

The Challenges and Opportunities for Statisticians working with NIHR funded research

Professor Deborah Ashby
School of Public Health
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- Past: A brief history of clinical trials
- Present: NIHR@10
- Future: Emerging challenges and opportunities

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“Prove thy servants, I beseech thee, ten days; and let them give us pulse to eat and water to drink. Then let our countenances be looked upon before thee, and the countenance of the children that eat of the portion of the king's meat: and as thou seest, deal with thy servants.” So he consented to them in this manner and proved them ten days. And at the end of ten days their countenances appeared fairer and fatter in flesh than all the children which did eat the portion of the king's meat. Thus Melzar took away the portion of their meat, and the wine that they should drink; and gave them pulse.”

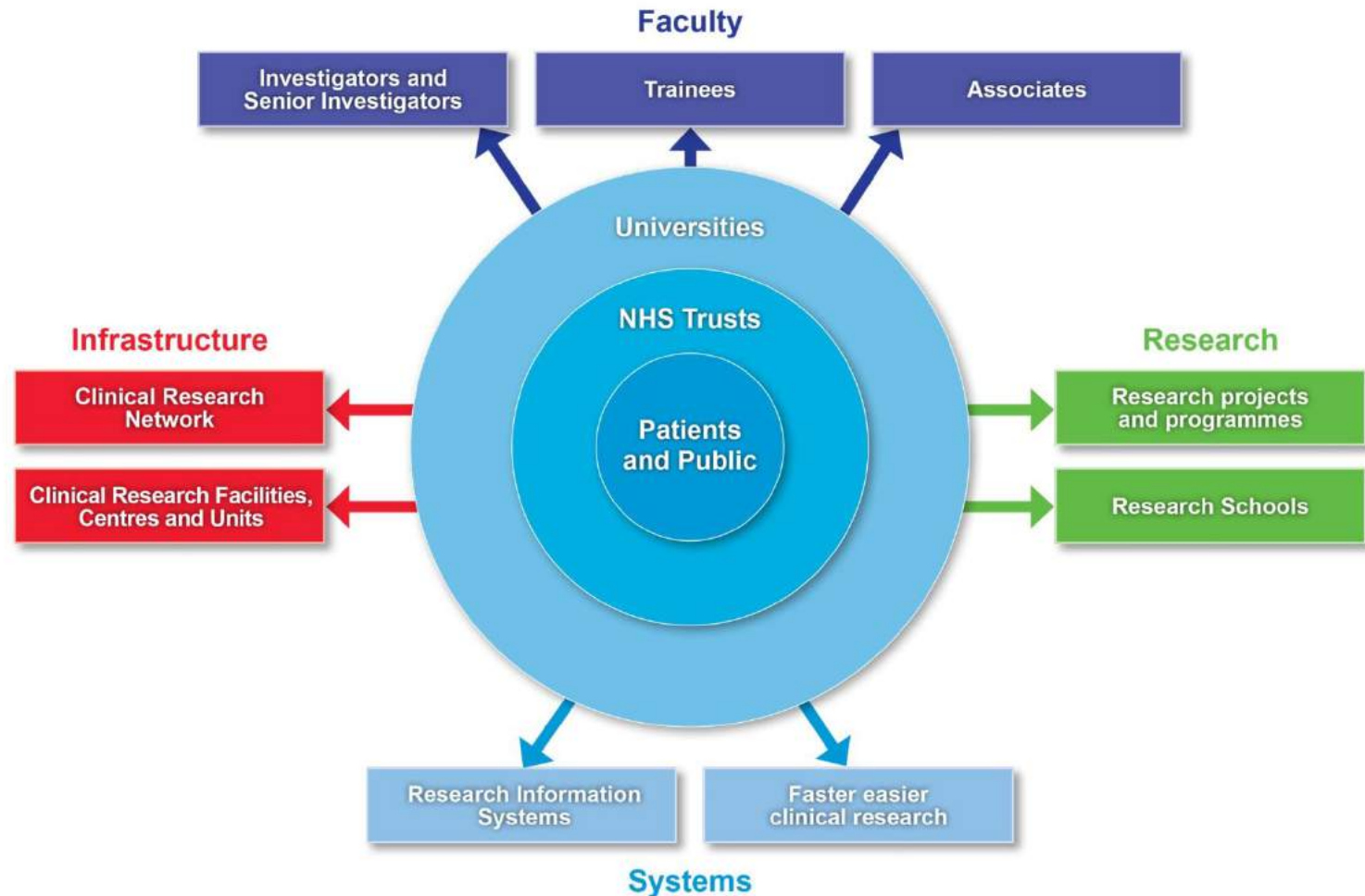
- “On the 20th of May 1747, I selected twelve patients in the scurvy, on board the Salisbury at sea. Their cases were as similar as I could have them. They all in general had putrid gums, the spots and lassitude, with weakness of the knees. They lay together in one place, being a proper apartment for the sick in the forehold; and had one diet common to all, viz. water gruel sweetened with sugar in the morning; fresh mutton-broth often times for dinner; at other times light puddings, boiled biscuit with sugar, etc., and for supper, barley and raisins, rice and currants, sago and wine or the like. Two were ordered each a quart of cyder a day. Two others took twenty-five drops of elixir vitriol three times a day ... Two others took two spoonfuls of vinegar three times a day ... Two of the worst patients were put on a course of sea-water ... Two others had each two oranges and one lemon given them every day ... The two remaining patients, took ... an electary recommended by a hospital surgeon ... The consequence was, that the most sudden and visible good effects were perceived from the use of oranges and lemons; one of those who had taken them, being at the end of six days fit for duty ... The other was the best recovered of any in his condition; and ... was appointed to attend the rest of the sick. Next to the oranges, I thought the cyder had the best effects ...”

- first double blind comparative trial with concurrent controls in the general population in recent times.
- nationwide study enrolled over a thousand British office and factory workers suffering from colds- quite a challenging endeavor in wartime
- the outcome of the trial was disappointing as the analysis of trial data did not show any protective effect of patulin.

