

The First Year Implementation Of A Research Strategy For East And North Hertfordshire NHS Trust

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Summary

This paper provides a summary of progress made during the first year of implementing the Trust's Research Strategy. It describes:

- progress made in 2016/7,
- public and patient engagement and involvement, and
- the setting of the 2017/8 priorities.

The Development Of The Trust's Research Strategy

During 2016/7 we launched our Trust's Research Strategy. This was devised through extensive internal communication, two public engagement events and an analysis of detailed feedback from a survey to which there was 499 respondents – including staff, members of the public, patients, various stakeholders (such as university staff, people from other NHS organisations, industry, the Department of Health and NHS England). The development of the Trust's Research Strategy was published in the 2016 June edition of the Hertfordshire Journal of Medicine and the Strategy is available on the Trust's website.¹

Our Research Strategy is based around the recognition that a 'research-active' organisation provides a better care environment than an organisation with little or no research. The Trust is an important part of the National Institute for Health Research² (NIHR). As such we support health and care research and translate discoveries into practical products, treatments, devices and procedures, involving patients and the public in all our work. This ensures that the Trust is able to support research from a wide range of funders to encourage broader investment in, and economic growth from, health research. The Trust has four

Hospital sites. Three of these, the Lister, new QEII and Hertford County provide a large acute secondary care service to a population of 600,000. The Lister and the new QEII have recently undergone a centralisation and expansion of services. In addition there is a sub-regional Renal Unit which provides Renal Services to 1.4 million people in Hertfordshire, Bedfordshire and Essex. The Trust also manages the internationally recognised Mount Vernon Cancer Centre which provides a tertiary service for a population of over 2 million people.

We work with charities and the life sciences industry to help patients gain earlier access to breakthrough treatments and we train and develop researchers to keep the nation at the forefront of international research.

Progress In 2016/7

The Research Strategy set out a vision of "Enhancing patient experience and outcome through research opportunity and innovation for all patients and all staff". There are five aims and progress is described against each of these.

Aim 1: The Trust To Be An Internationally Recognised Centre Of Excellence For Research And Patient Outcomes

The Trust's ambition is to be in the top 20% of large acute NHS Trusts for research activity by 2019. Using national data³ the Trust was ranked 43 of 162 Acute Trusts in 2015/6 (up from 44 in 2014/5) based on recruiting studies. For research participation the Trust was ranked 66 of 162 Acute Trusts in 2015/6 (up from 72 in 2014/5). The increase in research participation for 2016/7 should result in an increase in national ranking when this is published in the autumn of 2017.

The Trust publishes research and for the period Jan 2016 – Dec 2016 produced at least 199 publications in peer-reviewed journals. Of particular note is the Trust's history of joint research which has a very strong international aspect (Fig 1). During Jan – Oct 2016, the Trust published papers with 35 different countries and the number of papers with research partners is: USA (54), Germany (36), The Netherlands (30), France (25), Italy (25), Belgium (20), Canada (19), Austria (18), Spain (18), Australia (13), Denmark (11), India (8), Switzerland (7), Poland (6), Slovenia (6), Norway (5), Sweden (5), Ireland (4), Portugal (4), Brazil (3), China (3), Czech Republic (3), New Zealand (3), Palestine (3), Russia (3), Cyprus (2), Finland (2), Israel (2), Netherlands (2), Romania (2), Taiwan (2), Indiana (1), Japan (1), Republic of Korea (1), Singapore (1).

