

## Board of Directors (in Public)

### Item 3.1

**Subject:** Research & Innovation Strategy Annual Report  
**Date of Meeting:** 30<sup>th</sup> July 2019  
**Prepared by:** Dr Margarita Perez-Casal, Interim Director of Research & Innovation  
**Presented by:** Dr Margarita Perez-Casal, Interim Director of Research & Innovation

<b>BAF Ref</b>	2.2
<b>Impact on BAF</b>	This report provides assurance on the implementation of the current Research & Innovation Strategy

### 1. Executive Summary

This report reflects the overall research and innovation activity at the Trust throughout the 2018/19 financial year.

Liverpool Heart and Chest Hospital has continued to grow in research and innovation; the Trust has led a number of activities locally with our academic partners to further enhance the specialist role of LHCH. The formation of the Liverpool Centre for Cardiovascular Science is the corollary to a year when the links with our academic partners have been strengthened; this has been further demonstrated by new academic appointments for our active researchers.

The Trust has delivered the targets set up by the NIHR for clinical trials, and continues to be the site of choice for industry partners interested in delivering high quality research trials.

Our work with the Innovation Agency and TruSTECH has resulted in a number of innovations brought into the Trust; our patients have been given access to innovative diagnostic systems and treatments. Our staff have been supported and encouraged to work with industry to create prototypes. Throughout the year our clinicians have been empowered to develop their own ideas through the Innovation Factor. We have seen solutions for prevention of pressure ulcers being developed by one of our nurse consultants.

This has been a good year for LHCH research and innovation, and it is the catalyst for more to come.

## 2. Background

Research and Innovation at the Trust is one of LHCH's strategic objectives.

The Trust launched a new R&I strategy last year to span to 2021. The strategy focuses on the areas of expertise of our researchers and aims at growing research participation for our patients.

The current strategy has clear objectives and an action plan which will be used to report on this year's achievements.

## 3. Achievements against strategy

Research and Innovation strategic objectives:

### 1. Develop and enhance new strategic initiatives and relationships.

- Liverpool Centre for Cardiovascular Sciences has been formed. A CVD programme manager has been appointed (sponsored by Liverpool Health Partners) and a Steering Group also formed and actively working on a CVD research strategy for the city of Liverpool. The old research laboratory at the Trust has been refurbished to act as the base for LCCS.
- Prof Gregory Lip has been appointed by the University of Liverpool as Lead for CVD research at the University.
- Visit by British Heart Foundation Director Prof Samani to LCCS. The Centre will work with the BHF to become a Centre of Clinical Excellence.
- ICECAP led by Prof Stables has been accepted as a CVD clinical trials unit aligned to the University of Liverpool.
- Comparative Effectiveness Trials – the Trust has received a grant from Medtronic to run the CRYoballoon PV Isolation as First Line treatment for Typical Atrial FlutTer (CRAFT) trial. This further cements LHCH as the local experts in cardiovascular trial management. A grant has also been approved for a study called **Left Atrial Arrhythmia Substrate identification by Ultra High Density Mapping after confirmed durABLE PV isolation (LAUDABLE) trial** by Boston Scientific
- Active partners of LHP and the Joint Research Service; LHCH staff seconded to JRS as part of the partnership agreement.
- The Trust CEO, Ms Jane Tomkinson, has been appointed as Chair of the Network's Partnership Group for the North West Coast Clinical Research Network from January 2019.
- Institute of Cardiovascular Medicine and Science (ICMS) delivered a very successful annual symposium held at the Royal College of Physicians in London. New areas of collaboration identified.

