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PROHIBIT-ICH

Prevention Of Hypertensive Injury to the Brain by Intensive Treatment in IntraCerebral Haemorrhage

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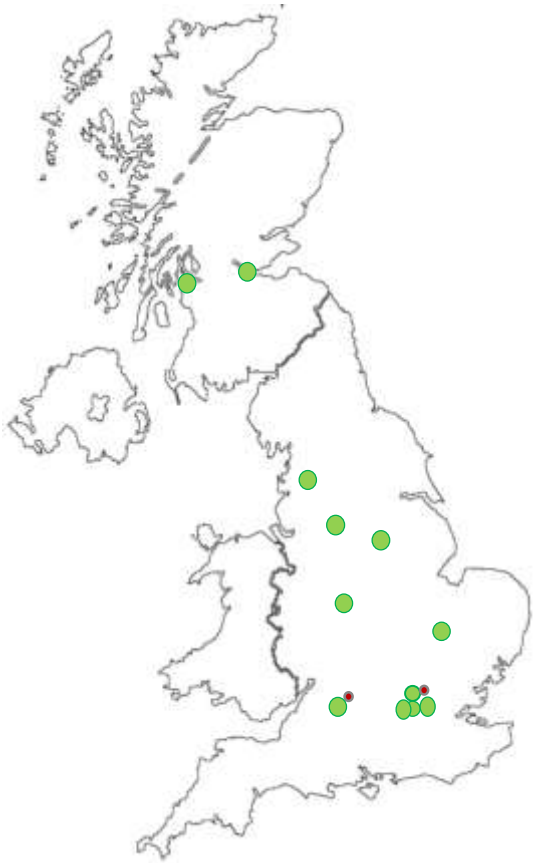
Study sites

Principal Investigators and Site Coordinators	Site
Professor David Werring Site coordinator: Nina Francia	University College Hospital, London
Professor Peter Rothwell Site coordinator: Michelle Wilson	John Radcliffe Hospital, Oxford
Dr Soma Banerjee Site coordinator: Vaishali Dave	Charing Cross Hospital, London
Professor Rustam Al-Shahi Salman Site coordinator: Allan MacRaild	Royal Infirmary of Edinburgh
Dr Adrian Parry-Jones Site coordinator: Stephanie Lee	Salford Royal Hospital, Manchester
Professor Hedley Emsley Site coordinator: Bindu Gregary	Royal Preston Hospital
Dr Dulka Manawadu Site coordinator: Con Tibajia	Kings College Hospital, London
Dr Niamh Hannon Site coordinator: Sarah Finlay	Addenbrooke's Hospital, Cambridge
Dr Kailash Krishnan Site coordinator: Benjamin Jackson	Nottingham University Hospitals NHS Trust
Dr Keith Muir Site coordinator: Angela Welch	Queen Elizabeth University Hospital, Glasgow
Dr Liqun Zhang Site coordinator: Rita Ghatala	St George's Hospital, London
Dr Kirsty Harkness Site coordinator: Christine Kamara	Sheffield Teaching Hospitals NHS Foundation Trust



Study teams

Thank you!

Royal Infirmary of Edinburgh

Queen Elizabeth University Hospital, Glasgow

Charing Cross Hospital, London

Salford Royal Hospital, Manchester

University College Hospital, London

Addenbrooke's Hospital, Cambridge

St George's Hospital, London

1. Trial overview
2. Recruitment
3. Amendments
4. Data report
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PROHIBIT-ICH

Prevention Of Hypertensive Injury to the Brain by Intensive Treatment in IntraCerebral Haemorrhage

PROHIBIT-ICH is a pilot multi-site randomised controlled trial comparing a strategy of intensive BP treatment (target <120/80 mm Hg) guided by telemetric home monitoring versus standard care in 112 adult ICH survivors

Objectives

- To assess the feasibility of intensive BP treatment using centralised telemetric home monitoring in a multi-centre setting in patients with previous ICH
- To investigate whether intensive BP treatment through the home monitoring device results in a reduction in the progression of small vessel related brain injury assessed on MRI compared with standard BP treatment

