

Promoting and supporting critical care research engagement with nurses and allied health professionals

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INSTITUTE FOR
EXPERIMENTAL MEDICINE

Panel

- Aidin McKinney, Lecturer QUB
- Asem Abdulaziz Alnajada, Paramedic 3rd year PhD, QUB
- Carla McClintock, ICU Nurse, 2nd year PhD, QUB
- Katie Hayes, ICU trial manager, 1st year Pre-doc CAF, Plymouth Univ
- Lisa McIlmurray, ICU Paed Nurse, 3rd year PhD QUB
- Sallyanne Duncan, Cardiac ICU SLT, Post-doc BHSCT

The News

Why bother with research?*

Hands up those here who do
research in some form or another?

New car

Hybrid? Electric?

Holiday destinations

The most
dangerous phrase
in the language is "we've
always done it this way."

Rear Admiral Grace Hopper



Why bother with research?*

- Application and delivery of ***optimal patient care*** requires high quality evidence
- Clinical decisions need to be guided by reliable and applicable data rather than individual experience
- Research can ***change clinical practice to learning new efficient practice***...conversely...

Research can change clinical practice to unlearning old and outmoded practice

IV fluid therapy – 1 of the most common interventions in acutely ill patients

- Effect of fluid resuscitation in ICU (albumin vs saline) on mortality
 - SAFE¹ no significant difference all cause mortality
 - SAFE-TBI² higher mortality rate with albumin
 - NICE guidelines (2013) – use crystalloids that contain sodium; consider albumin in severe sepsis

Hyperglycaemia – common in ICU patients & associated with increased morbidity & mortality

- Effect of glycaemic control in ICU (tight vs conventional) on mortality
 - NICE-SUGAR³ higher mortality with tight control

