



# Research & Innovation Annual Report 2021/22

# Contents

1. Executive Summary
2. Research and Development
  - a. Strategy refresh and key performance indicators
  - b. ESNEFT sponsored and collaborative research
  - c. Developing the research and wider ESNEFT team
  - d. Restart and Recovery
  - e. Research for everyone – ‘no decision about me, without me’
  - f. Patient and public involvement
  - g. Research governance
  - h. Research Funding Group
  - i. Strategic involvement
  - j. Publications
  - k. Activity
  - l. Next steps and looking forward
3. Innovation
  - a. Strategic outline
  - b. Key Performance Indicators (KPIs)
  - c. Supporting Innovation in the Trust
    - i. New ideas
    - ii. Introducing new technologies
    - iii. Supporting business case development
  - d. Supporting Innovation in Education and Training
    - i. Apprenticeships
    - ii. Robotic Surgery
    - iii. Advanced Clinical Skills & Simulation Training
    - iv. Widening Participation
    - v. Community Diagnostic Training Academy
    - vi. Proposed Faculty of Education & Innovation Centre

# SECTION 1: Executive summary

The Strategy, Research and Innovation Directorate has continued to grow its exciting portfolio of activity over the past 12 months and further develop the support it offers clinical colleagues in particular. Underpinning all of our work is the drive to provide the best care and outcomes for our patients.

## Research and Development

This report reviews the work undertaken by our Research Development Unit in the period **July 2021-June 2022**. Research performance data is shown from April 2021 to March 2022, plus in parts, data from April 2022 to June 2022. It sets out how the unit has performed against its responsibilities.

The research environment in the NHS is challenging. Developing a sustainable model for research is essential. The Trust needs a mixed portfolio of NIHR, academic, own sponsored and commercial research for the future. The Trust has a duty, under the NHS Constitution, to offer patients the opportunity to be involved in research. The CQC assess research participation under the Well Led domain. Research provides a significant net contributor to Trust income.

[Video of our highlights:](#)

[RD 90 seconds round up!](#)

## Innovation and the introduction of new technologies to ESNEFT

2021/2022 has seen a number of exciting innovative developments in the Trust. Existing programmes have continued to progress and we are seeing benefits to frontline delivery. These include the Trust's investment in robotic surgery, where not only are we seeing real benefits for patients from the use of the Da Vinci robotic system purchased the previous year, we have also seen further investment in 2 additional Da Vinci systems and a new cohort of consultants being trained to operate using this technology. Similarly, we have seen the deployment of the first two track and trace technologies under the SMARTcare, Programme that identify the location and use of medical equipment and items within the Trust and their association with patients.

New technologies are being evaluated to understand the benefit they bring to patients, particularly breakthroughs in artificial intelligence (AI). These include e-stroke software through a company called Brainomix which improves the care of stroke patients through speedier analysis of their condition.

New investments and collaborations have been secured, including a regional approach to introduce digital technology that will transform the analysis and reporting within histopathology. Ultimately leading to access to emerging AI technologies, the securing of £1.4m of external investment in digital histopathology will allow for quicker and more accurate analysis, more immediate access to third part opinions, and less outsourcing of cases.

New strategic partnerships and investments have been secured that will lead to exciting opportunities for innovation in the Trust, benefits to patients and opportunities for staff development. These include the establishment of The Institute of Excellence in Robotic Surgery,

Innovation Fellowships, and investments in knowledge transfer activity with one of our local universities that will boost the Trust's business informatics capability.

The Team has supported a total of 20 business cases in 2021/22 of which a total of 17 of these business cases were unique business cases, securing investment in innovation totalling £16m.

### Innovation in Education

The Innovation Team played a supporting role in helping to form and establish the Trust's Faculty of Education. The Faculty of Education was formed to provide a coherent and comprehensive approach to the delivery of the Trust's education and training programmes. It is responsible for outlining the strategic direction for the Trust's education and training programmes, performance management and delivery, for financial management and for major contractual commitments to Health Education England (HEE) and the Education, Skills & Funding Agency (ESFA).

2021/22 has seen investment in several projects that will enable ESNEFT to remain at the forefront of all areas of training, learning and continuous development for our staff.

Amongst other things this has included:

- Becoming an Employer Apprenticeship Training Provider
- The Community Diagnostic Training Academy - delivery of employment and skills provision to support residents from Tendring to access employment within the local health sector
- An ambitious programme of engagement with schools and the community, widening participation and helping to address health inequalities
- The development of proposals for a state-of-the-art Faculty of Education and Innovation Centre at Colchester

## SECTION 2: Research and Development

Clinical research is vital for providing the evidence needed to deliver high quality and cost effective healthcare services, and to improve outcomes for patients both locally and nationally. It is through research that we are able to develop and test new treatments and approaches to healthcare, and better understand existing conditions. Research studies are taking place all the time across our Trust. Our teams, researchers, clinicians and all the support units who help us deliver our research portfolio have worked diligently to improve outcomes for patients both locally and nationally. However, we would not be able to take part in research if it was not for patients and members of the public volunteering to participate.

The NHS Constitution<sup>1</sup> sets as a principle that ‘the NHS aspires to the highest standards of excellence...through its commitment to innovation and the promotion, conduct and use of research. The handbook to the Constitution<sup>2</sup> highlights the importance of innovation and medical research as ‘integral to driving improvements in healthcare services for patients’.

NHS England has a duty, through its mandate from the Department of Health, to promote research and the use of research evidence in the NHS. It views innovation and research activity as a core duty for NHS organisations.

We are fully committed to developing and supporting research which improves the quality and experience of care for local people, as well as making our contribution to wider health improvements. It is central to secure our future as a leading clinical research centre for specialist care in the UK.

Knowing that patients cared for in a research active environment have better outcomes<sup>3</sup>, we aim year on year to increase our research portfolio to be able to offer our patients the very best treatments, medicines and services. We continue to work with many different organisations national and internationally, this enables our patients to have access to new medicines, devices or treatments as part of a clinical trial.

Our research portfolio within ESNEFT has been highlighted in the last couple of years with our involvement with COVID-19 studies, the importance of clinical research has never been more apparent than now.

ESNEFT is a member of the Clinical Research Network East of England CRN -EoE the regional delivery arm of the National Institute for Health Research (NIHR). The majority of staff involved in research in the Trust are funded through annual allocations from CRN EoE. Our performance is monitored by the CRN EoE against high level objectives, post pandemic has seen a shift to speeding up approval times and delivery from absolute number of recruits.

---

<sup>1</sup> <https://www.gov.uk/government/publications/the-nhs-constitution-for-england/the-nhs-constitution-for-england>

<sup>2</sup> The handbook to the NHS Constitution, January 2019, NHS England

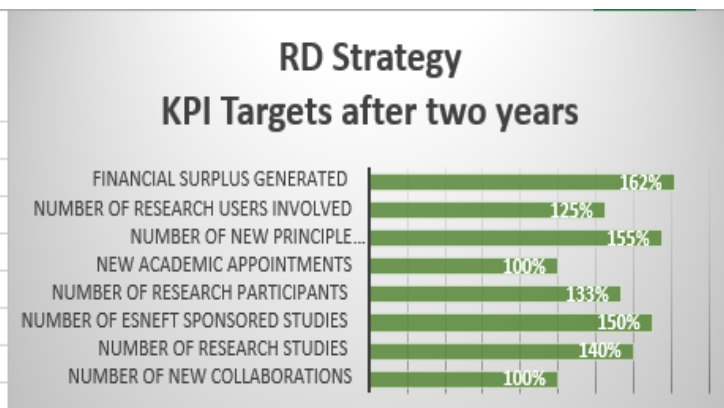
<sup>3</sup> [Recognising research: how research improves patient care | RCP London](#)

## Section 2A: Research strategy refresh and key performance indicators

The Research and Innovation (R&I) Strategy for 2019-2024 was reviewed at the Strategy, Research and Innovation Divisional meeting in March 2022. It was agreed, due to the successful growth of both departments, a separate Research and Development (R&D) and a separate Innovation strategy would be implemented going forward.

The R&D 2022 strategy is currently being refreshed and is in draft. The following Key Performance Indicators (KPIs) for R&D are included in the R&I Strategy 2019-2024. **Now showing a strong final position at two years on 31 March 2022**

KPIs		KPI After 5 years	KPI Pro rata @ year 2	Actual @ year 2
RD01	Number of new collaborations	40	16	16
RD02	Number of research studies	400	160	224
RD03	Number of ESNEFT sponsored studies	20	8	12
RD04	Number of research participants	5500	4000	5335
RD05	New academic appointments	10	4	4
RD06	Number of new principle investigators	50	20	31
RD07	Number of research users involved	100	40	50
RD08	Financial surplus generated	£300	£120	£194



## Section 2b: ESNEFT sponsored and collaborative research

As well as increasing the opportunities for our patients and service users to take part in NIHR Portfolio research studies, the Trust has an ambitious strategy for research and development aimed at hosting and developing our own research for the benefit of patients and the community surrounding ESNEFT, we continue to develop a team to deliver the ambition. Our development team now includes two Allied Health Professional Clinical Academic Research Leads and we have a joint clinical academic post with the University of Suffolk, and a similar post with Anglian Ruskin University planned for 2022/23.

We continue to strengthen our collaborations with partner organisations.



## Section 2C: Developing the Research and wider ESNEFT team

Our research and development team continues to grow with 68 members over eight teams across ESNEFT. The majority are funded through the annual allocations from CRN East of England (EoE) together with commercial income and academic and charity grant income. We have recently had three of our AHP's secure funded awards within the Health Education England Clinical Academic Framework.

**The Green shoots scheme** - offered by CRN EoE aims to grow the region's research capability and recruitment activity, providing 24 months funding for clinicians in the form of PA or sessional time to develop capability and expertise to deliver the NIHR Portfolio. ESNEFT have been awarded six so far, the first AHP award was received on the last round.

**NIHR Associate PI** - The Associate PI Scheme is a six month in-work training opportunity, providing practical experience for healthcare professionals starting their research career. We have supported five so far!

**Support from other departments** - Research would not happen at ESNEFT without the continuing support of other departments within the Trust. Financial support is provided by the CRNE and commercial funding which is disbursed at source to any department supporting activity over and above standard treatment. The RD unit also financially support posts in finance, communications imaging and pharmacy.

## Section 2D: Restart and Recovery

As we are moving into 2022/23, COVID-19 research continues in the background with the continuation of COVID studies including the SIREN study across our sites. However, the recovery of other important research studies continues. For 2021/22 we were the second in the region for recruitment into NIHR studies (chart 1). For our total recruitment (chart 2) including our own sponsored studies and non NIHR studies, our recruitment doubled from 2017/18 to 2020/21. The NIHR restart and recovery from 2021/2022 is focusing more on delivery to time and target rather than absolute recruitment numbers. The NIHR are looking hard at the portfolio asking sponsors and funders to end studies which have reached their targets to allow more new studies onto the portfolio as they recognise sites are turning away both academic and commercial new studies due to capacity issues.