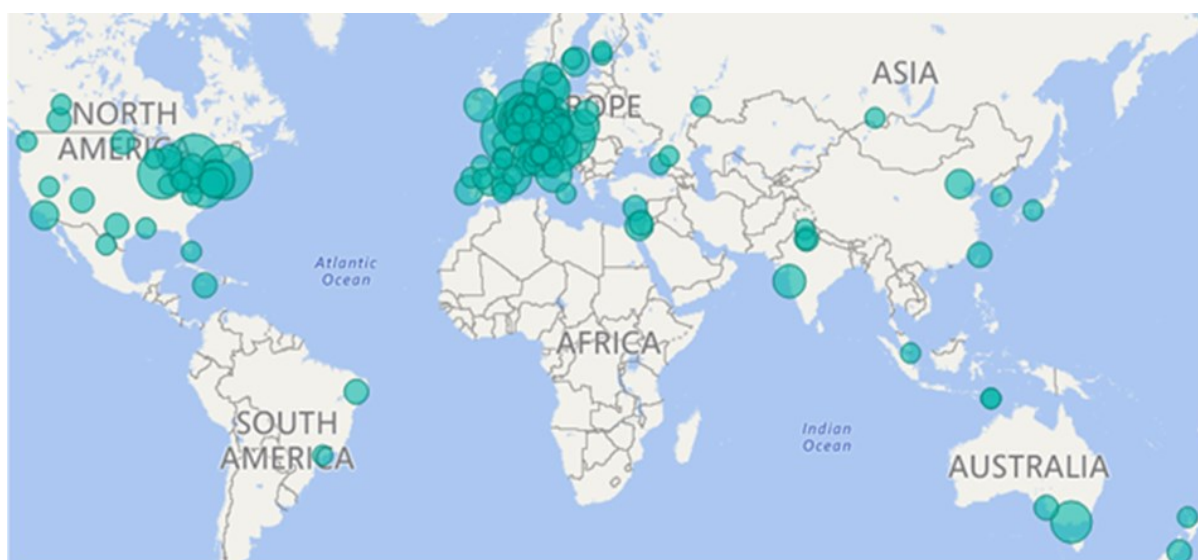
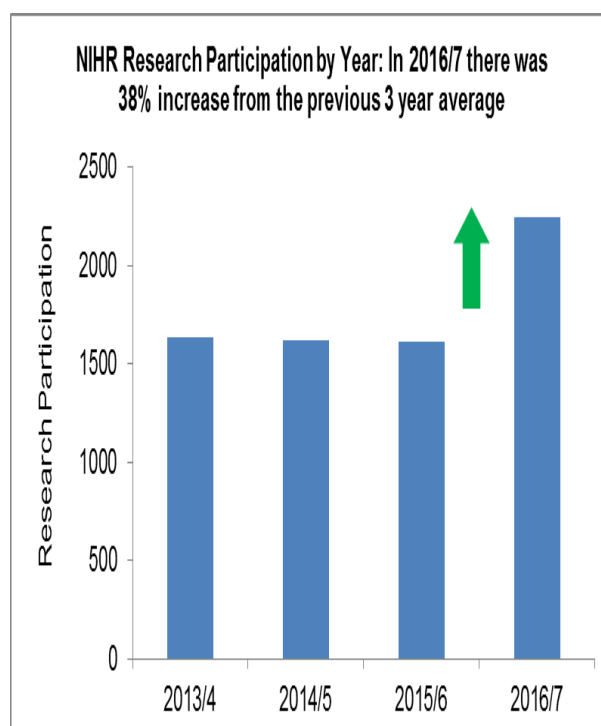


Figure 1: The worldwide distribution of the Trust's research partners based on a review of papers published Jan – Oct 2016. Each circle represents the location of a research partner and the size of each circle is proportionate to the number of papers published.

Aim 2: Patients And Public To Be Engaged With, Participate In, And Benefit From Research And Innovation

The Trust's ambition is to recruit 3,000 patients to research studies in 2019. For the period April 2016 to March 2017, the Trust supported the entry of 2,715 participants into research. Of these there were 2,247 participants to research studies adopted to the NIHR Portfolio. This represents an increase of 38% from the previous three year annual average of 1,623 (Fig 2). We see this as a strong sign that our Research Strategy is delivering immediate benefits in its first year.

Figure 2: Research participation for studies adopted to the NIHR portfolio for the last 4 years



Aim 3: Research Is Funded Via External Grant Applications, From Industry And With The Support Of Charities

The Trust's ambition is to increase external research funding by 10% each year and we have achieved that for 2016/7.

Significant progress has been made in relation to commercially-funded research. The Trust has an effective and productive working relationship with the commercial team of the NIHR Clinical Research network based in the Eastern region. During 2016/7 the Trust recruited 350 participants to 53 commercially funded research studies which represented 33% of all recruiting studies and 13% of research participants.

At the Trust we support our staff to apply for external research funding. We fund work closely with the NIHR East of England Research Design Service to develop high quality research grant applications. Recent success includes:

- The Renal team has worked with Keele University, and others, to gain a NIHR Health Research Health Technology Assessment (HTA) Programme grant "*BioImpedance Spectroscopy To Maintain Renal Output: The BISTRO Trial*" which aims to determine if incorporation of bioimpedance into the setting of the post dialytic weight reduces loss of residual kidney function.
- The Gynaecology Cancer Team have been granted an award to study "*CICATRIX - Sample collection study to explore CirCulating tumour cells And leucocytes with ImagesTReam analysis in patients with various cancers*". This study, which was developed with Brunel University, aims to demonstrate that circulating tumour cells and lymphocytes in various solid tumours can be identified, quantified and used to monitor ongoing metastatic disease.