### 2. Continued promotion of R&I in our exiting priority areas.

- ICMS has appointed a Research Associate to lead and monitor progress of each ICMS working group. The collaboration continues to:
  - Develop a database in cardio-oncology
  - Develop a major trial in inherited cardiac conditions and a regular cross-trust MDT

- Develop a project utilising TAVI and clinical data
    - Create educational tools for clinical management of cardiac devices
  - Growth in lung cancer research, both through thoracic surgery trials and also through a collaboration with the University for the creation of a Professorship in Head, Neck and Lung Cancer (Prof Christian Ottersmeir in discussions to relocate to Liverpool).
  - Participation in cardiothoracic anaesthesia trial – Deliver Drug Allergy Labelling trial (DALES) – completed over a short time period in 2018 with local leadership by Dr Nigel Scawn.
  - Respiratory medicine research with increased commercial trial activity, led by Dr Martin Ledson.
  - Personalised Medicine portfolio has delivered the 100,000 genomes project with LHCH being the highest recruiter nationally for the lung cancer project although was much difficult to recruit to the rare diseases project
3. Build a culture that promotes, supports and values R&I activity within the Trust.
- Annual Research and Innovation showcase presented to the Board of Directors in December 2018.
  - Created a Non-Medical Research Forum which promotes research and innovation among non-medical staff.
  - Showcased team achievements at Team Brief and at 'Your Time to Shine'- Respiratory Research Team (September 2018); Knowsley Community Research CLAHRC projects Nov-18; Presentation to Learning & Sharing forum by Interim Head of Research & Innovation; presentations to ward staff by research nurses
  - Innovation workshop held in 2018 with clinical leads to engage them in innovation.
  - A total of 155 manuscripts affiliated to LHCH were published between 1<sup>st</sup> April 2018 and 31<sup>st</sup> March 2019.
4. Develop capacity and capability for R&I within the Trust.
- Development of new Chief Investigators through the CRN Scholars programme; Dr Fairbairn (2017/18) and Dr Mahida (2018/19) both part of the programme.
  - Development of a career structure for research nurses; organisational change of the department going through HR process. This introduces two band 7 senior research nurses.
  - Good Clinical Practice training in place, both online and face to face. High compliance rates.
  - Administrative support for LCCS employed full time.
  - Grow of academic staff base through honorary contracts with our academic partners: Prof Mark Field, Prof Dhiraj Gupta, Senior Clinical Lecturer positions for Dr Clare Appleby and Dr James Greenwood.
  - Promotion of Innovation activities through Innovation Scout role. Dr Mark Jackson held that position.

- Worked with Service Leaders to develop new non-medical consultant positions with formal allocated time to undertake research and innovation. Three non-medical consultants with research included in their job description have been appointed (Sam Pilsworth, Julie Tyrer and Emma Rikards).
5. Maximise opportunities for our patients to take part in research.
- A total of 956 patients consented to be active research participants.
  - Introduced an Investigator pack to raise awareness and capability of principal investigators around the importance of recruitment to time and target.
  - We are promoting to each staff member in the Trust what the Unit can provide in terms of support for each trial opportunity evaluated by R&I Committee. Regular surveys are being sent out to all staff through corporate communications to assess support needed for Research
  - A Trust-wide promotion of Expressions of Interest (EOI) from NIHR and commercial companies has been implemented. EOI requests are regularly passed on to potential investigators in the Trust. Documented outcomes are dully reported back to the CRN
  - Celebration of International Clinical Trials Day at LHCH delivered by members of the research team.
  - Participation of our Research Patient Ambassador at a number of local and national events to promote clinical trial participation among the public.
6. Maximise opportunities for R&I collaborations with external partners.
- CVD programme manager at LCCS has engaged with all interested parties to participate and develop the CVD research strategy in the city.
  - Worked with the Innovation Agency and TrusTECH identifying and developing innovative ideas.
  - In partnership with Red Ninja worked with our staff to identify areas for innovative solutions. Red Ninja were part of the R&I workshop held at the Trust in 2018.
  - We have recently participated in ITP evaluation in Leeds and the Liverpool Health Digital Research both of which are Innovation Partnership meetings.
  - Funding provided by Trust Executive to take forward a staged programme of evaluation for pressure ulcer device designed by Julie Tyrer.
7. Identify and implement new innovations likely to benefit the Trust.
- Implemented all Innovation Technologies identified through the Innovation Tariff from NHSE as relevant to LHCH:
  - Trust working with independent technological companies to develop tailored solutions to specific issues: i.e. MedXNote (app development for MDT and share of images).
  - Fall prevention system Rambleguard trialled and implemented in our wards.