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Basic trial structure

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Randomisation

Intervention

Telemetric Bluetooth home BP monitors will be provided to participants during their inpatient stay or clinic visit, and will commence 3-times-daily readings immediately. The BP monitoring team will assess BP readings daily and advise medication adjustments to achieve a target BP of <120/80 mm Hg

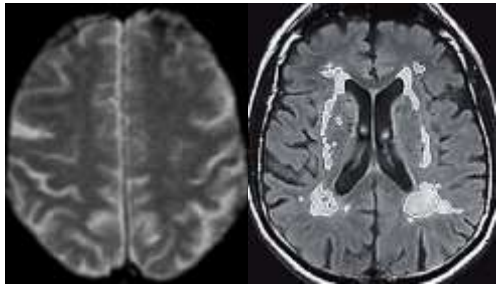
Comparator

Standard clinical care including usual BP treatment, without home monitoring, undertaken in the clinical care setting

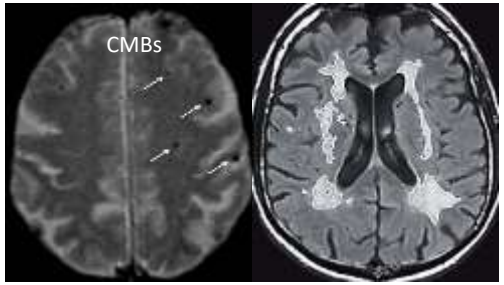
3 month follow-up (24-hour ABPM, modified MOCA, EQ-5D, BP questionnaire)

12 month follow-up (MRI scan, 24-hour ABPM, modified MOCA, EQ-5D)

Baseline MRI before randomisation



Follow-up MRI at 12 months



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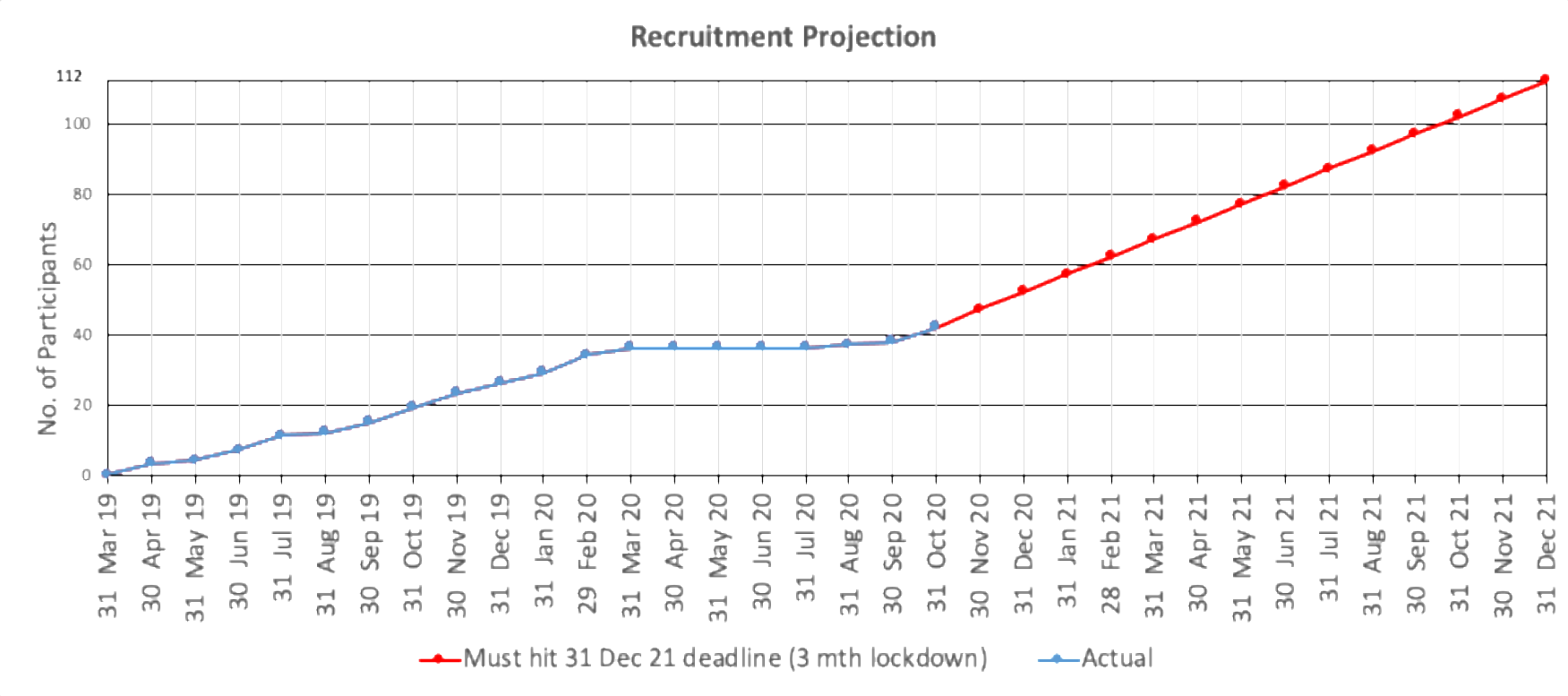
Where are we now?