- The Cardiology team has been awarded a grant for a project "*Assessing the effect of apixaban on endogenous fibrinolysis in patients with nonvalvularatrial fibrillation*". The award is from the Bristol-Myers Squibb / Pfizer European Thrombosis Investigator-Initiated Research Program which was established in 2013 to fund innovative medical research by European investigators.

The Trust is very grateful for the support of >£200,000 in 2016/17 from local charities – including the Cancer Treatment and Research Trust, the Marie Curie Research Wing at Mount Vernon Cancer Centre, local fundraising for the Trust Charity and support to the Lee Haynes Research Institute at the Lister Hospital. It would be very hard for the Trust to continue supporting research at our current level without significant and on-going local charitable support. The Trust is very grateful to the many patients and relatives who continue to donate to support research.

Aim 4: Research Is Embedded Into The Planning And Delivery Of Routine Patient Care For All Patients

The Trust's ambition is 80% of our Clinical Directorates to have research in their annual plans by 2019. There is significant activity across a number of Trust Specialty areas (Table 1) and research is now embedded in quarterly performance review meetings covering all specialties.

Table 1: The number of research studies open and the number of research participants for April 16 to March 2017 broken by area of research and proportion of Randomised Controlled Trials (RCT).

Trust Specialty Area	Number of Studies	% RCT	Research Participants	% RCT
Cardiology	14	57.1%	414	33.3%
Critical Care	4	0.0%	293	0.0%
Dementia	1	0.0%	10	0.0%
Diabetes	10	90.0%	22	95.5%
ENT	5	20.0%	239	32.6%
Gastroenterology	2	0.0%	5	0.0%
Health Services Research	1	0.0%	92	0.0%
Mental Health	1	0.0%	36	0.0%
Musculoskeletal	7	14.3%	47	14.9%
Orthopaedics	1	100.0%	3	100.0%
Paediatrics	3	0.0%	16	0.0%
Renal	30	16.7%	727	2.8%
Respiratory disorders	4	50.0%	62	11.3%
Stroke	1	100.0%	10	100.0%
Surgery	1	0.0%	16	0.0%
Urology	3	100.0%	42	100.0%
Cancer	66	69.7%	523	34.8%
Supportive Oncology	7	28.6%	158	19.6%
Grand Total	161	49.1%	2715	19.9%

Examples of how research and innovation at the Trust has had a positive benefit for patients are:

- The Renal Team has established a shared care space in haemodialysis. Some patients were trained to set up their own dialysis machines in the renal unit, self-needle, put themselves on the machine and take themselves off.
- The Respiratory Team contributed to the Cancer Diagnosis in the Acute Setting (CaDiAS) Lung and Colorectal Research Study.⁴ This study is important because a high proportion of lung and colorectal cancer patients are diagnosed after presenting as an emergency rather than after primary care referral.
- The Radiotherapy Team, with support from the Bioengineering, have developed an innovative ‘fixation template device’ for the delivery of high dose radiation (brachytherapy) in prostate cancer treatment. The Trust has worked with Health Enterprise East to review options to make this available on a commercial basis to other organisations.
- Patients who have Robot Assisted Radical Prostatectomy were found to have better treatment when compared with patients undergoing Open Radical Prostatectomy and that the cost of treatment was less.⁵

Aim 5: Research Is Well Governed, Managed And Supported So Studies Are Delivered, As Promised

The Trust's ambition is to be amongst the **top 20% of large acute NHS Trusts for the time it takes to open research studies by 2019**. So that the UK can compete in a globally-competitive market it is important that NHS organisations can quickly a) Set-up i.e. complete research feasibility and the necessary governance checks and b) Deliver i.e. enter an agreed number of patients within a specified time period.

These measures are measured nationally through a scheme called "Performance in Initiating and Delivering Clinical Research". Based on the first nine months of 2016/7 the Trust was ranked 1st out of 20 for set-up and 15th out of 22 for delivery.⁶ We have introduced a 'Key Studies' initiative to improve our ability to deliver studies and we have seen early signs of this working though it will take time for this to be fully reflected in our national ranking.