## Recruitment across Eastern

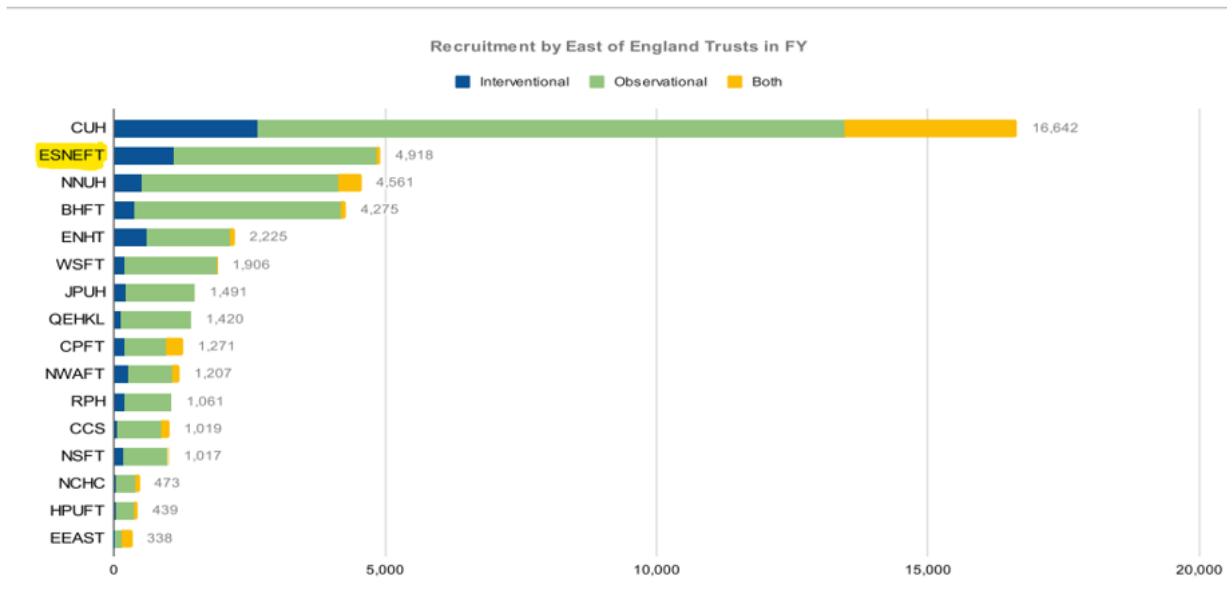


Chart 1

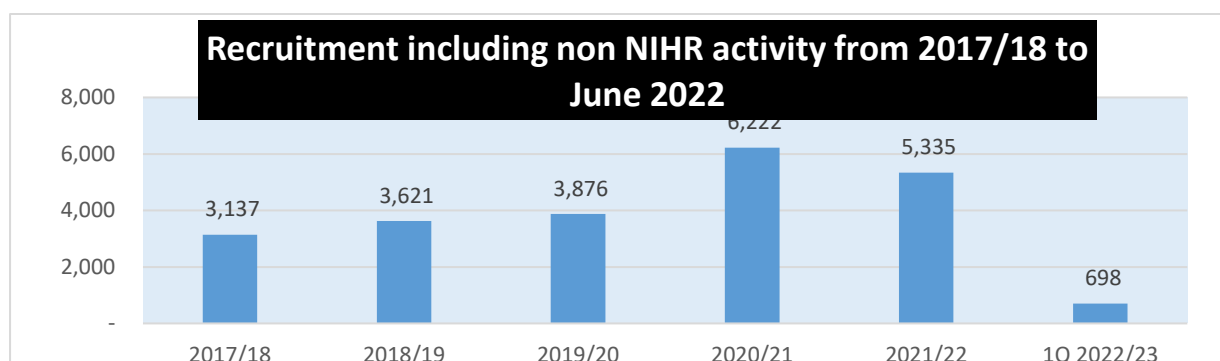


Chart 2

## Section 2E: Research for Everyone! - 'no decision about me, without me'

Ensuring equitable access to our research portfolio – we are designing our own sponsored research to be inclusive, by following the principle of 'no decision about me, without me' provides the moral justification for ensuring that under-served groups are included in research. The evidence base necessary for decision making by clinicians and patients must be one generated by the participation of a broad range of groups in the research underpinning that evidence base.

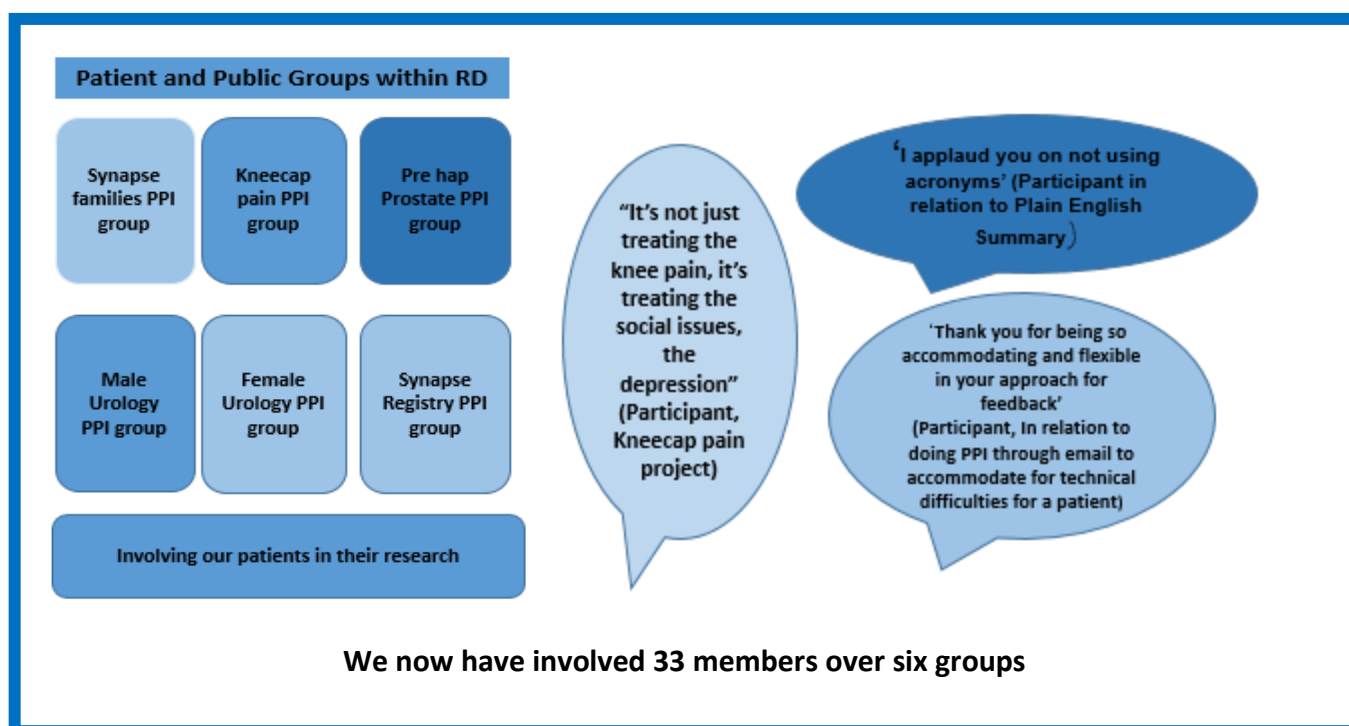
In 2022 we will explore if we can provide information about our own research studies in different languages using our Trust web-based translation 'Recite me'. We are also working with our patient and public groups and Autism&ADHD, a local organisation within our research centre [The Synapse Centre for Neurodevelopment ESNEFT](#) in designing our research.



## Section 2f: Patients and Public Involved (PPI)

### Ensuring our patient voice is heard

Our own sponsored research gives the opportunity to involve our local population in our research. This has proven invaluable in reflecting and learning by listening to our PPI members in designing applications for grants and redesigning our studies, for example replacing questionnaires in our LONG COVID study with more suitable ones.



### Equality and diversity data

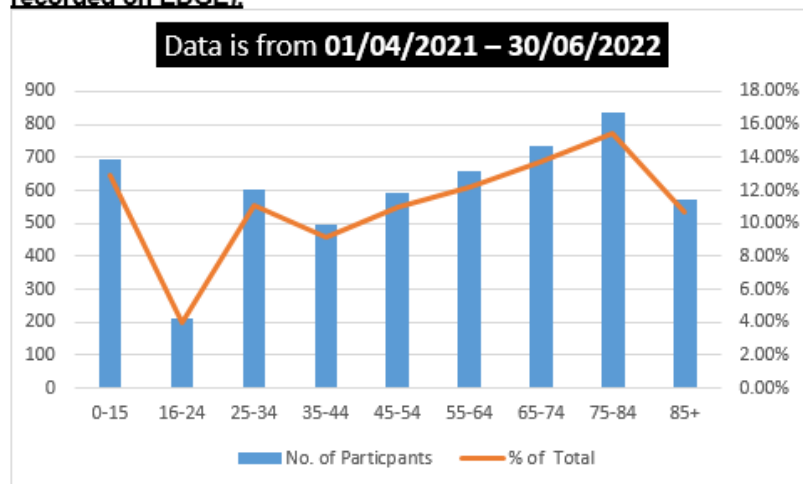
We routinely collect the age and ethnicity of participants in research, to ensure that we provide equitable access to the benefits of involvement in research.

#### Ethnicity data within our recruitment – where stated

Ethnicity data within recruitment into research at ESNEFT 2021/22	Ethnicity data within recruitment into research at ESNEFT 1Q 2022/23
Any other Black background	13 Any other Black background
Any Other Ethnic Group	45 Any Other Ethnic Group
Asian or Asian British - Any other Asian background	18 Asian or Asian British - Any other Asian background
Asian or Asian British - Bangladeshi	13 Asian or Asian British - Indian
Asian or Asian British - Indian	30 Asian or Asian British - Pakistani
Asian or Asian British - Pakistani	5 Asian or Asian British - African
Black or Black British - African	21 Black or Black British - Caribbean
Black or Black British - Caribbean	15 Black or Black British - Caribbean
Chinese	7 Chinese
Mixed - Any other background	31 Mixed - Any other background
Mixed - White and Asian	8 Mixed - White and Asian
Mixed - White and Black African	11 Mixed - White and Black Caribbean
Mixed - White and Black Caribbean	34 Not Known
Not Known	271 Not Stated
Not Stated	283 White - Any other White background
White - Any other White background	154 White - British
White - British	2866 White - Irish
White - Irish	16 White - Irish
Grand Total	3821 Grand Total

We recorded ethnicity data for 90% of participants, with 19% of participants self-identifying as non-white.