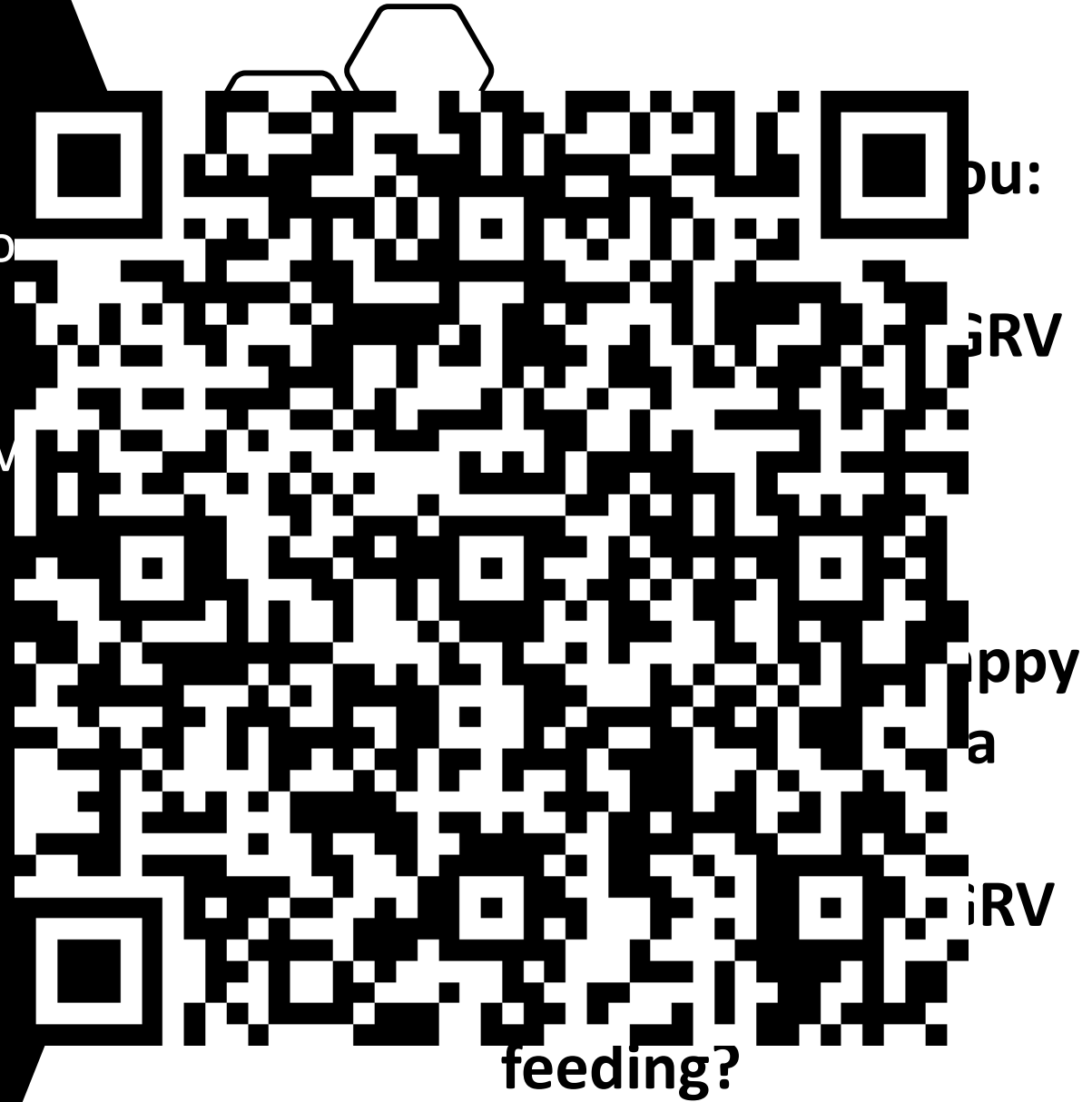
1. N Engl J Med 2004; 350:2247-2256

2. N Engl J Med 2007;357:874-84

3. N Engl J Med 2009;360:1283-97

A future multicenter trial: STOP-GRV (gastric residual volume)

- Using GRV to make to decisions to start and stop feeding is a historical NURSING practice (not valid or reliable measure)
- Multicentre RCT, 9 French ICUs of stopping GRV reported no difference in VAP, but a significant increase in energy target achievement
- On average ICU adults receive <50% of their predicted energy and protein targets, one potentially modifiable factor is this practice, which leads to the frequent stopping of feeds
- We are proposing a multicentre UK trial

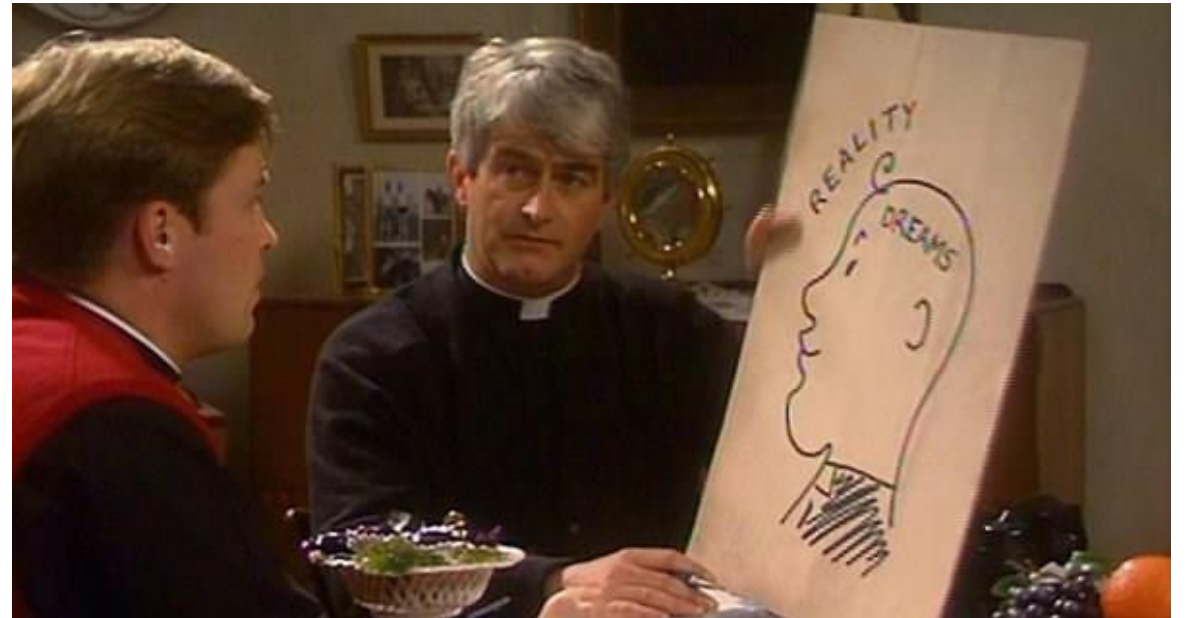


So, what stops us from engaging in research?