- first randomized control trial of streptomycin in pulmonary tuberculosis was carried out in 1946 by MRC of the UK; trial began in 1947.
- amount of streptomycin available from US was limited, so ethically acceptable for the control subjects to be untreated by the drug—a statistician's dream.
- patients not told before admission that they were to get special treatment. C patients did not know that they were control patients in a special study -treated as they would have been in the past, the sole difference being that they had been admitted to the centre more rapidly than was normal. Usually they not in the same wards as S patients, but the same regime maintained
- the trial quickly became a model of design and implementation and continues to be referred to as ground breaking

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The NIHR health research system



NIHR-Supported Facilities

NIHR Biomedical Research Units



NIHR Health Protection Research Units



NIHR Biomedical Research Centres



NIHR Blood and Transplant Research Units



NIHR Healthcare Technology Co-operatives



NIHR Diagnostic Evidence Co-operatives



NIHR-supported Clinical Research Facilities



NIHR School for Public Health Research



NIHR School for Primary Care Research



NIHR/CR-UK Experimental Cancer Medicine Centres



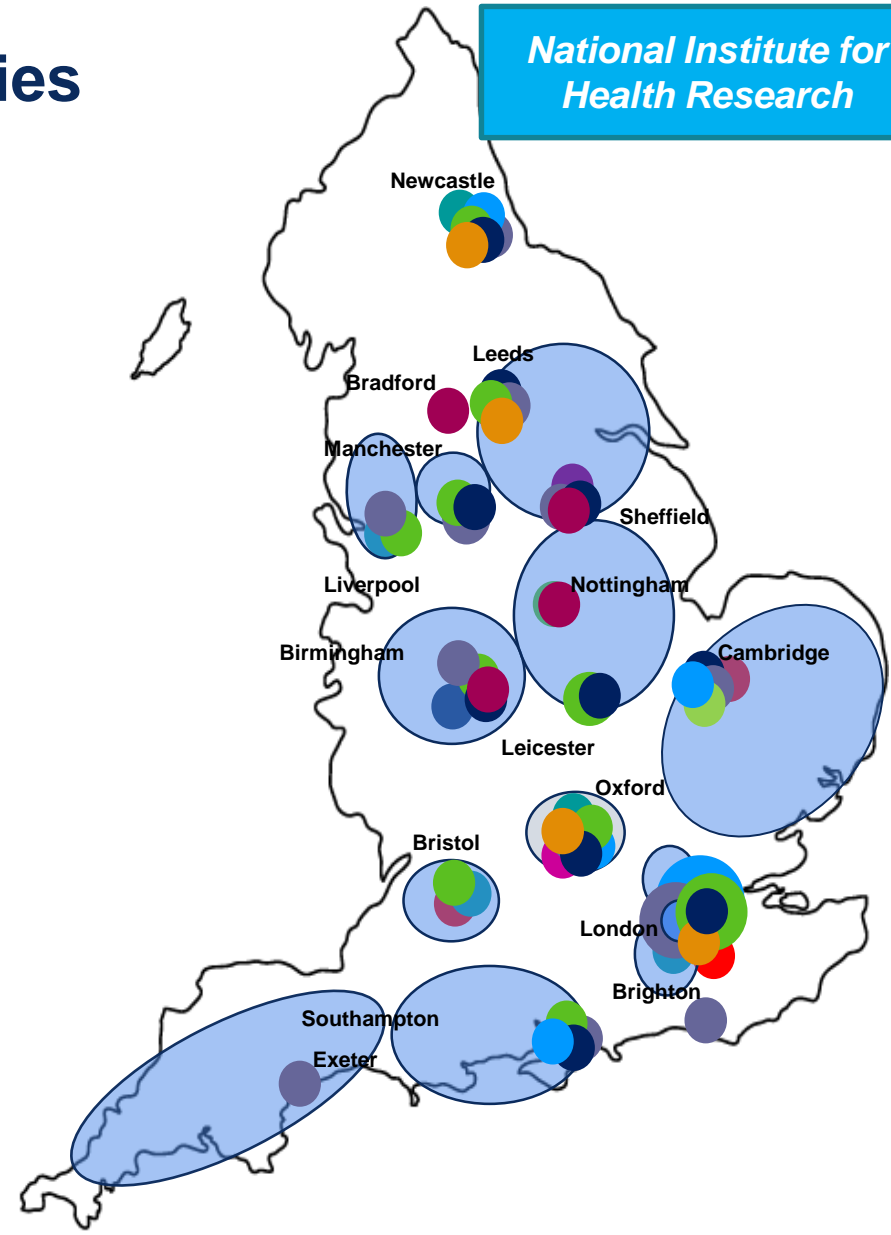
NIHR Surgical Reconstruction and Microbiology Research Centre



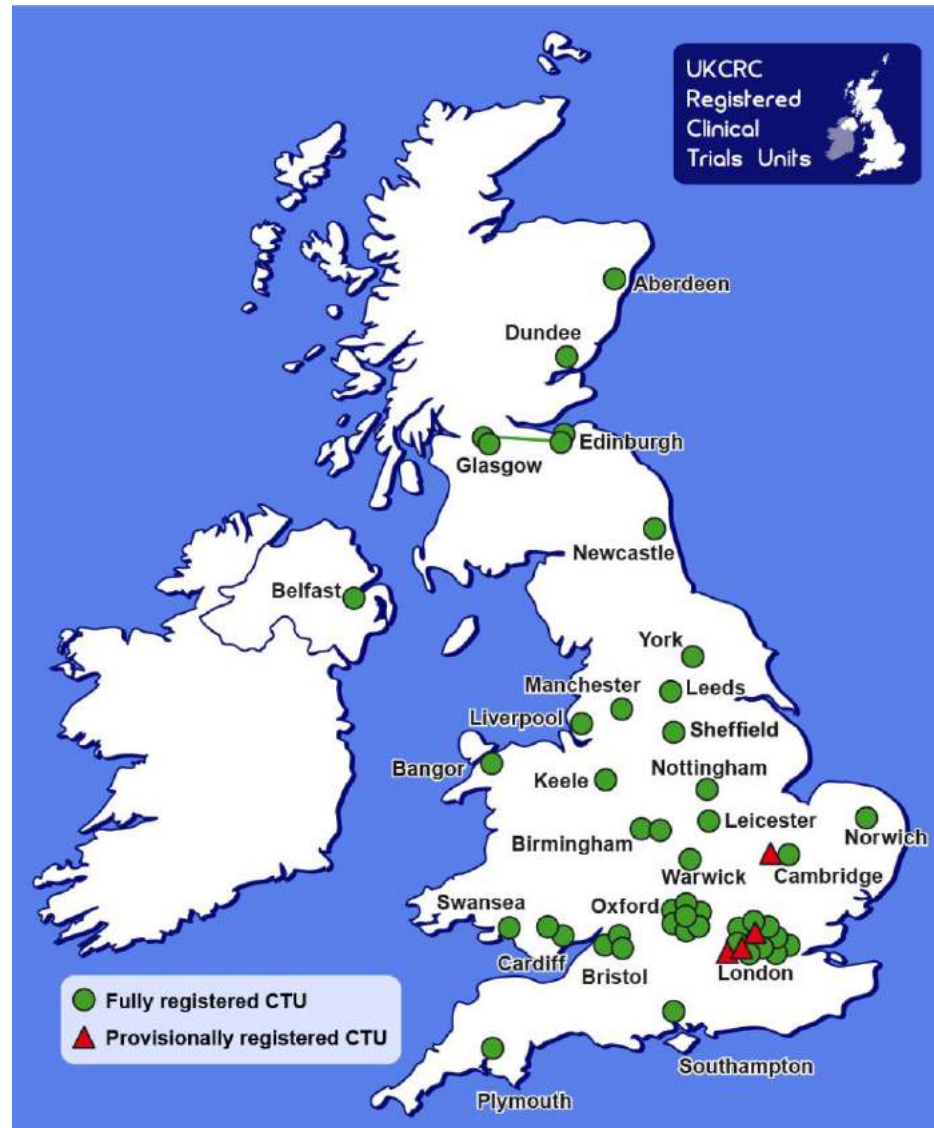
NIHR Collaborations for Leadership in Applied Health Research and Care