Public And Patient Engagement And Involvement

Patients are actively involved with developing our research and our research culture with numerous focus groups and surveys to gain valuable insight into how we view research at the Trust. We have two lay members on our Research and Development Board and a dedicated section on our website.

Examples of public and patient engagement and involvement have included the following.

- **International Clinical Trials day 20th May 2016** Numerous events were held to celebrate raise awareness to staff, patients and members of the public.
- **Public Trust AGM 12th July 2016** Research was a major theme to the whole event and an important element to the presentation from the Medical Director. More than 400 members of the public, staff and partners attended the event.
- **Public and patient engagement events** These were held in September 2016 to explain our research priorities, to discuss these with 24 members of the public and to identify future ways of engagement. Feedback was very positive with all respondents saying that the event was useful and that they would like to attend a future event.
- **Research Participation Surveys** These were conducted between November and December 2016. A total of 100 research participants gave us their views. When asked "*Overall, how would you rate your experience of taking part in research on a scale of 1 to 10 – with 1 being very poor and 10 excellent?*" 69 responded with a score of 10 as excellent, 29 responded with a score of 9 and the remainder responded with 7 or more.

Example comments from the research participant survey⁷ include:

- *"I am happy to take part in the research so that the study can help future treatments. I am completely satisfied with the care and support provided to me by the staff."*
- *"The nurses were absolutely lovely, they listened and explained everything to me and also gave very good advice on caring for myself."*
- *"Research staff would answer questions, often finding out the answers and getting straight back to me. This was very important to me to know what is going on."*
- *"My research nurse has always been supportive, kind and caring and has always listened to my thoughts, doubts and concerns and has always put my mind at ease. She makes my two week treatments bearable."*

Setting Of The 2017/8 Priorities

Much progress has been made in the first year of the strategy. Things of particular note for the setting of the 2017/8 priorities are:

1. To continue to be amongst the best for patients wishing to participate in research and to contribute to research design, for staff to develop and gain funding to implement research ideas, for research sponsors to conduct research to enhance patient experience and outcomes, and for maintaining financial sustainability.
2. To increase NIHR Portfolio studies that originate from the Trust through the seeking of external non-commercial research funding and or access to other funding streams which make research eligible for NIHR-adoption.
3. To continue to support commercial research associated with the Life Science Industry.
4. To work with local Universities to include realising the benefits that arise from gaining University status via the University of Hertfordshire (i.e. review and align research processes) and to further develop our working relationship with Brunel University.

References

1. East and North Hertfordshire NHS Trust Research Strategy, accessed via http://www.enherts-tr.nhs.uk/files/2016/07/Research-Strategy-2016_Single-Pages-A4-4th-July-2016.pdf on 8th May 2017.
2. National Institute for Health Research website, accessed via http://www.enherts-tr.nhs.uk/files/2016/07/Research-Strategy-2016_Single-Pages-A4-4th-July-2016.pdf on 8th May 2017.
3. National Institute for Health Research Research Activity League Table (2017) accessed via <http://www.nihr.ac.uk/research-and-impact/nhs-research-performance/league-tables/> on 8th May 2017.
4. Wilkinson, S., Cox, J., Fordham, R., (2016) East of England Strategic Clinical Network Cancer Diagnosis in an Acute Setting (CADIAS). An analysis of patients in the East of England who presented as an emergency with a first diagnosis of lung or colorectal cancer. Final Report 2016. Health Economics Consulting, Norwich Medical School, University of East Anglia.
5. Hughes, D., Camp, C., O'Hara, J. and Adshead, J. (2016), Health resource use after robot-assisted surgery vs open and conventional laparoscopic techniques in oncology: analysis of English secondary care data for radical prostatectomy and partial nephrectomy. *BJU Int*, 117: 940–947.
6. National Institute for Health Research Performance in initiating and delivering clinical research, accessed via <http://www.nihr.ac.uk/research-and-impact/nhs-research-performance/performance-in-initiating-and-delivering-research/> on 8th May 2017.
7. Smith, P. (2017) Research Participant Survey 2016/7 accessed via <http://www.enherts-tr.nhs.uk/files/2017/03/Research-Participant-Survey-2016-v3-dated-9th-March-2017-FINAL.pdf> on 8th May 2017.