It's all about attitude!*

- Knowledge and attitude play important roles in impacting nurses' opinions regarding participation in clinical research
- Positive attitudes toward research have been shown to increase research utilisation and the use of evidence to inform practice

In your practice, is research a dream or a reality?



UK - strong positive associations between research activity and quality care

RESEARCH ARTICLE

Research Activity and the Association with Mortality

Baris A. Ozdemir^{1*}, Alan Karthikesalingam¹, Sidhartha Sinha¹, Jan D. Poloniecki¹, Robert J. Hinchliffe¹, Matt M. Thompson¹, Jonathan D. Gower², Annette Boaz³, Peter J. E. Holt¹

¹ Department of Outcomes Research, St George's Vascular Institute, London, United Kingdom, ² NIHR Comprehensive Clinical Research Network Coordinating Centre, Leeds, United Kingdom, ³ Centre for Health and Social Care Research, St George's University of London, Cranmer Terrace, London, United Kingdom

Research active Trusts had lower risk-adjusted mortality for acute admissions - persisted after adjusting for staffing & other structural factors



Original Research

The correlation between National Health Service trusts' clinical trial activity and both mortality rates and care quality commission ratings: a retrospective cross-sectional study

L. Jonker^{a,b,*}, S.J. Fisher^{a,1}

^a Cumbria Partnership NHS Foundation Trust, Research & Development Department, Carlisle, CA1 3SX, UK

^b University of Cumbria, Carlisle, CA1 2HH, UK

Significant correlation - no. participants recruited and better Care Quality Commission ratings and lower hospital mortality scores

Investment in a strong research culture is associated with patient, staff, and organisation benefits

Systematic review (8 studies), US, UK & Germany

- Lower **patient** mortality rates, higher levels of patient satisfaction
- Improved **staff** satisfaction
- Reduced staff turnover and improved **organisational efficiency**



Harding K et al. Organisational benefits of a strong research culture in a health service: a systematic review. Australian Health Review 41(1) 45-53
<https://doi.org/10.1071/AH15180>



How does research integrate with clinical work?