- Pressure ulcer prevention kit developed and tested by Julie Tyrer, supported by TrusTECH.
- MINIMISE MOISTURE campaign developed by Julie Tyrer. Exploring trademark for logo.
- CareCube catheter lab scheduling tool developed and implemented at LHCH. This has been promoted externally for commercialisation.
- Clinical Trial Management System developed by ICECAP and being promoted by AIMES as part of the existing collaboration.

#### 8. Performance and governance.

- A total of 15 commercial and 5 non-commercial trials were open through 2018/19.
- Developed a comprehensive work plan for the Research and Innovation committee responding to local and external needs.
- Regular audit of all Trust research projects for their governance. Reports to the R&I committee for assurance.
- Preparedness for MHRA inspection carried out in Q3 and Q4 of 2018/19. Report presented to Research and Innovation Committee.
- Research Administration Assistant regularly monitor Good Clinical Practice compliance on a monthly basis and also provide sign-posting to individuals who need to undergo training and refresher training.

#### **Research and Innovation budget for 2018/19.**

Financial performance is important to the success of the Research and Innovation activity at the Trust. R&I is a self-funding department therefore commercial activity and grant income are essential for the delivery of the strategy.

Income	£000	Expenditure	£000
<b>CRN</b>	491	<b>Pay</b>	1,136.9
<b>Commercial</b>	533	<b>Non-pay</b>	676.9
<b>Reserves</b>	546.9		
<b>PI contribution</b>	242.9		
<b>Total</b>	<b>1,813.8</b>	<b>Total</b>	<b>1,813.8</b>

The reserves or deferred income used to balance out any shortfall had a net increase of £124,401 for the year.

It is paramount that the Trust continues to be the site of choice for commercial partners.

#### **4. Forward plan**

The R&I strategy 2018-2021 still has another two years to go; however, given the nature of the work so far, and the changes in the local and regional system, it seems appropriate to “refresh” the strategy to be better aligned to the new opportunities.

The following will be objectives for the R&I function at the Trust for 2019/20:

1. Confirm the appointment of Prof Ottersmeir as Professor in Head, Neck and Lung Cancer for the University of Liverpool.
2. Develop a Clinical Lecturer in Lung Cancer as part of the support that LHCH will provide to the Liverpool system. The post-holder will be appointed for 5 clinical sessions at LHCH, and 5 research sessions with the University.
3. Develop the business case for an Aorto-Vascular Physician (Senior Clinical Lecturer) aligned to LCCS and with 5 clinical sessions at LHCH.
4. Application to become a University Hospital based on the criteria published by the Association of University Hospitals in the UK.
5. Promotion of Innovation through collaboration with Innovation Agency Scout model.
6. Workshop on R&I to be held in December 2019 with the Board of Directors.
7. Hosting of Liverpool Health Partners and Innovation Agency
8. A review of R&I finances will be undertaken by the autumn 2019 in time for the process of the Trust business planning.

## **5. Conclusion**

- Implementation of the Research and Innovation Strategy approved in July 2018 is progressing well.
- The Trust is at an excellent position to lead on Cardiovascular and Lung Cancer research in the system.
- Links with our academic partners have strengthened.
- The risk around MHRA inspection has reduced, but remains a continued focus to deliver the necessary evidence base of effectiveness.

## **6. Recommendations**

The Board of Directors are asked to note the progress made in implementing the current research and innovation strategy and to approve the forward plan set out in this paper.