Total number of participants recruited	**46 participants (41% of target)**	**Total target number of participants for trial**	112 participants
Total duration of recruitment to date	15 months (50% of full duration)	**Planned duration of recruitment (revised)**	28 months
Start date of recruitment	11 March 2019	**Current predicted recruitment end date**	**31 December 2021**
Start date of COVID-19 lockdown pause	20 March 2020	**End date of COVID-19 lockdown pause**	8 July 2020

Site recruitment

Sites	Participants recruited	Months site active	Recruitment rate per month
Kings College Hospital, London	7	11	0.6
Addenbrooke's Hospital, Cambridge	8	16	0.4
University College Hospital, London	5	15	0.3
Royal Infirmary of Edinburgh	5	16	0.3
St George's Hospital, London	4	12	0.3
John Radcliffe Hospital, Oxford	4	16	0.3
Sheffield Teaching Hospitals NHS Foundation Trust	3	12	0.3
Nottingham University Hospitals NHS Trust	3	12	0.3
Queen Elizabeth University Hospital, Glasgow	3	16	0.2
Charing Cross Hospital, London	3	12	0.3
Salford Royal Hospital, Manchester	1	12	0.08
Royal Preston Hospital	0	12	0
TOTAL NUMBER RECRUITED	**46**	**13.5**	**Mean=0.3**

Where do we need to get to?



Revised per site recruitment rate of 0.4 participants per month

(*current recruitment rate is 0.3 per month*)

Data completeness

	Baseline	3-month follow-up	12-month follow-up
Patients with complete clinical data, n/total assessed (%)	43/43 (100%)	33/35 (94.3%)	7/20 (35.0%)
Patients with complete assessment BP data, n/total assessed (%)	43/43 (100%)	33/35 (94.3%)	7/20 (35.0%)
Patients with complete ABPM data, n/total assessed (%)	35/43 (81.0%)	29/35 (82.9%)	7/10 (70.0%)

Assessment	Number of participants	Contingency measures taken
3-month follow-up	3	No 3-month assessment BP; two ABPM test readings used in lieu
12-month follow-up	13	Follow-up postponed

PROHIBIT-ICH MRI quality outcome

Well done!