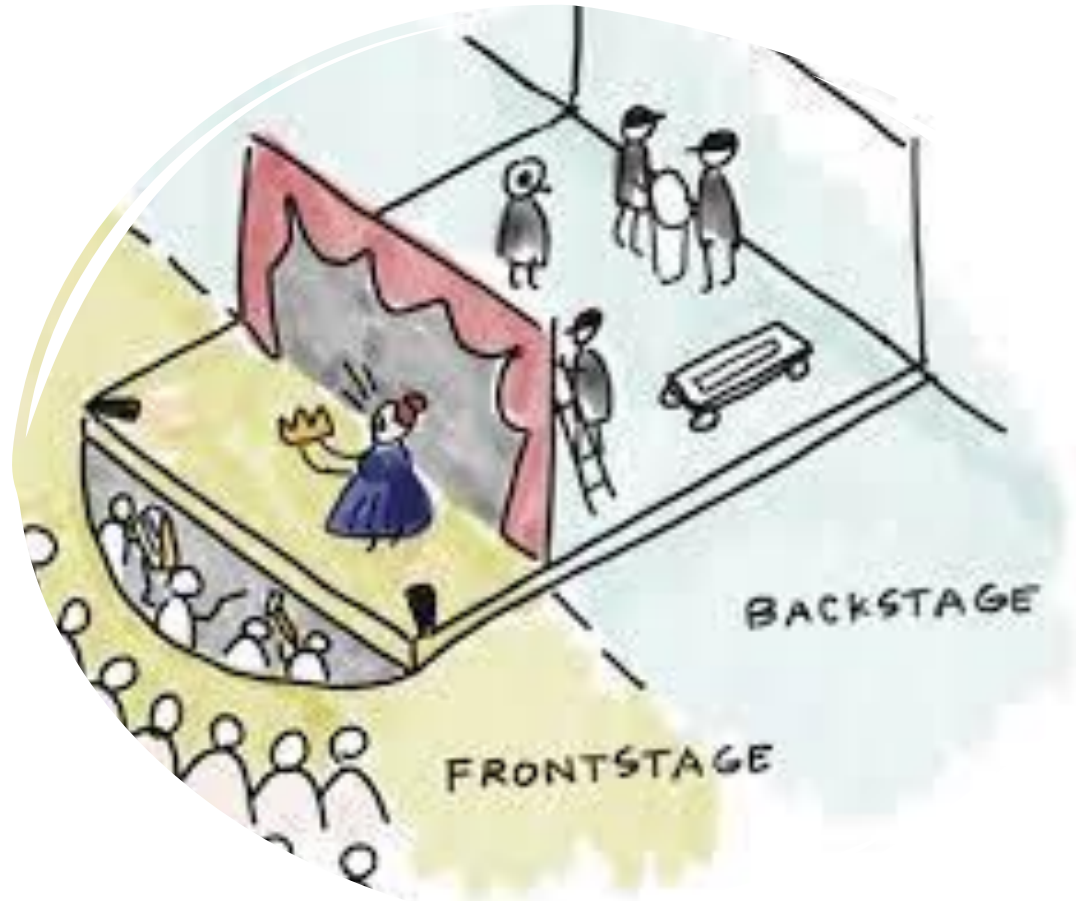
The silo mentality*



The importance of family and patient engagement in research at the bedside*

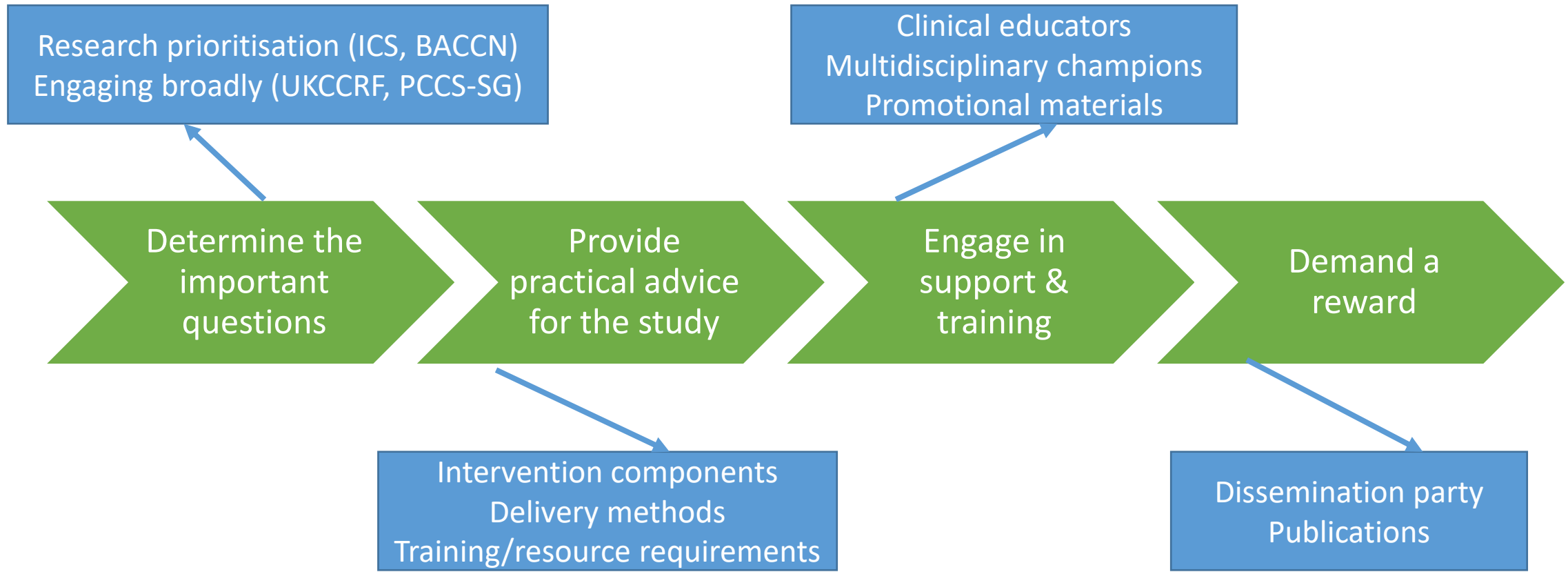
“Trials save lives. They cannot do so,
however, without the participants on which
they depend”