*National Institute for
Health Research*



Clinical Trials Units



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J Clin Invest. 2014;124(8):3667-3677. doi:10.1172/JCI75730.
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Clinical Medicine

Kisspeptin-54 triggers egg maturation in women undergoing in vitro fertilization

Channa N. Javaseena¹, Ali Abbbara¹, Alexander N. Comminos¹,
Gurjinder Shakuntha Alexina J. Stephen R

¹Department of Reproductive Medicine, Imperial College London, United Kingdom



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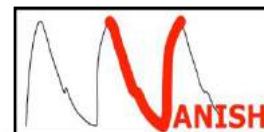
ORIGINAL ARTICLE

Follow-up of Blood-Pressure Lowering and Glucose Control in Type 2 Diabetes

Sophia Zoungas, M.D., Ph.D., John Chalmers, M.D., Ph.D., Bruce Neal, M.D., Ph.D., Laurent Billot, M.Sc., Qiang Li, M.Biostat., Yoichiro Hirakawa, M.D., Ph.D., Hisatomi Arima, M.D., Ph.D., Helen Monaghan, B.Sc., Rohina Joshi, M.D., Ph.D., Stephen Colagiuri, M.D., Ph.D., Mark E. Cooper, M.D., Ph.D., Paul Glasziou, M.D., Ph.D., Diederick Grobbee, M.D., Ph.D., Pavel Hamet, M.D., Ph.D., Stephen Harrap, M.D., Ph.D., Simon Heller, M.D., Liu Lisheng, M.D., Giuseppe Mancina, M.D., Michel Marre, M.D., Ph.D., David R. Matthews, B.M., Ph.D., Carl E. Mogensen, M.D., Ph.D., Vlado Perkovic, M.D., Ph.D., Neil Poulter, M.D., F.Med.Sci., Anthony Rodgers, M.D., Ph.D., Bryan Williams, M.D., Ph.D., Stephen MacMahon, D.Sc., Ph.D., ON Collaborative Group

doi:10.1016/S0140-6736(14)60796-3

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The Lancet Respiratory Medicine

Volume 3, Issue 9, September 2015, Pages 684-691



Articles

Repeated nebulisation of non-viral *CFTR* gene therapy in patients with cystic fibrosis: a randomised, double-blind, placebo-controlled, phase 2b trial

Prof Eric W F W Alton, FMedSci^{b,†}, David K Armstrong, MB ChB⁹, Prof Deborah Ashby, CStat^b, Katie J Bayfield, BSc^b, Prof Diana Bilton, FRCP^a, Emily V Bloomfield, BSc^b, A Christopher Boyd, PhD^{c,†}, June Brand, BSc^f, Ruairidh Buchan, MPharm^c, Roberto Calcedo, PhD^d, Paula Carvelli, BN^b, Mario Chan, MSc^b, Seng H Cheng, PhD^d, D David S Collie, MRCVS^e, Steve Cunningham, MB ChB^{9,†}, Heather E Davidson^f, Gwyneth Davies, MBChB^b, Prof Jane C Davies, FRCPCH^{b,†}, Lee A Davies, DPhil^h, Maria H Dewar, BSc^c,

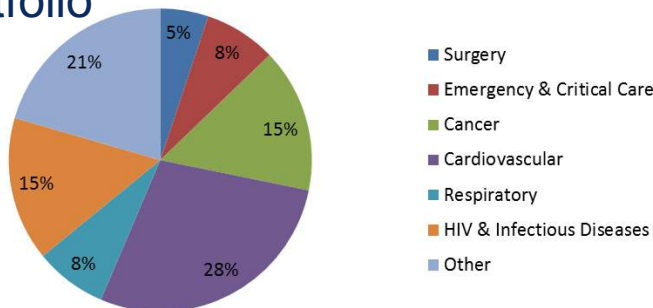
NIHR RfPB/EME/HTA reports:



ICTU

Imperial Clinical Trials Unit

Portfolio



Central commissioning facility:

The CCF manages the following research funding programmes:

[Invention for Innovation \(i4i\)](#)

[Programme Grants for Applied Research \(PGfAR\)](#)

[Programme Development Grants \(PDG\)](#)

[Research for Patient Benefit \(RfPB\)](#)

The CCF also manages the Research for Innovation, Creativity and Risk (RISC) programme, the [Research Design Service](#) (RDS) to support applicants and the following research schools, centre and units:

[Blood and Transplant Research Units \(BTRUs\)](#)

[Health Protection Research Units \(HPRUs\)](#)

[School for Primary Care Research \(SPCR\)](#)

[School for Public Health Research \(SPHR\)](#)

[School for Social Care Research \(SSCR\)](#)

[Surgical Reconstruction and Microbiology Research Centre \(SRMRC\).](#)

NIHR Networks - 15 Local Clinical Research Networks (LCRNs)

