CAL



CAL: Ethical allocation parameters

- **Cost: considerable** (infrastructure, staff, materials)
- **Healthcare benefit:** none or very unclear, with considerable risk and uncertainty for individual patients (depends on incidental clinical outcomes and trial outcome)
- **Healthcare ethical incompatibility (cf. Macchiarini scandal):**
  - Maximizes risk of therapeutic misconception
  - Violates the research exceptionalism default (patients are not guinea pigs)
  - Violates standard informed consent requirements
- **Unless CAL is organized as a *bona fide* clinical trial of TGM *concept***
  - Requires elaborate organisation to handle ethical challenges + IRB approval
  - Very costly with accumulating ethical challenges (safety, effect)
- **Research benefit: Potentially large** (albeit not known if result is positive or negative)
- **Opportunity cost**: benefits to other parts of science
  - Do we know that a large TGM trial is a better scientific investment than other research avenues these resources could be used for?

Conclusions

- LAC model can be squared with clinical healthcare ethics, but its costs are very difficult to justify ethically
- CAL model would improve prospect of justifying costs, but creates massive clinical healthcare ethical downsides
- Ethical downsides can be avoided if CAL model is transformed into a bona fide clinical trial of a TGM concept
- The cost of such a TGM trial cannot be justified by clinical outcomes, and needs to observe rigourous research ethical arrangements, but may be justified in scientific terms
- However, unclear if such a research investment would carry its opportunity costs …