*Darzi A, Goddard A, Henderson K, Mahajan R, Marx C,
Mortensen N et al. Increasing recruitment into covid-19
trials BMJ 2021; 372 :n235 doi:10.1136/bmj.n23*



The “behind
the scenes”
effort

How clinical staff can be engaged in a research study





Normalising research is essential for healthcare individuals on all levels

Open access

Original research

BMJ Open Synthesis of qualitative research studies regarding the factors surrounding UK critical care trial infrastructure

Natalie Pattison ,^{1,2} Nishkantha Arulkumaran,³ Geraldine O'Gara,⁴ Bronwen Connolly ,⁵ Sally Humphreys,⁶ Tim Walsh,⁷ Philip Hopkins,⁸ Paul Dark⁹

BMJ Open: first published as 10.1136

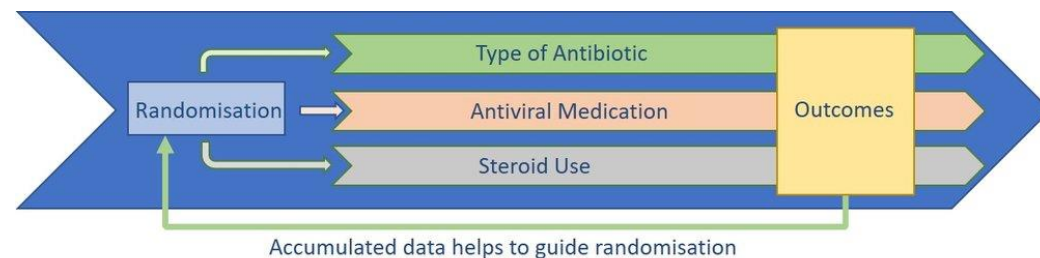
There was enhanced research activity in units where research was valued & prioritised at executive/senior level

Prerequisite for normalcy - communication towards a shared understanding

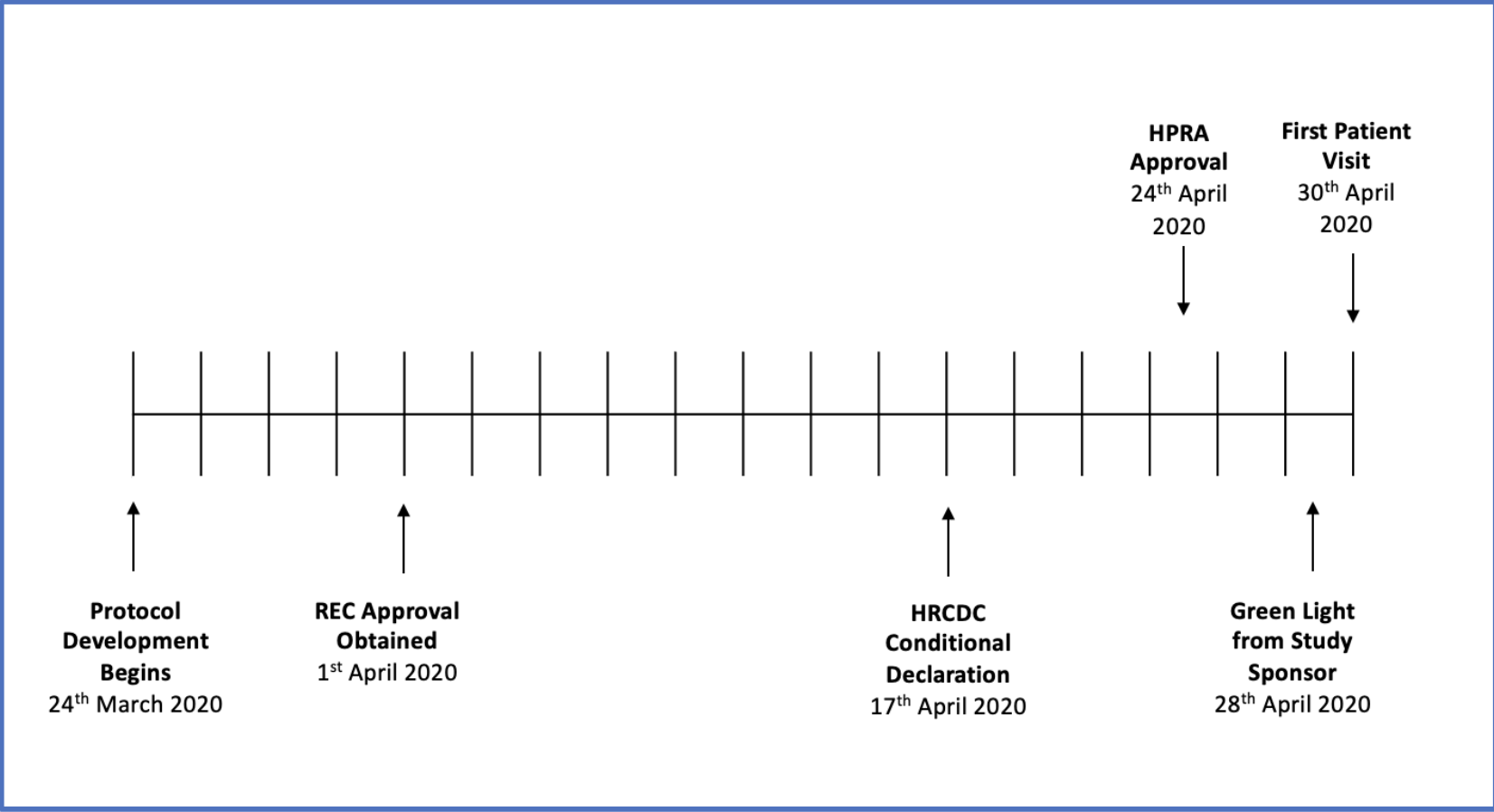
Impact of priority, value and collaboration was reflected during COVID-19 pandemic