**Age ranges of our participants (data for those recruits where date of birth has been recorded on EDGE).**



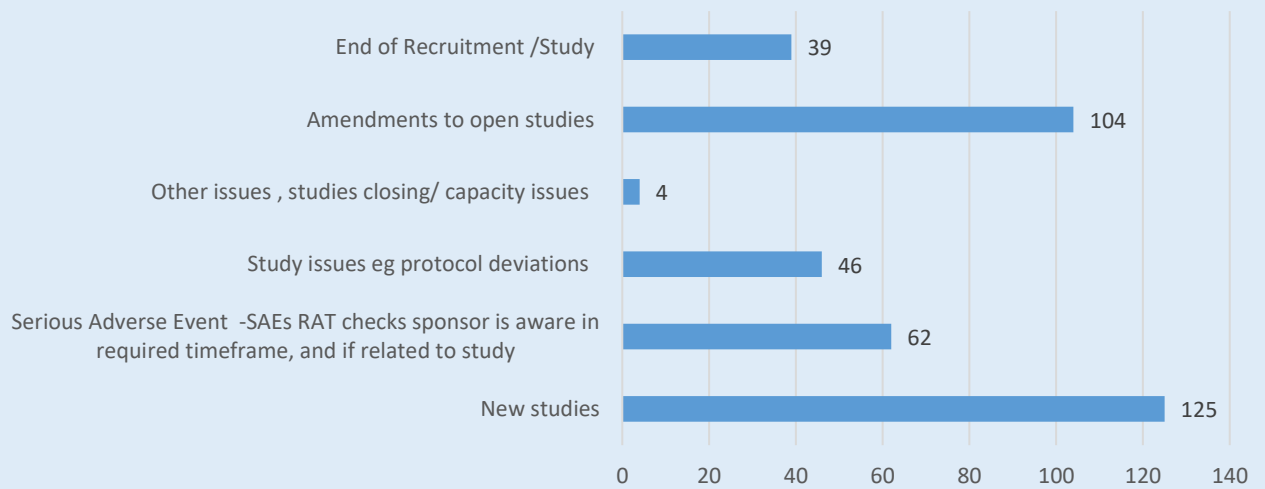
Our research is offered to people of all ages, with good uptake. The lowest recruitment was in the 16-24 year old group.

## Section 2G: Research Governance

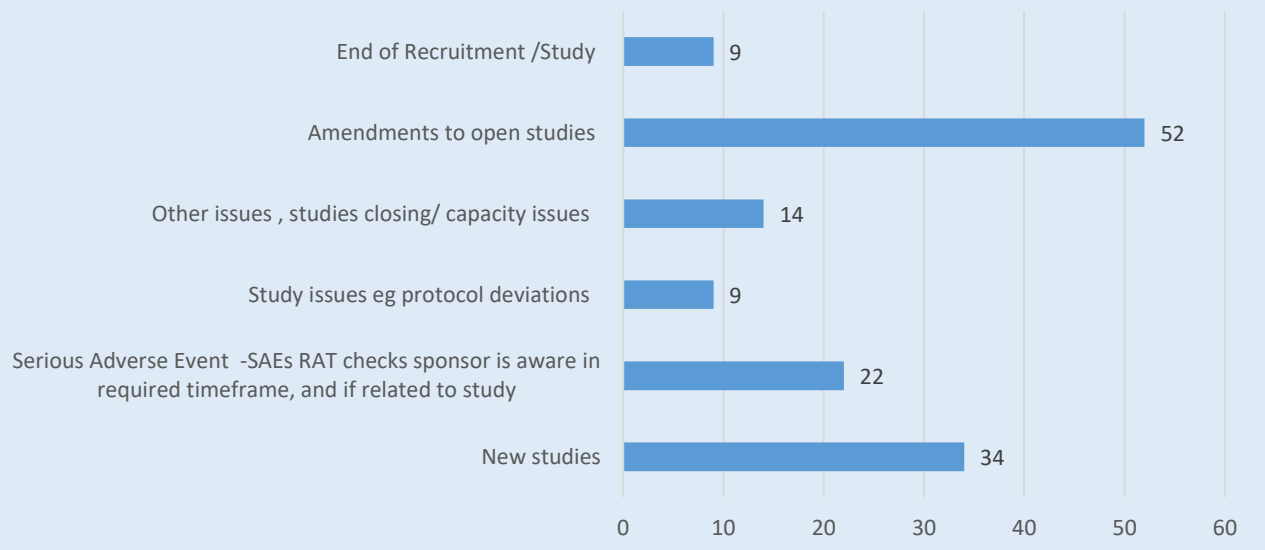
### Research Assessment Team

Quality in R&D is ensured by the Research Assessment Team (RAT) and Research Governance Group (RGG). The RAT consists of the Clinical Director of Research, Assistant Director of Research and members of the RD support and clinical teams. The RAT meets fortnightly to review all studies being considered by staff at ESNEFT, ensuring that they will be conducted in line with MHRA requirements and resource and funding is available for the study. The RAT also provides an opportunity to ensure that a balanced portfolio of research is maintained at ESNEFT. The RAT reviews any matters arising with regard to ongoing studies; for example all serious adverse events (SAEs) are reviewed and escalated where appropriate to the Research Governance Group.

### RAT Activity 2021/22



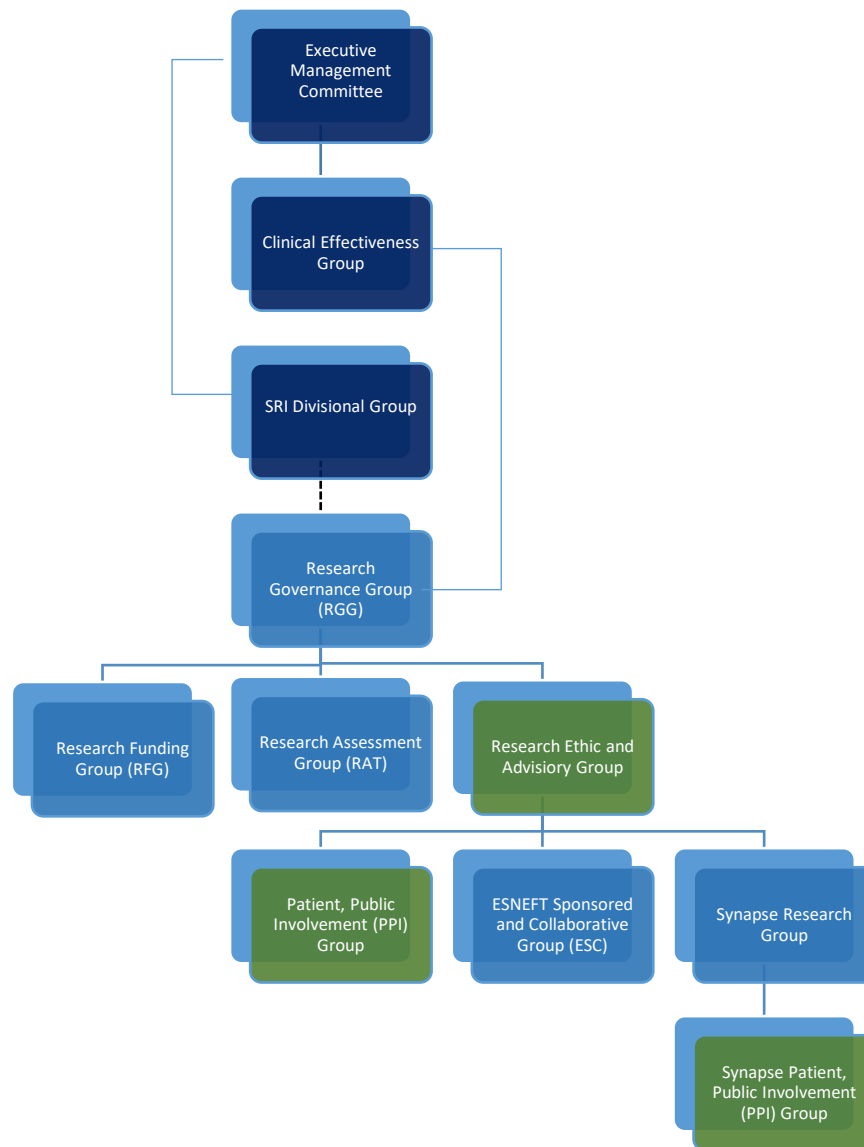
### RAT Activity 1Q 2022/23



## R&D Governance reporting lines

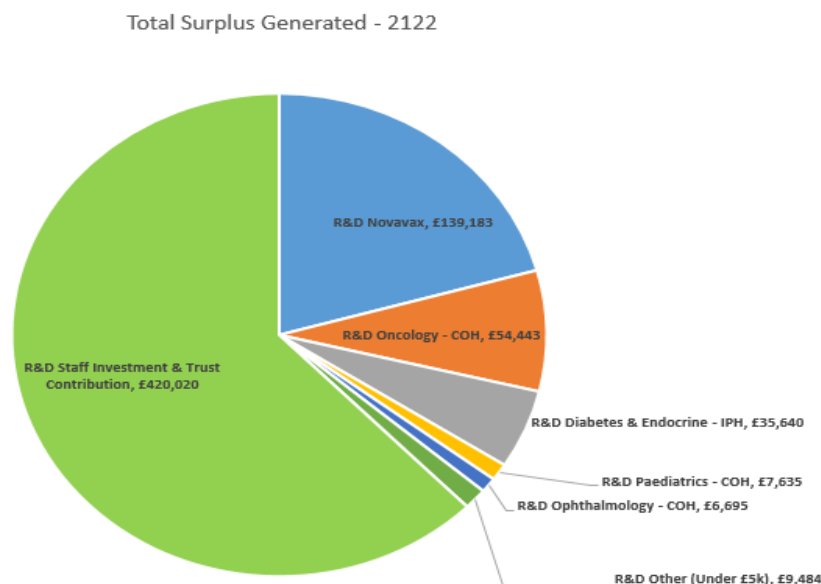
With our increase of own research we have formed new groups to manage the workload and a new Trust Research Advisory and Ethics Group to oversee our own research portfolio. The below diagram shows the reporting lines for Research and Development from 1<sup>st</sup> April 2022:

### RD Governance reporting line at 01 April 2022

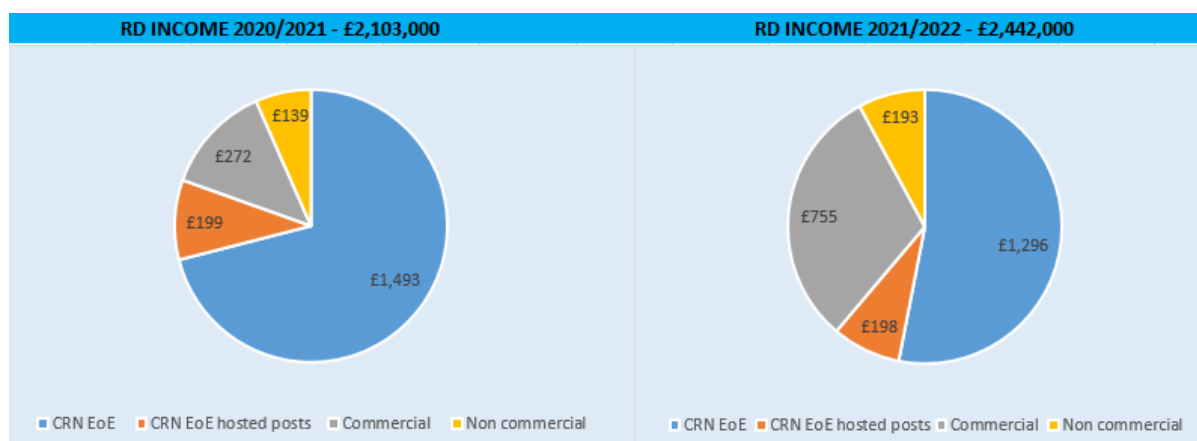


## Section 2H: Finance - Research Funding Group (RFG)

Governance of the research finance is ensured by the RFG, its membership includes Finance, Principal Investigators (PI) and senior leaders from R&D. Funding from commercial activity is reinvested into the RD unit to pay for the RD teams across sites. Surplus funds generated per department are used to enhance the research portfolio within those departments including research planned activity (PA) for researchers. Since the RFG first met in February 2021 we have received 51 withdrawal requests. In 2021/22 we had £253k departmental surplus generated, see split below. Each department has a named lead PI responsible for collating ideas and gaining approval for the spend withdrawals within the department, the withdrawal is then submitted to the RGG. Once the group have approved the withdrawal the funding is transferred to the department who follow Trust guidance for the spend.