Site	Scan no	Scans Received	3D T1	3D FLAIR	DTI	3D SWI	AXIAL T2	ASL	
UCLH	10XX	5	100% (5/5)	100% (5/5)	100% (5/5)	100% (5/5)	100% (5/5)	100% (5/5)	6001 - DTI unu… …sent, djw checked
Imperial	60XX	2	100% (2/2)	100% (2/2)	100% (2/2)	100% (2/2)	100% (2/2)	100% (2/2)	
St George's	120XX	4	100% (4/4)	100% (4/4)	100% (4/4)	100% (4/4)	100% (4/4)	100% (4/4)	12003 - minor probl… …ge of temporal lobes checked; 12004 - 3D FLAIR (a bit m… …upted); DTI (top of brain is missing)
Oxford	20XX	2	100% (2/2)	100% (2/2)	50% (1/2)	100% (2/2)	100% (2/2)	100% (2/2)	2002 - Had claustrophobia; 2003 - DTI not available at the time of scanning
Glasgow	50XX	3	67% (2/3)	67% (2/3)	67% (2/3)	33% (1/3)	67% (2/3)	33% (1/3)	5002 - Not to protocol. Asked to rescan. Can still be manually analysed; 3D T1 - not isotropic; 3D FLAIR - not isotropic; DTI - missing; 3D SWI - not isotropic; AXIAL T2 - not to protocol; 5003 - Pt terminated scan, movement
Sheffield	110XX	3	100% (3/3)	100% (3/3)	100% (3/3)	100% (3/3)	100% (3/3)	100% (3/3)	11002 - distortion of SWI in frontal lobes, likely useable data, checked
Edinburgh	40XX	4	100% (4/4)	100% (4/4)	100% (4/4)	100% (4/4)	100% (4/4)	100% (4/4)	
Nottingham	90XX	3	100% (3/3)	0% (0/3)	100% (3/3)	100% (3/3)	100% (3/3)	0% (0/3)	9001-9003 - Midline artefact and missing lat temp lobes on the FLAIR, checked
King's	70XX	6	100% (6/6)	100% (6/6)	100% (6/6)	100% (6/6)	100% (6/6)	100% (6/6)	7002 - mild motion artefact swi, djw checked
Cambridge	30XX	5	100% (5/5)	100% (5/5)	100% (5/5)	100% (5/5)	100% (5/5)	100% (5/5)	
Total		37	97% (36/37)	89% (33/37)	95% (35/37)	95% (35/37)	97% (36/37)	86% (32/37)	

Please follow the instructions in the PROHIBIT-ICH imaging manual and ensure that all follow-up scans are done according to the same protocol and on the same scanner!

Approved amendments 2019-20

- Patients can be recruited if not discharged home
- Age limit lowered to ≥30 years
- Patients can also be identified from site databases and contacted by email or post
- Posters to be displayed at participating sites
- Patient Identification Centre (PIC) sites
- Invite four new sites to participate in the study

New sites

- Three sites in set-up
  - Royal Devon and Exeter Hospital
  - Sandwell and West Birmingham
  - Leeds teaching hospital NHS trust

PIC sites

Recruiting/research site	NHS PIC sites
UCLH	1. Barnet, Royal Free 2. North Middlesex
John Radcliffe Hospital, Oxford	1. Swindon's Great Weston Hospital 2. Stoke Mandeville Hospital in Aylesbury. 3. Reading Royal Berkshire Hospital
Addenbrooke's Hospital, Cambridge	1. West Suffolk 2. Peterborough -Temple 3. Hinchingbrooke
Salford Royal Hospital	1. Stepping Hill Hospital in Stockport 2. Fairfield Hospital at Pennine Acute
Sheffield Teaching Hospitals NHS Trust	1. Doncaster Royal Infirmary
St George's Hospital	1. Croydon University hospital 2. Epsom and St.Helier Hospital 3. Kingston Hospital.

Additional proposals following TSC 2020

- Continue usual follow-up of all recruited participants including BP at 3 months and MRI at 12 months (can be delayed until MRI is available)
- Plan to recruit 60 participants with research MRI at sites which can do this
- But allow the use of a **standard clinical MRI** instead of a research MRI
- **For participants in whom MRI is contraindicated or not possible** we propose to **allow recruitment without MRI** (as long as the qualifying ICH is confirmed by a CT scan)

PROHIBIT-ICH TEAM

Co-Chief Investigator (UCL)	**Professor David Werring** d.werring@ucl.ac.uk
Co-Chief Investigator (Oxford)	**Professor Peter Rothwell** peter.rothwell@ndcn.ox.ac.uk
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Clinical Research Practitioner: (Oxford)	**Michelle Wilson** michelle.wilson@ndcn.ox.ac.uk Tel: 01865 231601
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BP Clinical Research Fellow: (Oxford)	**Iain McGurgan** ian.mcgurgan@ndcn.ox.ac.uk Tel: 01865 231601

PROHIBIT-ICH imaging team

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Neuroradiologist	**Professor Frederik Barkhof** f.barkhof@ucl.ac.uk
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Thank you!

Website: https://www.ndcn.ox.ac.uk/research/prohibit-ich-project

Email: m.dabagh@ucl.ac.uk

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