UK clinicians & researchers worked together to deliver practice-changing research trials

- **RECOVERY**
Randomised Evaluation of COVID-19 Therapy platform trial, different treatments options for COVID-19
- **RECOVERY-RS**
RESPIRATORY SUPPORT respiratory strategies in COVID-19 (CPAP, HFNO, standard)
- REMAP-CAP adaptive trial, different treatment categories

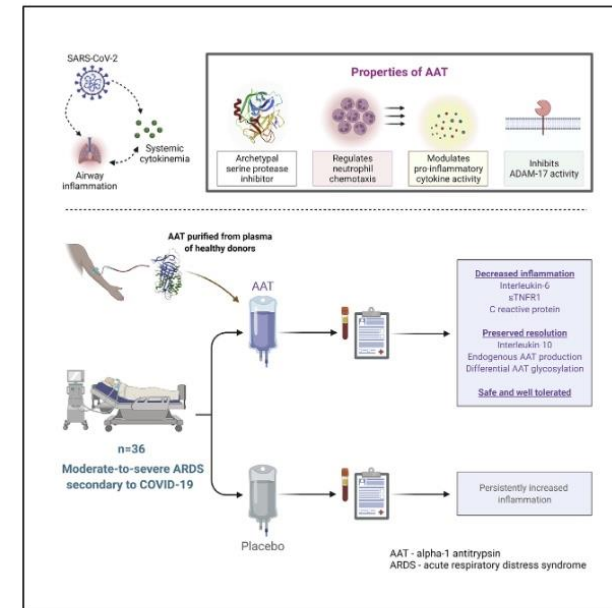


First approved trial to test a therapy for COVID-19 in Ireland- an interdisciplinary approach



Clinical Advances

A randomized, double-blind, placebo-controlled trial of intravenous alpha-1 antitrypsin for ARDS secondary to COVID-19



McElvaney and colleagues present the results of a randomized placebo-controlled trial of alpha-1 antitrypsin (AAT) for patients with acute respiratory distress syndrome secondary to COVID-19. Circulating levels of interleukin-6 and other pro-inflammatory mediators were decreased at 1 week in the treatment group, identifying a potential anti-inflammatory therapeutic for critical illness.

Oliver J. McElvaney, Natalie L. McEvoy, Fiona Boland, ..., Ignacio Martin-Loeches, Noel G. McElvaney, Gerard F. Curley

olivermcelvaney@rcsi.ie (O.J.M.)
gmcElvaney@rcsi.ie (N.G.M.)