Finance remains strong in RD continuing to income generate to self-fund the team and others across the sites. The finished position at 31 March 2022 was £296k favourable. This was largely due to the over performance of the research surplus income across the year.



## Section 2I: Strategic engagement

Locally and nationally through the Clinical Director of Research and the Assistant Director of Research and Development with membership of local, regional and national groups. This engagement enables us to help drive the development and delivery of research for the benefit of our patients and the reputation of ESNEFT.

The below diagram shows the members of the local, regional and national research groups:



### Membership of local, regional and national research groups

## Publications

Our employees have demonstrated the vibrancy and innovative practice of a research active organisation in the last twelve months by producing conference abstracts and publications in high quality academic journals. **253 articles and abstracts were produced**; further detail can be found in Appendix 1 – ESNEFT publications 2021-22. In addition examples of our contribution to national Covid-19 research.

[Protection against SARS-CoV-2 after Covid-19 Vaccination and Previous Infection | NEJM](#)

[Safety and Efficacy of NVX-CoV2373 Covid-19 Vaccine | NEJM](#)

## Section 2K: Activity

Currently we are **running 260 research studies across 29 departments** below are just a sample of three different case studies:



**Ophelia study (Maternity)** - The aim of the study is to help us understand why some women develop high blood sugar levels in pregnancy, and why others do not. With a special interest in looking at different pregnancy hormones, and antibodies which can affect insulin production in the pancreas.

Ipswich Hospital have recruited 416 participants to date and are the highest recruiting site nationally.

## MND-SMART

**MND Smart Study (Neurology)** - MND Smart is an innovative drugs trial designed to speed up the time it takes to find medicines that can potentially slow down the progression of motor neurone disease (MND). The trial is testing more than one drug at the same time, and trial participants taking the different treatments will be compared with a single group who receive a placebo,

The trial is also adaptive so that researchers can change the drugs being tested according to emerging results. This means that new medicines can be added once a trial has started, while treatments that do not prove effective can be dropped. This is a phase 2 / 3 trial which means if drugs appear to be effective, they will seamlessly transition into phase 3 without the need for additional permissions or trial participants needing to complete a phase 2 trial and join a separate phase 3 trial.

We started recruitment in November 2021, and to date have 6 participants with two more to be recruited over the coming weeks. Having MND Smart at Ipswich has given our patients the opportunity to participate in research much closer to home. Whether a person is interested in participating in MND-SMART or not, knowing that researchers are trying to find new treatments for MND and understand what might cause the disease helps to bring hope to those affected by this disease.



**The CERM trial (Gynaecology)** aims to determine if doxycycline administered prior to conception improves pregnancy outcome in women with recurrent miscarriage associated with chronic endometritis and explore the mechanisms by which it could prevent miscarriage.

We recruited our first participant in August 2021, and have subsequently recruited 11 women and are the 4<sup>th</sup> highest recruiter in the UK. We have just had the good news that our 2<sup>nd</sup> participant is maintaining a successful pregnancy. Which is wonderful news for all involved.



## Section 2L: Next steps and looking forward

Moving into 2022/2023 our hosted research portfolio is now pre pandemic levels and reflective of our range of research active departments, we will continue to support and encourage involvement in those research naïve areas. Our own ESNEFT research portfolio is rapidly increasing, we look forward to the building on existing collaborations within our ICS and beyond.

Having over-achieved on our KPIs within the R&I strategy our new R&D Strategy will retain the same focus on efficient study delivery to time and target and increasing the number of people actively involved in research: Research for all. This includes the number of health care professionals and departments as well as the number of participants. Central to this is expansion of our ESNEFT hosted research portfolio. The Trust has supported this and we now have a dedicated team in place with plans to expand the team in 2022 to help us achieve our ambitions. Going forwards a specific aim will be to continue to build on our considerable successes as a Trust supporting academic AHP development and to extend this to academic nursing development.

### National picture

#### NIHR Three-year plan

The NIHR has published their three-year plan on 'transforming 'research from now until 2025<sup>4</sup>. The plan focusses on research's 'recovery, resilience and growth' post- COVID-19 with five themes and a push for more pro-innovation, pro-patient and pro-digital approach:

1. a sustainable and supported research workforce to ensure that healthcare staff of all backgrounds and roles are given the right support to deliver clinical research as an essential part of care
2. clinical research embedded in the NHS so that research is increasingly seen as an essential part of healthcare to generate evidence about effective diagnosis, treatment and prevention
3. people-centred research to make it easier for patients, service users and members of the public across the UK to access research and be involved in the design of research, and to have the opportunity to participate
4. streamlined, efficient and innovative research so that the UK is seen as one of the best places in the world to conduct cutting-edge clinical research, driving innovation in healthcare
5. research enabled by data and digital tools to ensure the best use of resources, leveraging the strength of UK health data assets to allow for more high-quality research to be delivered

#### NIHR New configuration

The NIHR Clinical Research Network announced that from 2024 they will be known as the NIHR Research Delivery Network. The Local Clinical Research Networks (LCRNs) will be known as Regional Research Delivery Networks (RRDN) and will realigned to the NHSE regional office boundaries and those of the ICSs, they will reduce from 15 to 12. ESNEFT will be part of the RRDN East of England.

---

<sup>4</sup> [NIHR leads the way in continued drive for improved clinical research delivery | NIHR](#)

# Section 3: Innovation

## Section 3a: Strategic Outline

The Trust has an existing Research and Innovation Strategy for the period 2019/24 which was approved by the Trust Board in November 2019. Since 2019 a number of things have changed in the innovation context, making it sensible to review the innovation part of the document, including –

- A world-wide pandemic
- The pressures facing the Trust as it recovers, including staffing and training
- New technologies emerging, particularly within the field of artificial intelligence
- The Trust's innovation team's work and relationships within the organisation have matured since the strategy was written, with the team growing in capacity
- New clinical leadership within the team with a new clinical lead plus additional clinical director.
- A new ICS landscape

With this in mind, the Innovation Team took the opportunity to revisit the focus of its efforts and how it should work for the remainder of the strategy, alongside its mission statement of -

***“To introduce, encourage and support innovation in practice and technology to improve care.”***

Across the year our team has

- continued to act as enabling function supporting teams across the Trust
- prioritised certain key projects
- helped individual innovators
- supported the vetting of external approaches to the Trust where organisations are proposing technological solutions, projects and/or collaborations
- played a role for the Trust in horizon scanning for new solutions

Our key priorities have been the

- Delivery of the digital histopathology project
- Implementation of the 2 SmartCare Programme projects and enabling works
- Expansion of the robotic surgery programmes in T&O and Gynaecology/General Surgery/Urology, including technology investment, research and education
- Exploration of AI technology solutions for the Trust, particularly in radiology
- Establishment of ESNEFT as a successful Employer Provider of Apprenticeship Training
- Creation of a new Faculty of Education & Innovation Centre at the Colchester site

## Section 3b: Key Performance Indicators

The Innovation Team measures its success through the metrics listed in the table below. The metrics are listed within the Innovation Strategy and are reported into the Strategy, Research and Innovation Corporate Divisional Group on a monthly basis. Performance is being tracked over the 5 year period of the Research & Innovation Strategy 2019-2024, as such we are mid-way through the strategic period.

Objective	Measure	2023/24 Target	Performance to date (from 2019)
Supporting intellectual property commercialisation	i) Number of ideas brought forward by staff ii) External grant funding secured	i) 50 ideas received from staff and supported over the 5 year period ii) £100k of external grant funding secured over the 5 year period	i) 40 new ideas received ii) £21,780 grant funding secured
Supporting the introduction of new technologies and services	i) Number of business cases approved ii) Value of return on investment of those business cases iii) External grant funding secured	i) 50 business cases approved over the 5 year period ii) £5m worth of return on investment over the 5 year period iii) £1m of external grant funding secured over the 5 year period	i) 45 business cases approved ii) £16,276,000† iii) £7,383,501 grant funding secured
The further development and expansion of the ICENI Centre's role	i) Numbers of learners ii) Financial surplus generated	i) 4500 learners p.a. by 2023/24, including 1500 learners in surgical training ii) £50k surplus generated p.a. by 2023/24	i) 9,684 total learners 1,819 in surgical training * ii) £32,770 surplus generated **
International work	Number of Fellowships	100 ICENI International Fellowships commenced at ESNEFT over the 5 year period	21 Fellowships commenced since 2019
Developing new physical facilities	New value added facilities developed	New developments at both main hospital sites that supports innovation and/or training	Histopathology lab Ipswich. Developing plans for FoE and Innovation Centre

Notes:

\*lower numbers owing to Covid-19 the ICENI Centre was not able to run courses during much of 2020 and 2021.

\*\*Covid-19 has meant that the ICENI Centre has not been able to hold income generation courses during much of 2020 and 2021.

†secured c£16m funding through business case development since 2019, difficult quantify ROI as many benefits are felt elsewhere within the organisation.

## Section 3c: Supporting Innovation in the Trust

### i. New ideas

#### How we support our staff

The Innovation Team's function is to facilitate, support and empower every staff member to become an enabler for positive change.

The team has continued to help individual innovators to develop their ideas and to navigate the internal governance processes to further their idea and secure funding where appropriate. Innovation comes in many forms and the processes the team follows to support innovation reflects this. The Innovation Team is flexible in the support provided to individuals and teams that reflects the diversity of ideas and stages of development and complexity.

The support available from the team includes:

- Intellectual Property (IP) policy and advice
- access to internal funding through £5k Innovation Vouchers
- project management
- business case development
- link in with industry and academic partners, and external expertise
- access to external funding
- internal governance path finding.

The Innovation Team received 8 new ideas from individual staff members in 2021/22. These ideas were further explored with advice and guidance from partners at Health Tech Enterprise.

Two of these new ideas were signposted elsewhere in the organisation, which led to a QI project and support from the Research team.