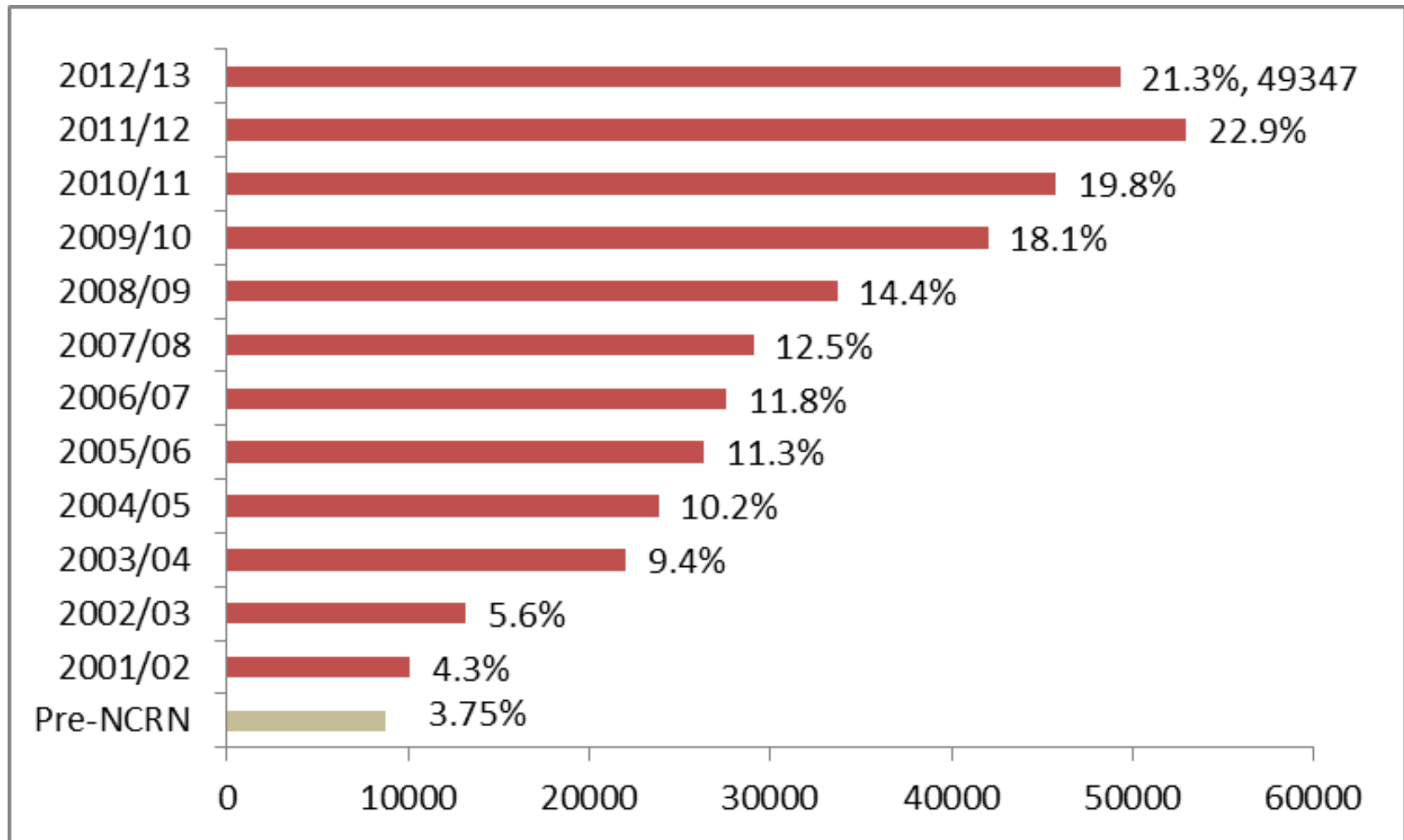
Infrastructure to support clinical research for NIHR, charities, industry

A local and national support network to ensure the successful set up and delivery of research projects

- Access to a local network of 15000 skilled research support staff (eg research nurses)
- Access to service departments such as pharmacy, radiology, laboratories
- Access to free training opportunities
- Dedicated research time for clinicians



Cancer patient recruitment in England (as a % of cancer incidence)



- Research is becoming more embedded
- 99% of NHS Trusts now research-active
- Progress with “hard-to-reach areas”



NHS Trusts by number of studies recruiting patients in 2011/12

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What I am going to do:

- What is the NIHR Health Technology Assessment programme for?
- How we push and pull research needed by the NHS
- Our strong respect for appropriate methodology
- Where we are going in the future



Methodology strength in boards



- Strong methodological legacy from Jon Nicholl
- Panel methodology teleconferences
- Board members – around 50% methodologists (statisticians, health economists, evidence synthesis experts, database experts)

Signposting good methodology

- Must refer to relevant systematic reviews
- Point to COMET for core outcomes
- Must register trials
- protocols and publish them
- Reporting guidance such as CONSORT
- Must publish as HTA monograph

Clinical Trials Toolkit

You are in: [Home](#)

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The Clinical Trials Toolkit provides practical advice to researchers in designing and conducting publicly funded clinical trials in the UK. Through the use of an interactive routemap, this site provides information on best practice and outlines the current legal and practical requirements for conducting clinical trials.

The Toolkit is primarily focused on Clinical Trials of Investigational Medicinal Products (CTIMPs) and the regulatory environment and requirements associated with these. However researchers and R&D staff working on trials in other areas will also find useful information and guidance of relevance to the wider trials environment.

Please note the Toolkit describes the requirements for Clinical Trials of Investigational Medicinal Products (CTIMPs) brought about by the introduction of the European Commission Directive 2001/20/EC. A proposal to repeal Directive 2001/20/EC and replace it with a European Regulation has been published. As this new Regulation has not been finalised, its content is not widely discussed within this Toolkit at this stage. However, the site will consider the implications of any confirmed change in due course and provide updated information and guidance as agreed.

[Get started with the Routemap](#)

Latest Clinical Trials Toolkit news

Recent changes to the Toolkit

Updates to content regarding HRA Approval.

[All recent changes](#)

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We would welcome your feedback and suggestions on how we can improve the toolkit. Please help to keep the toolkit up-to-date by reporting any out-of-date content or broken links.

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NIHR Funding Opportunities

The NIHR funds and manages a number of health research programmes, with ongoing funding opportunities. If you would like information on current NIHR calls for proposals, please visit

Core outcome sets

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Core Outcome Measures in Effectiveness Trials

COMET Initiative

The COMET (Core Outcome Measures in Effectiveness Trials) Initiative brings together people interested in the development and application of agreed standardised sets of outcomes, known as 'core outcome sets' (COS). These sets represent the minimum that should be measured and reported in all clinical trials of a specific condition, and are also suitable for use in clinical audit or research other than randomised trials. The existence or use of a core outcome set does not imply that outcomes in a particular trial should be restricted to those in the relevant core outcome set. Rather, there is an expectation that the core outcomes will be collected and reported, making it easier for the results of trials to be compared, contrasted and combined as appropriate; while researchers continue to explore other outcomes as well. COMET aims to collate and stimulate relevant resources, both applied and methodological, to facilitate exchange of ideas and information, and to foster methodological research in this area.

When searching the COMET database, please note that a systematic review is currently underway to identify eligible material, and we are continually updating the database as we identify eligible studies. Therefore, the records retrieved by any search might increase on a daily basis.




Search COMET database

The COMET database currently contains **873** references of planned, ongoing and completed work.

The keyword used for the search will be compared with study title, abstract and author's surname.

[View full search options](#)


To view a demonstration of how to search the COMET database click [here](#)



Core resource pack

Useful references for core outcome set developers.

This includes an overview of the problems with outcomes in trials, key issues to consider in the development of a core outcome set, examples of core outcome set development, and things to think about once a COS is agreed. To read more, click [here](#).





Latest News

- Thursday 23 February, 2017 - Do you have a consensus meeting planned or coming up?**


If you are planning an upcoming consensus meeting and would be happy for an early career researcher to observe the meeting in order to learn from the experience, please let us know. This would be an invaluable opportunity to gain experience in the development of core outcome sets for potential COS developers. Please email info@comet-initiative.org
- Thursday 23 February, 2017 - Call out for funding contacts overseas**

As part of COMET's strategic plan, we are looking to find ways to raise awareness about core outcome sets and the COMET Initiative amongst research funding agencies. We are trying to


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Not sure which reporting guideline to use?