Highlights

Patients with COVID-19-associated ARDS were randomized to receive IV AAT or placebo

Patients receiving IV AAT had decreased IL-6, sTNF1, and CRP at 1 week

Differential glycosylation of endogenous AAT was preserved in the treatment group

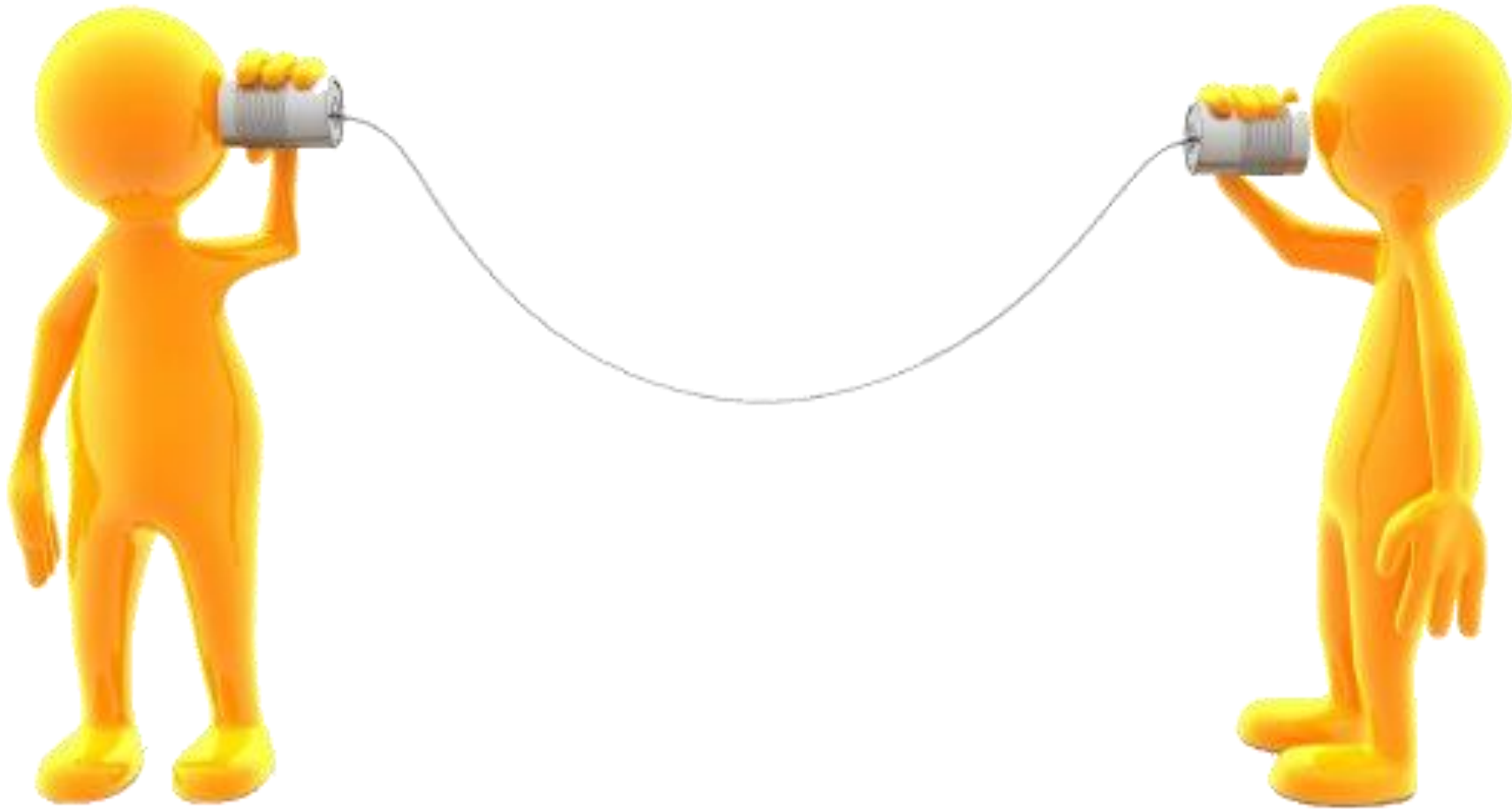
Treatment with IV AAT was safe and well tolerated



Translation to Patients

The end product...