One of the ideas had led to a pilot at maternity services at Ipswich hospital. The pilot study was to explore whether the Mindsett cold chain monitoring system could be used in our Trust to monitor fridge temperatures for the storing of our pharmaceuticals. This study showed that although the solution could work the Trust was not yet in a position to benefit from such a solution. The Team will continue to work with the Pharmacy Team and IT/Digital teams in 2022/23 to explore and research further solutions in preparation for a full tender exercise.

Another of the ideas received is being developed for consideration for a £5k Innovation Voucher or possible development of a business case for charity funds. The team is currently linking in with local expertise to identify production costs which will help to inform the next steps.

## CASE STUDY

The Innovation Team continued to support the Bedhead tidy idea which had been previously supported through a £5k Innovation Voucher in 2020/21 which paid for the design rights that will help protect its IP and contributed funding for production.

In 2021/2022 the Team sourced a supplier for production of the bedhead tidy at scale for Trust-wide rollout and also received additional Trust charity funds to pay for the additional production costs of these. The Team has developed with clinical colleagues a roll out plan for the introduction of this innovative product across the Trust, anticipated to be late summer, 2022.



The image above shows the prototype version of the bedhead tidy in use within a ward setting.

## Innovation Fellowships

In March 2022 the range of support that is able to be extended to individual staff or to teams that have challenges that need innovative solutions developed, or to take forward an idea has been broadened. Thanks to a strategic tie-up with BT, arrangements have been made that will allow for a number of funded Innovation Fellowships over the next 3 years. This investment will allow for ESNEFT staff to have dedicated protected time away from their day job to work alongside expertise from BT and the Trust's Innovation Team, on the development of an innovative idea/solution. The programme is planned to commence in late summer 2022 and the investment will fund between 6 – 12 Innovation Fellowships per year for 3 years.

Having ESNEFT staff freed up to work on innovation will enable the Trust to access a whole range of technological and project expertise through BT's Vanguard Health Partner Programme, including –

- bespoke physical accommodation at BT's Health Innovation Centre
- access to research experts across a range of technical domains (process re-engineering IoT, Security, networks, customer experience)
- facilitation services for workshops and/or hot housing
- consultancy services at ESNEFT locations
- access to BT's global scouting network to identify future sector trends.

## ii. Introducing new technologies

The following pages illustrate a sample of the technologies that have been introduced into the Trust over the last year through the work of the team, and/or their use further developed.

### Robotic Surgery – abdominopelvic procedures

Following initial investment in 2019/20 the Trust has continued on a programme of progressing the use of robotic surgery across a number of disciplines. More than 300 cases have now been carried out using the Da Vinci Xi surgical robot. As a consequence, the Trust is building a knowledge base and specific expertise in these surgical procedures. ESNEFT is continuing to develop our understanding of these technologies and, as such, is in a good position to drive innovation, research and education into these fields.



Mr Subash Vasudevan  
Consultant Colorectal & Robotic Surgeon



Estelle Martin, Surgical Care Practitioner

ESNEFT invested in its 2<sup>nd</sup> and 3<sup>rd</sup> Da Vinci robotic systems for abdominopelvic surgery during 2021/2022 following a very successful first year operating out of Colchester Hospital. The new systems enable an expansion of both the volume and range of procedures undertaken at the Trust across both Colchester and Ipswich. The additional systems will be deployed to support procedures across general surgery, urology and obstetrics & gynaecology. The significant benefits to patients already seen in the first year include reduced blood loss, less pain management required, quicker discharge, and earlier back to work and/or normal routine). ESNEFT surgeons have become proficient in its use, with one of its first robotic surgeons becoming a proctor for the manufacturer, training other surgeons to work with the robot.





Robotic surgery team at Colchester Hospital (colorectal)

### Robotic Surgery – knee replacement procedures

Similarly, in knee surgery, the Trust has introduced two robotic systems and is considering further investment in robotic technology for both knee and hip replacement surgery for use in the new Elective Orthopaedic Centre. This has put the clinicians in a good place with industry to both test and drive potential innovation within the sector, and increase the range of potential research projects.

The Trust introduced Smith & Nephew's Navio system in May 2021 and the Cori system in October 2021. The introduction of the Cori machine in particular has delivered and led to a number of benefits to the Trust:

- ESNEFT is one of the first Trust's in the UK to use the Cori machine
- Since October over 80 cases (using the Cori machine) have been performed on our patients
- One third of these cases have been for patients requiring a partial knee replacement
- Anecdotal experience and feedback from patients and staff is that the Cori machines delivers better health outcomes for our patients, with no complications reported so far
- 2 ESNEFT surgeons have become experts on the Cori machine, demonstrating the Trust's innovation ambitions both nationally and internationally
- Provides a stepping stone in the launch of The Institute of Excellence in Robotic Surgery (TIERS)
- Two level one research studies will soon commence at ESNEFT
- Launch of Smith and Nephew's real intelligence platform to monitor outcomes
- Smith and Nephew's sponsorship of training courses, including for nurses
- Invitation for surgeons to become national and international faculty on courses.

The Trauma and Orthopaedic teams are exploring how to make best use of these technologies in the new Clare Dame Marx Elective Orthopaedic Centre which is currently under construction at Colchester Hospital. The team is also considering the introduction of other robotic systems, potentially from other manufacturers, to further broaden and bolster the robotic expertise within the Elective Orthopaedic Centre.



Mr Tim Parratt & Mr Alam Mahbub, Consultant Orthopaedic Surgeons with the Navio robotic system for knee replacement surgery.

### Mixed-Reality Surgical Glasses

The Trust is exploring the use of high-tech surgical glasses within a variety of settings. This technology will provide ESNEFT with the opportunity to enhance the surgical and clinical experience through augmented realities, bringing in other systems diagnostic imaging, pathology and patient notes into the clinicians view without moving away from the patient. Remote support can be provided from equipment manufacturers, other colleagues, and to enhance training support. In addition, they can be used to broadcast live training to another location for live surgery training, and can be linked to surgical equipment such as endoscopes and robots, often giving a better view than if you are in the room where the activity is taking place.

### CASE STUDY

One example we are exploring is the Microsoft HoloLens glasses which are versatile mixed reality technology glasses with many uses within surgery, education and primary/secondary care settings. We purchased 3 sets in March 2022 and are exploring different ways we could work and learn more efficiently, effectively and sustainably using HoloLens.

Below are some links to show the success of HoloLens within different settings across the world:

1. US to Uganda
  - a. <https://customers.microsoft.com/en-us/story/f6b7c250-d9b2-4659-8dbf-a44055a8286c?preview=1>
2. Medical training – Israel
  - a. <https://customers.microsoft.com/en-au/story/1388628932382960935-sheba-health-provider-azure-en-israel>
3. Hospital remote ward round (Pandemic) – UK
  - a. <https://news.microsoft.com/en-gb/2020/05/19/imperial-college-healthcare-nhs-trust-uses-microsoft-hololens-to-protect-doctors-and-reduce-need-for-ppe/>
4. Service provider to Care home – UK
  - a. <https://news.microsoft.com/en-gb/2022/01/19/clinically-vulnerable-care-home-residents-are-being-treated-by-their-gps-without-even-leaving-their-room-thanks-to-microsoft-hololens-2/>

### Surgical Processes Standardisation

With the support of the Innovation Team, the colorectal department has initiated an evaluation with Johnson & Johnson to evaluate its Surgical Process Institute (SPI) technology. This 12-month trial went live in January 2022 and will be used on 10-15 cases within theatre at our Colchester site. SPI technology offers a platform which enables surgeons to choreograph their surgeries and guide the full care team through the procedure. It allows for synchronized workflows and supports learning & development for all staff.

The project will measure and evaluate the SPI feasibility by recording and monitoring uptake of the SPI tool pathways; measuring its effectiveness in accelerating the on-boarding of surgical trainees and members of theatre staff; monitor efficiencies; complications; team dynamics and unwanted surgical events.



The anticipated benefits to staff and patients are:

- A reduction in variance in techniques used
- Reduction in Never Events/Serious Incidents
- Allows for benchmarks to be set
- Improvements in clinical team staff satisfaction and improvements to on-boarding of new members of the surgical team.

### CASE STUDY

A link to SPI at Colchester Hospital produced by our Communications Team and Consultant Tan Arulampalam, can be found here: <https://youtu.be/7ZvmdEflgBI>

### Digital Histopathology

In collaboration with Norfolk and Norwich University Hospital (NNUH) and West Suffolk Foundation Trust (WSFT), we secured £1.4m of capital investment from the national programme, to enable the Trust to develop a regional digital reporting system within Histopathology. The benefits to our patients and to the Trust will include:

- faster reporting times and removing the need to outsource samples, improving our turnaround times for diagnosis and enabling productivity to increase by 12%
- faster second opinions by enabling digital images to be viewed instantly by colleagues at NNUH and WSFT
- improved quality of diagnoses through more accurate accounting and measurements of samples
- improved quality of meetings due to images being more readily available for MDTs in a timely fashion
- enabling the introduction of artificial intelligence (AI) technologies that are thought to provide efficiency gains of between 20-40%
- improved staff retention and staff recruitment
- reduction in outsourcing and recruitment of locums.

With the technology secured, an implementation plan will see the adoption of digital histopathology within the Trust during 2022/2023.

### SMARTcare Technology

The SMARTcare Programme is the introduction of scanners and sensors to track the location and use of items within the Trust. This year the Innovation Team has supported the deployment of the first two track and trace technologies under the SMARTcare Programme within the Trust:

1. The introduction of the Elcom Evolve Inventory Management System by the Procurement team, now operational in musculoskeletal theatres in the Trust. Implants and other consumables are associated to patients at the point of care, with a full digital audit trail from purchase to use. This ensures we can quickly and easily track devices implanted into

patients. The system also provides electronic stock management for our consumables, automating re-ordering and stock control processes. The roll-out of this system into other theatres will continue in 2022/23, and an extension to automate payment of invoices will also follow.

2. An update of our sterile services systems across both sites onto one platform provided by Fingerprint Medical Ltd. The first part of the project has been completed; to update the management system which enables us to electronically track all items through our sterilisation and decontamination processes, and this provides us with one management view of these processes. This will enable us to continue to improve efficiency of these services, through real time dashboards, enabling kit to be shared across sites and reducing loan set costs.

The SMARTcare system will be extended in 2022/23 into our theatres and procedure rooms, providing a full “closed loop” which will:

- Improve ordering processes
- Show theatre and sterile services staff real time location of instrument sets and endoscopes
- Move reporting of non-conformances back to the sterilisation and decontamination teams onto the electronic platform
- Provide an electronic point of care association to the patient of medical devices used during a procedure
- Enable electronic capture of bed side cleaning processes in endoscopy.

### [MedTech Funding Mandate Programme](#)

The MedTech Funding Mandate (MTFM) is a NHS Long Term Plan commitment to get selected NICE-approved cost-saving devices, diagnostics and digital products to NHS patients more quickly.

The initiative supports devices, diagnostics or digital products that:

- are effective and improve patient outcomes: demonstrated through positive NICE guidance;
- are cost-saving within three years: NICE modelling demonstrates a net saving within three years of implementing the technology;
- are affordable to the NHS: the budget impact should not exceed £20 million, in any of the first three years.