Reporting guidelines under development




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Reporting guidelines for main study types

Randomised trials	CONSORT	Extensions	Other
Observational studies	STROBE	Extensions	Other
Systematic reviews	PRISMA	Extensions	Other
Case reports	CARE	Extensions	Other
Qualitative research	SRQR	COREQ	Other
Diagnostic / prognostic studies	STARD	TRIPOD	Other
Quality improvement studies	SQUIRE		Other
Economic evaluations	CHEERS		Other
Animal pre-clinical studies	ARRIVE		Other
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Toolkits


Find practical help and resources to support you in:



Writing research

EQUATOR highlights

8/07/2016 - Taking research to the next level with EQUATOR Publication School



Twenty researchers and clinicians joined us for a week-long journey to create well-reported, clear research

News

Checklist for the Reporting of Updated Guidelines (CheckUp)
18/01/2017

International Ethical Guidelines for Health-related Research Involving Humans
5/01/2017

mmc1 (2).pdf

Hubs for Trials Methodology Research

Secure | <https://www.methodologyhubs.mrc.ac.uk>

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Methodology Research

Improving health by improving trials



Network of Hubs for
Trials Methodology Research



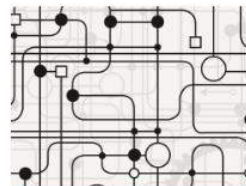
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Hubs

There are MRC-funded Hubs placed across the UK, each conducting research into different aspects of trial methodology. For more information on individual Hubs use the links in the titles below. The Network and Hubs are supported by research funding from the UK [Medical Research Council](#).

Our Hub members are key participants in our [Working Groups](#), and membership is also open to interested individuals who are active in trials methodology research.

Hub Directors and external Hub sites

- Professor Mahesh Parmar, [London Hub](#)
- Professor Paula Williamson, [North West Hub](#)
- Professor Rory Collins, [MRC Clinical Trial Service Unit Hub](#) (CTSU general website)
- Dr Adrian Mander, [MRC Biostatistics Unit Hub](#)
- Professor Jane Blazeby, (Network Chair) [ConDUCT II Hub](#)

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Forge - A systemati
The EQUATOR Network
MRC-NIHR Methodolog

mrc.ac.uk/research/initiatives/methodology/

Medical Research Council

Leading science for better health

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National Prevention Research Initiative

MRC-NIHR Methodology Research Programme

Methodology research, from an MRC perspective, is the study of how best to design, conduct, analyse and evaluate medical and health research. Researchers in a wide range of fields aim to develop the best methods — ‘recipes’ for research — in areas that underpin biomedical science, experimental medicine, clinical trials, population health sciences, health services research and health policy.

Developing methodologies ensures that medical research is conducted in the most thorough, efficient and robust ways possible. This helps to ensure that discoveries are more reliably and quickly turned into benefits for patients and the general population, and that health research and policy are built on the best possible evidence.

For example, looking into the best ways of conducting clinical trials of new treatments means that researchers running trials can be more confident of the results they gain - as can the regulators which make decisions about the safety and effectiveness of treatments. Or developing a better method of assessing how much and what kind of food people eat will improve research studying the effect of diet.

We have a strong commitment to methodology research and many of the projects and

Document downloads

- > Natural experiments to evaluate population health interventions (PDF, 345KB)
- > Complex interventions guidance (PDF, 740KB)
- > Natural experiments guidance (PDF, 372KB)
- > How to apply - Methodology Research Panel (PDF, 185KB)
- > MRC PHSRN Process evaluation guidance final (PDF, 1.55MB)
- > MRC PHSRN Process evaluation Summary guidance (PDF, 893KB)



Health services research
Research



Informing efficient randomised controlled trials: exploration of challenges in developing progression criteria for internal pilot studies



Kerry N L Avery¹, Paula R Williamson², Carrol Gamble², Elaine O'Connell Francischetto¹, Chris Metcalfe¹, Peter Davidson³, Hywel Williams⁴, Jane M Blazeby^{1,5} members of the Internal Pilot Trials Workshop supported by the Hubs for Trials Methodology Research

[Author affiliations +](#)

Abstract

Objectives Designing studies with an internal pilot phase may optimise the use of pilot work to inform more efficient randomised controlled trials (RCTs). Careful selection of preagreed decision or 'progression' criteria at the juncture between the internal pilot and main trial phases provides a valuable opportunity to evaluate the likely success of the main trial and optimise its design or, if necessary, to make the decision not to proceed with the main trial. Guidance on the appropriate selection and application of progression criteria is, however, lacking. This paper outlines the key issues to consider in the optimal development and review of operational progression criteria for RCTs with an internal pilot phase.

Design A structured literature review and exploration of stakeholders' opinions at a Medical Research Council (MRC) Hubs for Trials Methodology Research workshop. Key stakeholders included trialists, methodologists, statisticians and funders.

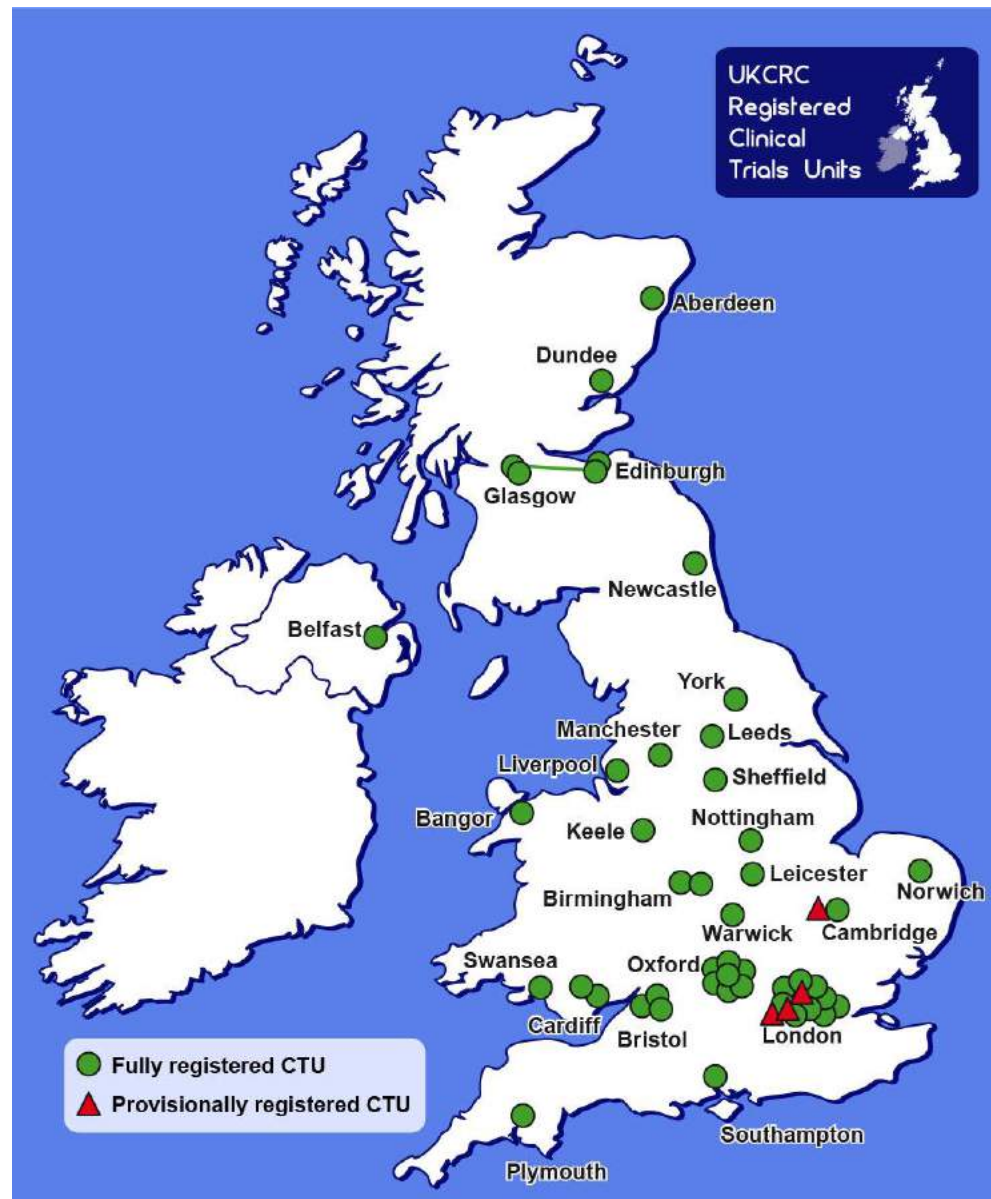
Results There is considerable variation in the use of progression criteria for RCTs with an internal pilot phase, although 3 common issues predominate: trial recruitment, protocol adherence and outcome data. Detailed and systematic reporting around the decision-making process for stopping, amending or proceeding to a main trial is uncommon, which may hamper understanding in the research community about the appropriate and optimal use of RCTs with an internal pilot phase. 10 top tips for the development, use and reporting of progression criteria for internal pilot studies are presented.

Conclusions Systematic and transparent reporting of the design, results and evaluation of internal pilot trials in the literature should be encouraged in order to facilitate understanding in the research community and to inform future trials.

<http://dx.doi.org/10.1136/bmjopen-2016-013537>

BMJ Global Health

CTUs and RDS



The screenshot shows the Trial Forge website. The browser's address bar displays 'www.trialforge.org'. The website has a dark purple header with the 'TRIAL FORGE' logo and a navigation menu including 'HOME', 'ABOUT', 'WHATS NEW', 'COLLABORATORS', 'GET INVOLVED', and 'PATHWAY' with a search icon. The main content area features a large purple banner with the text 'A systematic approach to making trials more efficient' and a subtext 'The evidence base for how to make the trials process efficient is remarkably thin. Trial Forge aims to change this.' Below this are two buttons: 'EXPLORE PATHWAY' and 'LEARN MORE'. A colorful rainbow graphic is positioned on the right side of the banner, with labels 'DATA MANAGEMENT' and 'CHOOSING THE RIGHT DESIGN' pointing to specific segments. Below the banner, there are three columns, each with a colored circle icon and a title: 'Trials' (pink circle with speech bubbles), 'Essential' (green circle with scales), and 'Inefficient' (blue circle with a brain). Each column contains a paragraph of text.

What are funders doing | X Trial Forge - A systematic | X

www.trialforge.org

TRIAL FORGE

HOME ABOUT WHATS NEW COLLABORATORS GET INVOLVED PATHWAY

A systematic approach to making trials more efficient

The evidence base for how to make the trials process efficient is remarkably thin. Trial Forge aims to change this.

EXPLORE PATHWAY LEARN MORE

DATA MANAGEMENT CHOOSING THE RIGHT DESIGN

Trials

Randomised controlled trials are the gold standard for evaluating healthcare treatments; 1000s are done every year.

Essential

Randomised trials are the cornerstone of evidence-based healthcare because they offer the fairest tests of treatments, therapies and initiatives.

Inefficient

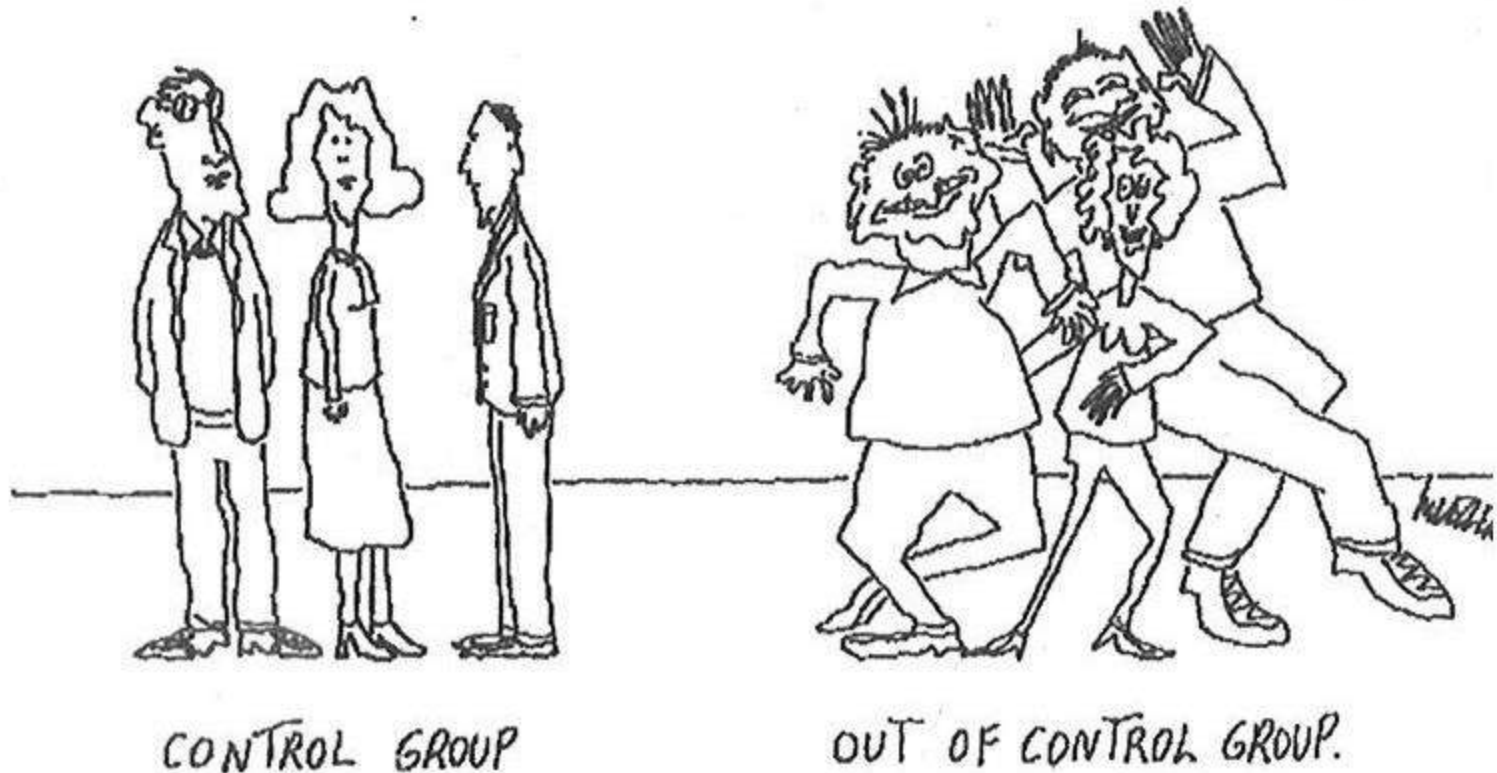
The evidence base for how to make the trials process efficient is remarkably thin. Trial Forge aims to change this.

What I am going to do:

- What is the NIHR Health Technology Assessment programme for?
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- Where we are going in the future



Crunch question - how methodologically diverse are we?



Comprehensive cohort with multiple embedded RCTs – CASPER – Gilbody et al

- One in 7 older people suffer depression
- Although individual treatments help, but elements (drugs and psychosocial) often fail to be integrated into primary care
- CASPER cohort of older people with depressive symptoms with regular measurement of outcomes
- CASPER trial – evaluation of collaborative care for those with sub-threshold depression
- CASPER PLUS – collaborative care for those with above threshold depression



Series of N-of-1 randomised
double blind placebo controlled trials
Statin-WISE trial – Smeeth et al

- To determine whether muscle adverse events attributed to statin use by patients are caused by statins
- Patients in primary care recently stopped using statins or considering due to perceived adverse effects
- Statin medication (atorvastatin 20mg) compared to a placebo in six two-month treatment blocks of either statin or placebo, with the order of treatments randomly allocated.



Case crossover study

- IDEA study (Thornhill et al)

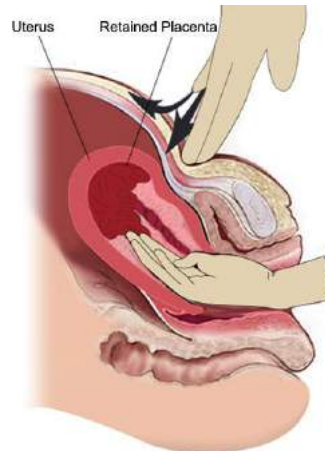
- Do invasive dental procedures (IDP) need antibiotics to prevent infective endocarditis (IE) in those at higher risk
- Standard practice for 60 years, but NICE recommended cessation in 2008
- Infective endocarditis has risen since
- IDEA-Study will link national data on courses of dental treatment and on hospital admissions for IE
- Is incidence of IDP higher in the 3 months immediately preceding an IE diagnosis than in earlier 3 month matched control periods



Flexible group sequential RCT design

– Denison et al

- Got-it trial of glycerin trinitrate vs placebo for retained placenta
- With aim of reducing need for manual removal – painful and increased hospital stay
- Trial can stop early for either overwhelming evidence of benefit (e.g. large treatment effect and/or low variability in the outcome measure)
- Or due to pre-defined futility
- Uses a Lan-DeMets alpha spending function with O'Brien Fleming boundaries and 5 planned interim evaluations, pre-specifying a two sided test, with asymmetry for efficacy and futility boundaries)



Cluster crossover – BRIDGE-IT

Cameron et al

- 26 pharmacies in 3 UK regions
- 2080 women presenting emergency oral contraception (EC)
- Compares standard EC to EC plus 3 months of progesterone only pill to “bridge” time taken to make appointment to see GP or family planning for regular contraception advice



- Women with suspected preterm labour
- Value of fetal fibronectin at different thresholds
- IPD of 4 European studies to develop prognostic model to rule out preterm birth within 7 days
- Validated in prospective cohort



eStudy – eCRT2 – Gulliford et al

- Aim to reduce unnecessary antibiotics in primary care
- Practices participating in CPRD
- Cluster randomised to multicomponent intervention or usual care
- INT = prescribing feedback, decision support and webinars
- Primary outcome = no. antibiotic prescriptions per resp. tract infection per 1000 patient years measured through CPRD



MAMS – anti-PD1 for melanoma

Danson et al

- **Discontinuation trial to evaluate optimal duration of anti-PD1 (pembrolizumab and nivolumab) in melanoma**
- **Ipilumamab given for 12 weeks, yet 40% on anti-PD1 are on it 1-2 years (because that's how it was done in clinical trials)**
- **Trade-off between melanoma recurrence and adverse effects including lung and bowel inflammation**
- **Non-inferiority**
- **Three intermediate stages for analysis**



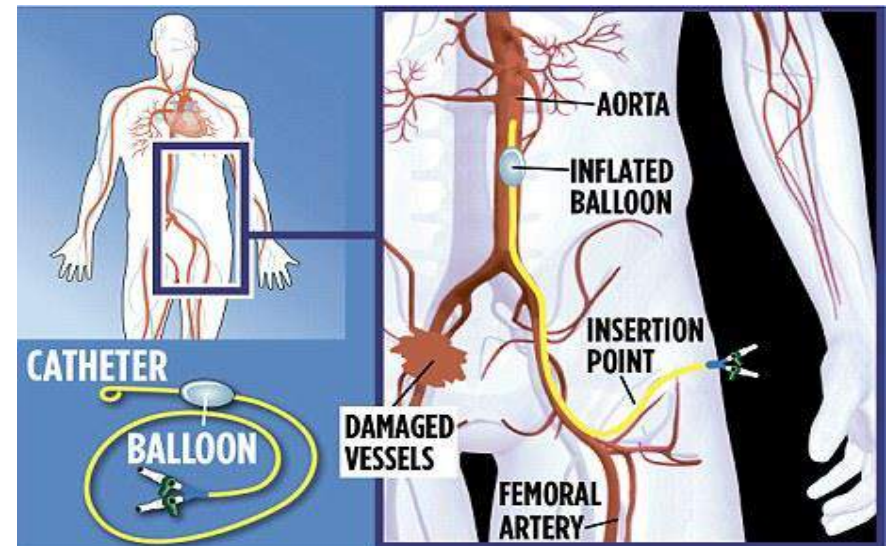
MAMS – ROSSINI II Trial (Pinkney et al)

- Prevention of surgical site infections (abdominal operations)
- 8 arms (control, impregnated drape, gentamicin-impregnated collagen wound sponges, 2% chlorhex. skin prep and combinations)
- Three planned interim analyses (final at 6613 patients)



Bayesian group sequential:
UKREBOA study – Jansen et al

- Life threatening torso trauma
- INT. = Resuscitative Endovascular Balloon Occlusion of the Aorta
- Standard major trauma centre care
- Randomisation in seconds using smartphone website
- 90 day mortality; data linkage ++ TARN, ONS



Efficient study designs: SIMPLIFIED **registry trial**: Hiemstra et al

- Dialysis patients
- Unclear whether active vitamin D compounds needed
- High dose native vitamin D (cholecalciferol)
- Versus standard care
- All outcomes captured by UK Renal Registry and the Health and Social Care Information Centre
- N= 4200 over 3 years – will conclude once 2200 events occurred

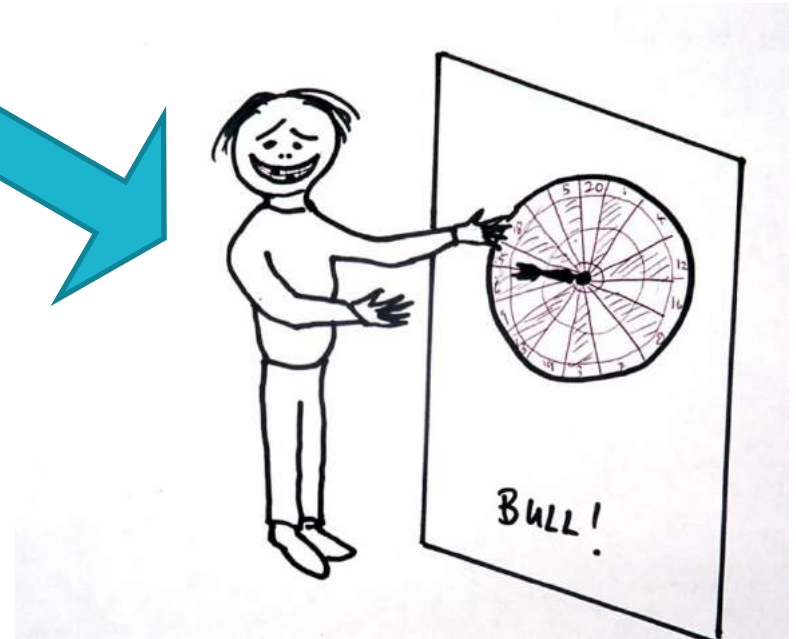
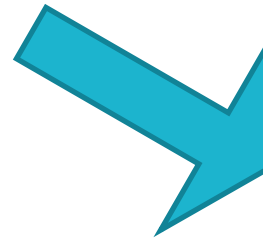
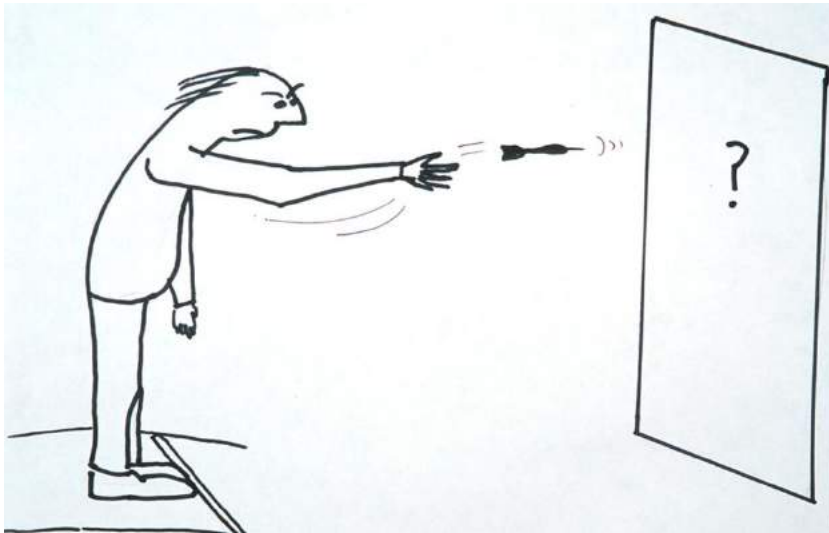


Why do applications fail?

- Unconvincing scientific quality
- Unconvincing deliverability
- Insufficient team experience
- Lack of clarity
- Lack of depth
- Lousy patient/public involvement
- Poor value for money

- *But NOT not innovative study design*

Was that a select sample?



- Underlying design and statistical principles don't change
- Using routine data sources presents many challenges
- Personalized medicine adds new complexity- experience building in cancer, but less so in other areas yet
- The future holds important new challenges for researchers in trials and trials methodology

- Statistics and statisticians are pivotal to MRC and NIHR and very much valued by them as organisations.
- There are many opportunities for grant funding and fellowships open to statisticians.
- If you want 'time out' to work on something that is important, where you think you can make a contribution and which will prepare you for the best stage in your research career, a Fellowship could be your next step!

NIHR RESEARCH CAREER PATHWAYS

Methodologists

Fellowships for all

Healthcare Professionals (non-doctors/dentists)

Doctors and Dentists

Research Methods Programme

NIHR Fellowships, Professorships
and other awards

HEE/NIHR Integrated
Clinical Academic
Programme

NIHR Integrated
Academic Training
Programme

Knowledge Mobilisation Research Fellowship

Clinical Trials Fellowship

Research Professorship

Senior
Research Fellowship

Career
Development
Fellowship

Post-Doctoral
Fellowship

Translational
Research Fellowship

Doctoral Research
Fellowship

HEE/NIHR
Senior Clinical
Lectureship

HEE/NIHR
Clinical
Lectureship

HEE/NIHR
Clinical Doctoral
Research
Fellowship

HEE/NIHR
Masters in
Clinical Research
Studentship

Clinical
Lectureship

Clinician
Scientist
Award

In-Practice Fellowship

Academic Clinical
Fellowship

Chair

Senior/
Pre-Chair

Post-Doctoral
(early to senior)

Doctoral

Pre-Doctoral

Undergraduate

Masters Studentship in
Health Economics or
Medical Statistics

Systematic Reviews Fellowship
and Research Methods Fellowship
and Internship

- Methodology pivotal to NIHR research, so methodological applications welcome at all levels
- MRC has Strategic Skills fellowships, so need to think through which is more appropriate, based on motivation, level of fellowship and scope of work

What to do in a methodological fellowship?

- Statistics, modelling, health economics, trial design, monitoring of trials, methods for evaluation of diagnostic/ prognostic markers, trial conduct, qualitative methods.....
- How can the research tools be sharpened to allow NIHR and MRC to do its research more effectively and efficiently?

- Showing relevance to NIHR
- Demonstrating benefit to patients within 3-5 years
- Explaining the ideas to non-methodologists
- Planning methodology research can be harder than primary research
-

- What's our equivalent of 'bench to bedside'?
- Bringing recent developments out from the basic scientists in the (non-medical) parts of universities into the tool-boxes of NIHR researchers.....
-to the ultimate benefit of patients.

- “Have nothing in your house that you do not know to be useful, or believe to be beautiful.”
— William Morris
- “Have nothing in your research portfolio that you do not know to be useful, or believe to be beautiful.”
— with thanks to William Morris