Take home message*



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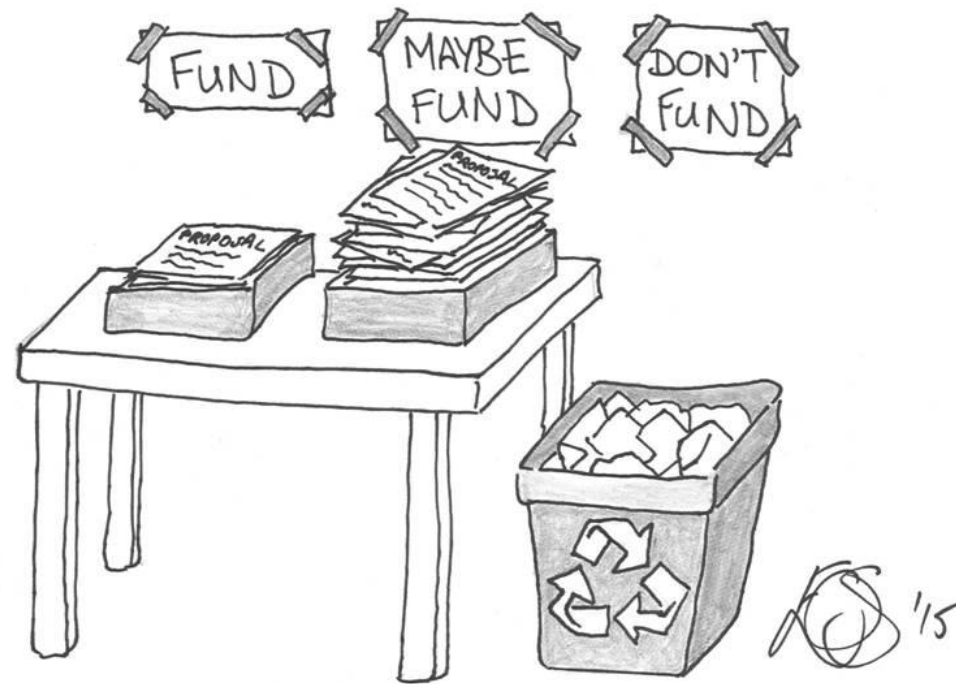


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It takes time and it takes money – where do I find that & someone to advise?



Review panel categories.

Non-academic funding opportunities*

- Travel grants
- Small grant funding
 - BACCN (£1000/£2000 awards)
 - EfCCNa (2000 Euro, BACCN/IACCN members eligible)
 - ICS (£50k, Ire/UK)
 - ESICM (20,000 Euro)
- Hospital funding
 - Research development
 - Scholarship North/South opportunity

Academic funding opportunities*

Pre-doctoral

Northern Ireland

HSC R&D Pre-doctoral bridging scheme

UK

Pre-doctoral Clinical and Practitioner (CAP) Academic Fellowship

Ireland

RCSI Clinical Bursary Awards
HSE Spark Innovators/Seed Funding

Doctoral

Northern Ireland

HSC R&D Doctoral Fellowship

UK

Doctoral CAP Academic Fellowship

Ireland

IRC Enterprise Partnership Scheme
IRC Employment-Based Postgrad Programme

Postdoctoral

Northern Ireland

Institutional charitable funding

UK

Advanced CAP Academic Fellowship/Development and Skills Enhancement Award

Ireland

Gov. of Ireland Postdoctoral Fellowship Programme
Health Research Board (various)

Useful Links

- <https://research.hscni.net/hsc-rd-pre-doctoral-bridging-scheme-now-open>
- <https://www.nihr.ac.uk/explore-nihr/academy-programmes/hee-nihr-integrated-clinical-and-practitioner-academic-programme.htm>
- <https://www.rcsi.com/dublin/about/faculty-of-nursing-and-midwifery/clinical-bursary-awards>
- <https://research.ie/funding/eps-postgrad/>
- <https://www.hse.ie/eng/staff/leadership-education-development/met/spark-innovation-programme/spark-seed-funding/>
- <https://research.hscni.net/fellowship-awards#HSC%20Doctorals>
- <https://research.ie/funding/ebp/>
- <https://research.ie/funding/eps-postgrad/>
- <https://research.ie/funding/goipd/>
- <https://www.nihr.ac.uk/funding/development-and-skills-enhancement-award-round-11/31300>

Finally, how do I find someone who will support me?*

- Supervisors/contacts
- Academic research active NAHP (email/phone call/meet up coffee)
- Medics in your unit with a research interest (& who are supportive of NAHP research)
- Supportive hospital managers/directors