The Innovation Team has supported the introduction of 2 of these innovative products into the Trust during the last year, detailed in the following case studies:

## CASE STUDY

### SecurAcath

SecurAcath is a device to secure peripherally inserted central catheters (PICCs) and should be considered for any PICC with an anticipated medium to long-term dwell time (15 days or more). It is easy to insert, well tolerated, associated with a low incidence of catheter related complications and does not usually need to be removed while the catheter is in place.

NICE guidance has shown that SecurAcath delivers the following patient benefits:

- no risk of medical adhesive-related skin injury
- no requirement for frequent adhesive fixing changes
- reduced risk of interruption to treatment
- reduced risk of catheter-related infection
- reduced pain on insertion and while in situ
- reduced need for unplanned catheter removal and re-insertion.

This has been introduced to our vascular teams at both Colchester and Ipswich hospitals, and planned for introduction in oncology during the summer of 2022. Around 1,000 patients a year should receive the benefit of this device.



## CASE STUDY

### Heartflow

Heartflow provides a non-invasive cardiac test which gives an in depth view of a patient's coronary arteries. This technology went live in Colchester in June 2022. Heartflow will enable physicians to create more effective treatment plans for patients with Coronary Artery Disease (CAD) through a digital 3D model of the arteries via a non-invasive CT angiogram. Computer algorithms are used to solve millions of complex equations which assess the impact that a blockage has on blood flow. Forecast to help around 69 patients in 2022/2023, it will avoid invasive procedures and improve the overall outcome for patients.

Below are a number of expected benefits Heartflow should bring to our patients and the Trust:

- better management of limited hospital resources
- provides a functional and anatomic assessment of coronary arteries without need for additional imaging radiation
- reduction in time to diagnosis and improved diagnosis leading to appropriate and holistic patient pathways
- reduction in use of invasive coronary angiography and sub-optimal non-invasive functional testing of patients
- better treatment decisions for patients with suspected CAD
- uses data from standard CT scans
- reduced total number of tests that are required to achieve a diagnosis.

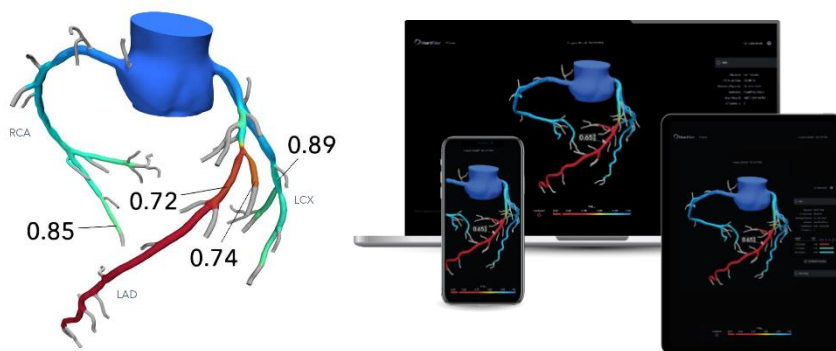


Diagram on the left is an example of Digital, colour-coded 3D model of coronary arteries analysis and on the right is how the analysis would look on our devices (Courtesy of Heartflow).

The link below provides a demo of the Heartflow viewer our staff will access (Courtesy of Heartflow).

[HeartFlow Planner - Demo Video - YouTube](#)

## Artificial Intelligence

There are an increasing number of technologies emerging, utilising breakthroughs in artificial intelligence. A growing number of these are being introduced into the Trust and evaluated as illustrated in the following case studies –

### CASE STUDY

#### Qure.AI

Funded through the SBRI Healthcare Cancer Programme, this AI tool supports the interpretation of chest X-rays and is believed to be able to detect multiple abnormal findings if present on a chest X-ray in less than 1 minute. Scans can be separated between abnormal and normal scans interpreting abnormalities in the lungs quickly. Qure.AI should have an impact on the cancer pathway leading to better patient outcomes and aid diagnosis time. There is an expectation that the technology should prompt triage & reporting of potential lung cancer, allow for the possibility of same day CT's and could lead to same day clinics with respiratory clinicians.

This project will allow ESNEFT to be involved in a research study and evaluation alongside 8 other Trusts. The aim is to test the feasibility of AI triage of chest x-rays, efficacy of qXR to triage CXRs suspicious for lung cancer for an immediate report and to determine difference in time (in days) to lung cancer. We are currently in the early stage planning for this project and will need to follow the usual Research & Development routes with the aim being for a go live October 2022.

## CASE STUDY

### E-Stroke

Funded by a 3 year NHSX award we have worked with Oxford based company, Brainomix to introduce from August 2021 the E-Stroke software to improve stroke care at Colchester & Ipswich sites. E-stroke uses AI to analyse images of the brain and blood vessels, and automatically flags blockages to clinicians to help guide treatment decisions. Patients who have had a stroke could receive potentially life-saving treatment more quickly with the introduction of this AI. The technology allows scans to be securely and quickly shared 24/7 with colleagues at specialist centres to gain a second opinion to support fast diagnosis and treatment. We will be evaluating this technology over a 3 year period alongside the Oxford Academic & Health Science Network.

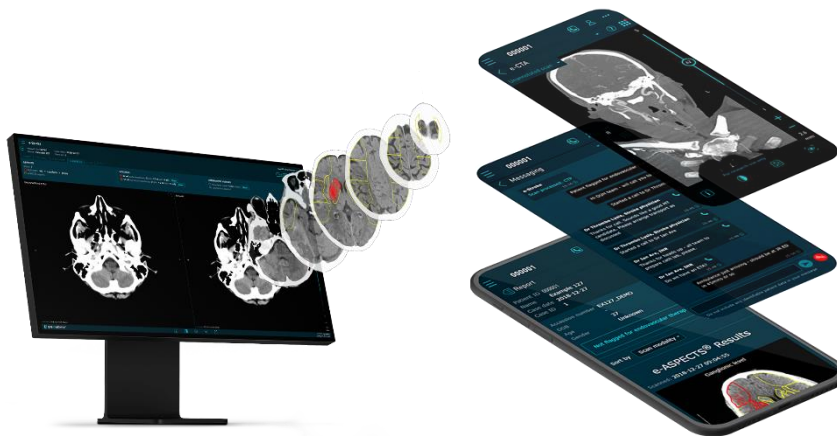
The expected benefits are:

- improved treatment rates
- unnecessary patient transfers
- reduces chance of long term disability's
- could reduce delays and inappropriate treatments
- cost reductions.

The technology has been used to assist in the diagnosis of approximately 6,000 cases between August 2021 – June 2022, to help determine whether a stroke has occurred and if so how to best deliver care.

Link to the ESNEFT and Brainomix press release of October 2021:

[Colchester Hospital unveils life-saving new AI technology | Gazette \(gazette-news.co.uk\)](https://www.gazette-news.co.uk/news/colchester-hospital-unveils-life-saving-new-ai-technology/)



The above extract shows images of the software our staff will access either on a monitor or smartphone courtesy of Brainomix.

## CASE STUDY

### C2AI

C2-AI uses AI to support Trusts with their elective patient waiting list management, enabling the prioritisation of patients, aiding capacity planning processes and should support a reduction of risk. With the support of the Eastern Academic Health & Science Network, ESNEFT is helping to evaluate the benefits of the technology and what impact it might have on our waiting lists.

### i. Supporting business case development

The Innovation Team has supported a total of 20 business cases in 2021/22 of which a total of 17 of these business cases were unique business cases. The total value of the business cases is c£16m.

The table below shows the business cases that the Innovation Team has supported in 2021/22:

<b>Title of business case</b>	<b>Purpose</b>	<b>Value</b>	<b>Type of business case</b>
Apprenticeship employer training provider	Completion of a FBC and a 5-year business plan for the Trust to become an employer training provider	Circa £2m p.a. by year 3 of business plan	FBC
VR/AR simulation training	Development of new VR/AR training simulation offer in endoscopy, cardiovascular, robotic surgery and ophthalmology	£1.5m	FBC
EASTc equipment	Investment in new simulation and training equipment	£250k	FBC
Robotics	Investment in 2 <sup>nd</sup> and 3 <sup>rd</sup> Da Vinci Robot systems	Circa £6m	FBC
Colchester Institute	Pump priming to support Colchester Institute's Health and Social Care curriculum pre-placement enrichment programme	£150k	FBC
University of Essex – knowledge transfer	Pump priming investment in a knowledge transfer programme with the University of Essex to develop ESNEFT's data analytics capability	£570k	FBC
The Griffin Institute	Pump priming investment to create and deliver a new regional training programme for East of England trainees in robotic surgery for abdominopelvic procedures	£250k	FBC
Resus simulation	Provision of Resuscitation Training for Basic Life Support Skills – Investing in Simulation	£500k	FBC
Digital Histopathology	Introduction of digital technology within the histopathology service	£1.4m external capital bid	FBC

ARU	Pump priming investment to create an Institute of Robotic Surgery in collaboration with ARU and industry partners	£995k	OBC
BT Innovation Fellows	Pump priming investment in an Innovation Fellowship programme, in partnership with BT and with access to its resources through its BT Vanguard Programme	£500k	OBC
GPPC	2 year pilot programme to work with patients with Hypertension and high Cholesterol	£500k	OBC
Digital Histopathology	Introduction of digital technology within the histopathology service	£1.4m external capital bid	OBC
Histopathology, co-location	Production of OBC for the co-location of the histopathology service	£1.5m	OBC
Faculty of Education	Investment in the Faculty of Education management structure	£750K	OBC
OBC build of Faculty of Education and Innovation Centre	Production of OBC for proposed build of Faculty of Education and Innovation Centre (planning application costs)	£120k	OBC
Sim man manikin	Purchase of sim man (replacement patient manikin)	£61k capital	
Resus simulation	Provision of Resuscitation Training for Basic Life Support Skills – Investing in Simulation		SOC
SOC build of Faculty of Education and Innovation Centre	Production of an SOC for the proposed Faculty of Education and Innovation Centre (initial designs and plans)	£50k	SOC

### Section 3d: Supporting Innovation in Education and Training

#### Faculty of Education

The Innovation Team played a supporting role in helping to form and establish the Trust's Faculty of Education. The Faculty of Education was formed to provide a coherent and comprehensive approach to the delivery of the Trust's education and training programmes. It is responsible for outlining the strategic direction for the Trust's education and training programmes, performance management and delivery, for financial management and for major contractual commitments to Health Education England (HEE) and the Education, Skills & Funding Agency (ESFA).

2021/22 has seen investment in several projects that will enable ESNEFT to remain at the forefront of leading edge of all areas of training, learning and continuous development for our staff. This has included:

- Becoming an Employer Apprenticeship Training Provider - An internal Apprenticeship Delivery Team has been established to further utilise the Apprenticeship Levy and provide career development opportunities for clinical and non-clinical staff. In April, ESNEFT became an Apprenticeship Provider gaining a place on the ESFA framework and gained Employer Apprenticeship Training Provider status.
- Further development of the curriculum on offer through the ICENI Centre, broadening its use out to a wider range of ESNEFT staff



- Simulation Training -funding secured to replace outdated simulation equipment, and introduce new virtual reality technology, allowing for the expansion of simulation training offer to our staff
- The Community Diagnostic Training Academy - delivery of employment and skills provision in partnership with Colchester Institute, supporting residents from Tendring to access employment within the local health sector, particularly at the Community Diagnostic Centre Clacton. Funded through the Government's Community Renewal Fund.
- A wider engagement with schools and the community - The delivery of the schools masterclass series, working with local schools to offer young people an insight to roles within the NHS
- The development of proposals for a state of the art Faculty of Education and Innovation Centre at Colchester - Playing a pivotal role in the development of a new Faculty and the identification of a new centre encompassing the future plans of ESNEFT to continue to provide continuous professional development for staff.

## **i. Apprenticeships**

A more strategic Trust-wide approach to the use of apprenticeships has been adopted with a view to–

- Increase the number of apprenticeships within ESNEFT to circa 600 per year
- Use apprenticeships to improve career development pathways
- Increase our offering to entry level staff to undertake an apprenticeship and improve the retention and recruitment of entry level staff groups
- Increase the breadth of apprenticeship opportunities available to staff regardless of job type, banding or location
- Use apprenticeships as a vehicle through which the Trust can enhance its leadership and management capabilities
- Achieve full utilisation of the Trust's annual Apprenticeship Levy, and recovery of as much of the Apprenticeship Levy already paid into the ESNEFT Digital Apprenticeship Account as possible
- Satisfy our public sector apprenticeship target of a minimum of 2.3% of our workforce undertaking apprenticeships each year.

At the heart of this work has been the move to become a training provider for apprenticeships in our own right. Following a fairly challenging application process, the Trust has been accepted onto The Register of Apprenticeship Training providers as an Employer Provider of apprenticeship Training. This enables the Trust to develop a delivery arm, which together with new recruitment practices, will help us to achieve a step change in its use of apprenticeships and a subsequent utilisation of our Apprenticeship Levy.

Initially focusing on more entry level Apprenticeship Standards (e.g. Healthcare Support Worker level 2, Business and Administration level 3), the new delivery arm will commence training ESNEFT apprentices in July 2022. The team will add further, more advanced Apprenticeship Standards at higher levels as the service continues to grow throughout the lifecycle of its 5-year business plan.

With the introduction of this new Apprenticeship Delivery Team (responsible for delivery of in-house apprenticeship provision) and the change of reporting lines for the Talent for Care Team (responsible for outsourcing apprenticeship provision to external training providers where appropriate), the Trust is now well placed to deliver against the 2 agreed success measures for Apprenticeships –

- SM20: 100% of apprenticeship levy utilised (£1m levy spend by March 2023)
- SM21: 50% of B2-B4 vacancies filled by new employees to undertake apprenticeships to support their training & development in their new role (300 new employees by March 2023).

To support a pipeline of local talented and motivated people joining ESNEFT, and being supported through an apprenticeship on arrival at the Trust, a number of supporting initiatives have been established, including:

- Partnerships agreed to with both our main further education colleges, Colchester Institute and Suffolk New College, which will generate a pipeline of future better prepared employees within the ICS through a combination of work placement and mentoring schemes.
- Establishing a Community Diagnostic Training Academy at Clacton Hospital, in partnership with Colchester Institute, to support local people into local jobs at the new Community Diagnostic Centre.
- Workforce plans that properly recognise apprenticeships as an effective way of supporting new entrants into the ESNEFT workforce in addition to the upskilling of existing staff.

## ii. Training in Robotic Surgery

On the back of investments in robotic surgery, we have established **The Institute of Excellence in Robotic Surgery (TIERS)** in collaboration with ARU and industry partners. Through this, ESNEFT and its partners will advance the utilisation of these technologies to benefit both the Trust and ultimately our patients. The focus of activity will encompass a range of education & training, research, innovation and technology development, in disciplines such as simulation, orthopaedic and abdominopelvic surgery, biomechanical engineering, computing/robotics, psychology/neuroscience, ethical considerations, and the outcomes & benefits of robotic surgery.

TIERS will bring together a combination of the resources, knowledge base and expertise drawn from both ARU and ESNEFT. These would include but not be limited to the ICENI Centre (ESNEFT) at Colchester Hospital, an internationally renowned and RCS accredited centre for advanced surgical techniques, and ARU's School of Medicine. Industry partners have committed in principle to also investing in TIERS, with a particular interest in supporting academic research fellowships in orthopaedics.

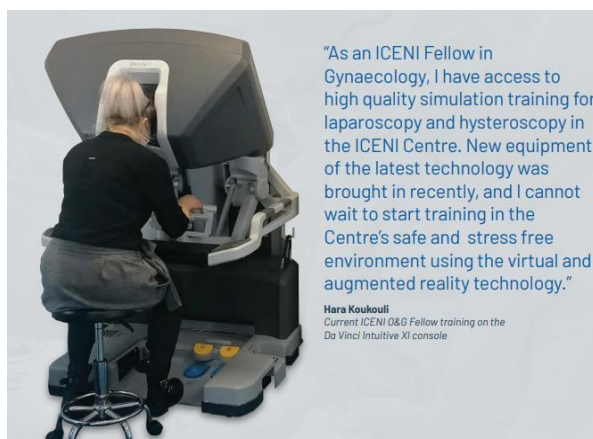
Training simulators for the DaVinci system for abdominopelvic procedures are in place at both main simulation centres and are being used for both the next tranche of consultants being trained for robotic surgery, and junior doctors who will be assisting them.



Mr Barry Whitlow, Consultant Gynaecology & Obstetric Surgeon teaching.

### CASE STUDY

With an increase in internal robotic experience, ESNEFT is now able to offer an expanding range of robotic training to registrars and Consultants and these are delivered both at the Iceni Centre and at The Griffin Institute at St. Marks Hospital in Harrow. The Trust has increased the number of Fellowships in abdominopelvic and orthopaedic specialities recently, and the advent of the robotic training programmes available through ESNEFT has helped to attract growing international interest in working here. The first 6 doctors at ST4+ level who will help in assisting with robotic surgery within the Trust have been identified and are now midway through their training programme, involving a mixture of simulation hours and a hands-on course at The Griffin Institute.



### iii. Advanced Clinical Skills & Simulation Training

#### ICENI Centre, Colchester Hospital

Approximately £1.5m has been invested in a new VR/AR simulation suite at the ICENI Centre that has secured the latest simulators for robotic surgery, ophthalmology, obstetrics and gynaecology, endoscopy and endovascular training. A new curriculum is being developed to gain full benefit from

the technology in 2022/2023, supported by an ICENI Centre International Fellow in Simulation who has been recruited to drive the curriculum forward and undertake research on its impact.

The ICENI Centre's remit to expand specialisms using the facilities continued apace in 2021/22. Overall, nine new face to face courses were introduced at the Centre including new specialisms such as ENT and ophthalmology training. In the summer of 2021, The ICENI and Innovation Team worked closely to submit a successful bid to run the Health Education England (HEE) East of England Cadaveric Temporal Bone course for a 3 year period, commencing November 2022.

An on-line Microbiome course consisting of 6 sessions between May to August 2021 was uploaded on the ICENI Centre website – learner numbers considerably out-performed courses held on-site. This was replicated for an on-line endo-urology course held in November 2021 with positive feedback demonstrating the appeal of blended learning, introduced by the ICENI Centre –

*'I have enjoyed the scope of discussion and I would really be happy to attend if it became a hands on course'*

Collaboration with overseas institutions also remained robust by adapting the sharing of best practice to on-line webinars (whilst international travel was banned due to COVID). A total of 9 Zoom meetings were held throughout 2021/22 involving departments ranging from cardiology to pathology. An MOU with Jordan University of Science and Technology was signed in April 2022 and talks with The University of Jordan (UoJ) and Oman Medical Speciality Board to sign agreements to develop an overseas training programme, progressed during 2021/22 (an MOU with UoJ scheduled to be signed in July 2022).

The ICENI Centre International Fellowship Programme has continued to grow. The Trust currently has 13 doctors through the programme, working across both sites in specialities such as Breast, Vascular and Colorectal Surgery. Countries of origin include Egypt, India, Oman, Japan and Greece. A further 8 ICENI Centre international Fellowship posts are in the process of being recruited to and are pending the necessary paperwork.

By the months of May to June 2022, the Centre saw its usage return to 2019 pre-pandemic levels, with close to 700 learners using the facilities. The financial forecast for the 2022/2023 financial year would see the Centre hitting its income/surplus targets given the busy curriculum plan it has in place for the coming months.

With the demand for out-of-office hours training, the Centre changed its security arrangements to enable access to the building between 7am - 10.30pm, 7 days a week. The uptake has been significant with courses already booked in the diary. These include urology trainees on a Saturday and HEE Foundation Year trainees on the first Tuesday evening of every month. In March 2021, the Trust invested in a second Da Vinci NowSim simulator, based at the Centre, and ESNEFT surgeons on the robotic training programme are regularly attending practise sessions after clinics/theatre in the evenings and at weekends.

The ICENI Centre Schools Masterclasses expanded to include AHPs from 9 different job roles, delivering a successful programme, over six weeks, for students from Colchester Academy in February/March 2022. Workshops in Ophthalmology and Innovation within the NHS (featuring augmented/virtual reality simulation equipment, VR goggles and the robot simulator) have also been developed to be delivered to local school children (both workshops scheduled for July 2022 onwards).

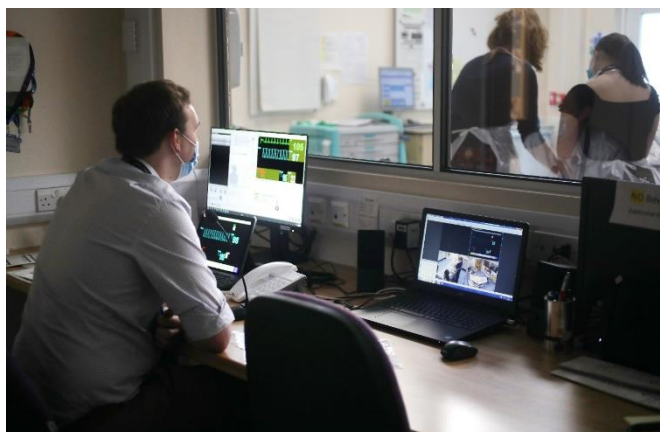
## Part 2... Physiotherapist & the SLT



Comic extract from the Schools Masterclass, part 2 the role of the physiotherapist & the Speech and Language Therapist.

## East Anglian Simulation Training centre (EASTc), Ipswich Hospital

Further investment has been made into the EASTc at Ipswich Hospital in order to both sustain and enhance what it delivers by way of training provision. £0.25m of investment has gone towards replacing the increasingly out of date equipment and bringing in new technology that will help to develop a more multidisciplinary approach to learning.



Dr Luke Bibby, Education Fellow, facilitating Medical Students simulation training.

This investment has led to a number of programmes of work:

- The consideration for inter professional learning has meant that a pilot sessions for a research project have taken place. It is planned for a research project to take place once ethics approval has been agreed. The project is specifically asking medical students and nursing students to undertake simulation training together and to gauge their reactions to it. This will inform teaching practice going forward
- The state of the art manikin has been used in training with the department in readiness for an in situ simulation programme due to commence in Emergency Department in September 2022
- Since the purchase of the equipment, medical colleagues who have not used the centre previously, have engaged in discussions regarding new courses

- There are plans to increase usage of the centre by the paediatric department who are hoping to run regional courses
- AHP colleagues have recently piloted a new course for junior staff which received positive feedback and further dates are planned.



Picture left, University East Anglia Medical Students at EASTc (Ipswich hospital). Picture right, University East Anglia Medical Students attending virtual reality simulation training at EASTc.

#### iv. Widening Participation

In line with ESNEFT's role as an anchor organisation, its desire to have a wider impact on health inequalities within our communities, and a need to encourage a pipeline of new motivated local talent into our workforce, the Talent for Care team has developed an ambitious community outreach programme for the coming academic year.

On the back of a 2022 report on Levelling Up Goals, the new programme will seek to:

1. Promote ESNEFT and NHS careers to the younger generation and community
2. Widen the understanding of the breadth of roles within the NHS
3. Support workforce needs (eg allied health professionals) by targeted bespoke work experience opportunities/masterclasses/events
4. Target work to encourage more applications to medical school (fewer applications from Suffolk than most other counties in England)
5. Dedicate activity to support recruitment in diagnostic services in Clacton and Ipswich to support CDC development
6. Develop comprehensive activity with schools with whom the Trust has done little in the past, and/or which are in areas of deprivation
7. Widen participation, targeting support to –
  - Students without role models
  - Students without existing connections to ESNEFT/NHS
  - Those living and/or studying in deprived areas
  - Those learners with special educational needs
  - Adults who are unemployed
  - Under-represented groups eg ethnic minorities.

Alongside a call to arms for more staff to come forward to participate in activity as “Health Ambassadors”, and a refreshed work experience policy and process, a range of new events and



opportunities has been organised for 2022/2023 academic year. In excess of 1000 local school and college students will be able to take advantage of a range of opportunities, that include –

- Weeks in the year dedicated to work experience from a given school, and/or within a given work area within the Trust.
- Weeks in year dedicated to work experience opportunities to support medical school applications.
- Masterclasses to showcase specific job roles within the Trust such as AHP or within ophthalmology, benefitting from state of the art training simulation technology
- Attendance at external careers fairs
- A dedicated ESNEFT Careers Fair at Colchester Community Stadium to showcase all roles at the Trust, with all schools from the Trust's footprint invited to attend.

### ***CASE STUDY***

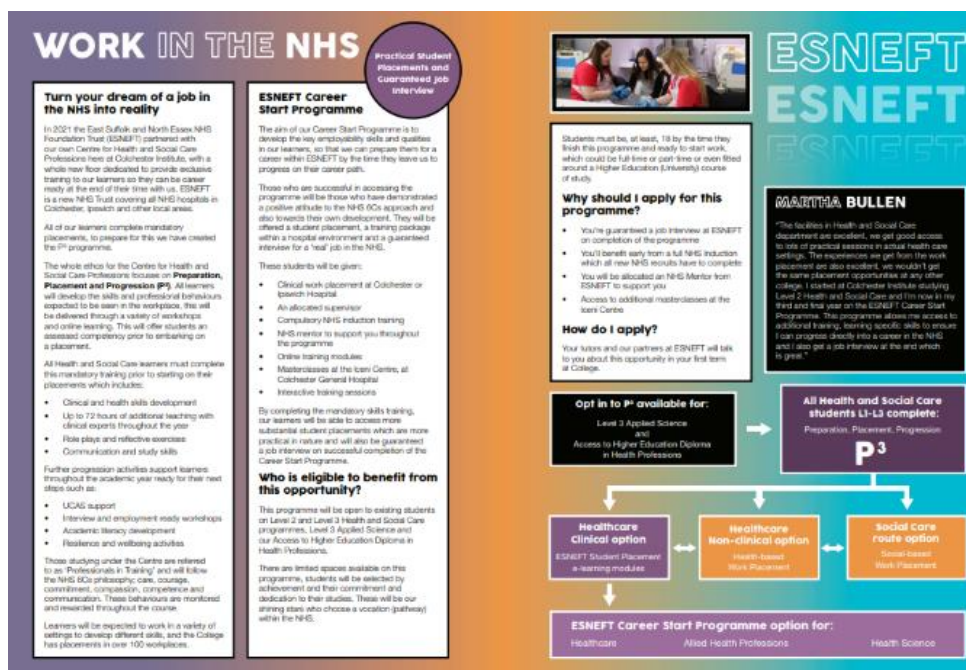
Clacton Coastal Academy partly serves one of the UK's most deprived wards in Jaywick and yet has had little engagement with ESNEFT in the past in terms of the opportunities being given to those of its students interested in careers in health and social care. Following attendance by the Talent for Care Team at a Careers Fair at the school earlier in the year, the relationship between the Trust and the school is blossoming, with plans now which include –

- A tour of the new Community Diagnostic Centre at Clacton Hospital for all its health and care students and staff, including its Sixth Form
- Work experience opportunities being opened up at Clacton Hospital and at the CDC, for the first time
- A 2 day masterclass for 30 of its health and care learners at the ICENI Centre, Colchester Hospital in October 2022.

## CASE STUDY

### ESNEFT Career Start Programme

A completely new initiative, the aim of our ESNEFT Career Start Programme with Colchester Institute is to develop the key employability skills and qualities in health & social care learners at Colchester Institute, so that we can prepare them for a career within ESNEFT by the time they leave the college and offer them a stepping stone to join the Trust.



This programme is open to existing students at Colchester Institute on Level 2 and Level 3 Health and Social Care programmes, Level 3 Applied Science and their Access to Higher Education Diploma in Health Professions. Students who are successful in accessing the programme are offered a student placement, a training package within a hospital environment and a guaranteed interview for a 'real' job in the NHS. These students will be given:

- Clinical work placement at Colchester or Ipswich Hospital
- An allocated supervisor
- Compulsory NHS induction training
- NHS mentor to support them throughout the programme
- Online training modules
- Masterclasses at the Icen Centre, at Colchester General Hospital
- Interactive training sessions.

The programme commenced in January 2022 and will support up to 30 students each year.



## v. The Community Diagnostic Training Academy

In November 2021, in a joint application with Colchester Institute, ESNEFT secured government funding through the Community Renewal Fund to develop the Community Diagnostics Training Academy. This is a specially designed employment and skills package for residents from Tendring District to secure employment within the new Community Diagnostic Centre at Clacton Hospital. Participants complete a range of 'masterclasses' to understand the different roles available within the diagnostic centre, including clinical and non-clinical roles, they complete a series of work experience placements within ESNEFT and have the opportunity to complete a number of courses and engage with passionate people doing the job. Everyone who completes the 12 week course is guaranteed an interview at ESNEFT.

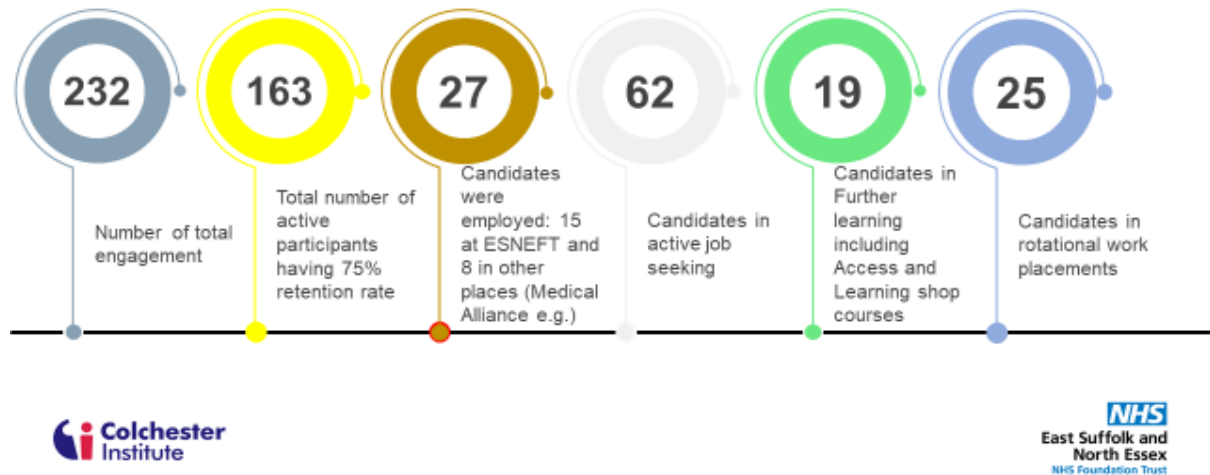


Participants from the Community Diagnostics Training Academy with their certificates of achievement.

As of June 2022, the programme had a 75% retention rate, supporting residents from some of the most deprived wards in England and Wales to secure sustainable employment within ESNEFT and the wider health sector.

As of June 2022 the headline numbers being achieved on the programme were:

## Workstream 1: Recruiting and Training the CDC Workforce



Further bids to the Government's Shared Prosperity Fund were submitted to both Tendring District Council and Colchester Borough Council in May 2022, to deliver an extension of the Community Diagnostic Training Academy in 2023/24. We await news from the bids.

### CASE STUDY

A video reflecting the experiences of participants on the programme, and their perceived benefits from attending can be found here:

<https://youtu.be/H12oy71fDe8>

## vi. Proposed new Faculty of Education & Innovation Centre, Colchester Hospital

Following earlier design work, some initial consultation with local stakeholders and discussions within the Faculty of Education in 2021, a business case and related application for planning permission is being prepared for a new 2,957.93 sqm Faculty of Education & Innovation Centre at Colchester Hospital. Subject to consideration by the ESNEFT Board, the new building will provide state of the art training facilities, including cadaveric, VR simulation, a 120 seater banked lecture theatre, a clinical skills ward and flexible spaces for scenario based multidisciplinary training. The proposed Centre will also enable the steep rise in apprenticeship delivery anticipated at ESNEFT. The plans also provide for an innovation space, potentially supporting early stage medical/care technology companies with business incubation facilities. The new centre would be built out from the ICENI Centre, replace the Post Graduate Medical Centre and provide a 21<sup>st</sup> Century training facility a short distance from the new elective orthopaedic centre.

To fund the proposed building, a range of external funding opportunities are being explored that seek to support skills and economic growth, including Levelling Up funds and those funding streams designed to replace previous EU funding. Several meetings have been held with those local and county based organisations that are likely to have an influence over decisions affecting such funding and these will be progressed should the Trust Board approve the business case going to it in September 2022.

In parallel with the above, Investment Group committed £120k to develop a full planning application and it is hoped that this will be submitted in September 2022, subject to Trust Board consideration.

Proposed Faculty of Education & Innovation Centre:

