



The digital Experimental Cancer Medicine Team

Engaging patients,
Driving decisions

2018 Report



Digital
Experimental
Cancer
Medicine
Team



MANCHESTER
INSTITUTE



Contents

World leading scientific research, including pioneering work in precision medicine and cancer treatment is brought together through the Manchester Cancer Research Centre (MCRC) partnership, a unique collaboration that brings together the expertise, vision and resources of its partner organisations: Cancer Research UK Manchester Institute, The University of Manchester and The Christie NHS Foundation Trust, all of which have formidable individual reputations in the field of cancer research.

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Introduction

2018 represented the third full year of operations for the digital Experimental Cancer Medicine Team. Based within the Cancer Research UK Manchester Institute, part of The University of Manchester, the team seeks “to innovate and apply digital science to transform decision-making in early clinical trials and the patient’s role”. This goal is very much enabled by having our Design Lab within The Phase 1 unit at The Christie, providing direct patient contact and being juxta positioned to the Experimental Cancer Medicine Team (ECMT) of over 60 staff dedicated to supporting early clinical trials. An additional critical enabling capability which was built over the year has been creating a secure cloud-based environment with Microsoft Azure to store clinical trial data.

The application of digital science to transform decision-making in early clinical trials continues at pace. eTARGET, our decision-support solution continues to be an integral part of the monthly cancer molecular tumour board led by ECMT, which seeks to integrate the patient’s genomic profile with their clinical characteristics and identify the most suitable clinical trial. eTARGET allows researchers based in many locations to meet virtually and review and annotate in real-time the details for each patient irrespective of location. The benefits of this have recently been published in Nature Medicine (Rothwell *et al*, 2019) and other cancer centres are in active discussion to access this decision-support solution. The team has also developed and applied a decision algorithm to a mobile device for the early detection of kidney toxicity. This will allow patients to conduct their own assessments several times each week, with the aim of enabling those patients with impaired but stable renal function to access clinical trials from which they are currently excluded due to the standard inclusion criteria. 2018 also represented the year we completed the new visualisations for clinical trial data analysis and interpretation, which enables us to significantly extend the functionality of REACT from a visualisations system to create a research platform, namely ACUITY. The subject of a poster presentation at the 2018 Pistoia Alliance meeting, this decision science platform attracted notable interest from technology and pharma companies.

Our Vision

During the year, we also successfully completed the pilot phase of eSOURCE to assess whether the per-protocolled assessments measured when the patient attends hospital can be captured electronically rather than on paper, to increase the accuracy, timeliness and completeness. 2019 will be an exciting year as we now seek to scale up this “digitisation” of a clinical research facility.

Detailed within this report is the continued deployment of PROACT (Patient Reported Opinions About Clinical Trials), to other cancer centres within the ECMC network. PROACT provides direct reports from the patient of their experience on an early clinical trial. Related to our goal of changing the patient’s role in clinical trials was the development and handover to The Christie of an app which enables patients to understand when their clinical trial medication is likely to be released by Pharmacy, allowing them to determine how to use the predicted waiting time. During the year, we also completed our assessment of the utility of dry blood spot collections in a patient’s home as a means of monitoring safety and biomarker blood parameters. This will now be a future focus for funding opportunities in 2019.

Professor Andrew Hughes
*Chair of Experimental Cancer Medicine,
The University of Manchester*

“ Our mission is to innovate and apply digital science to transform decision-making in early clinical trials and the patient’s role ”



Our research and centres of excellence partners

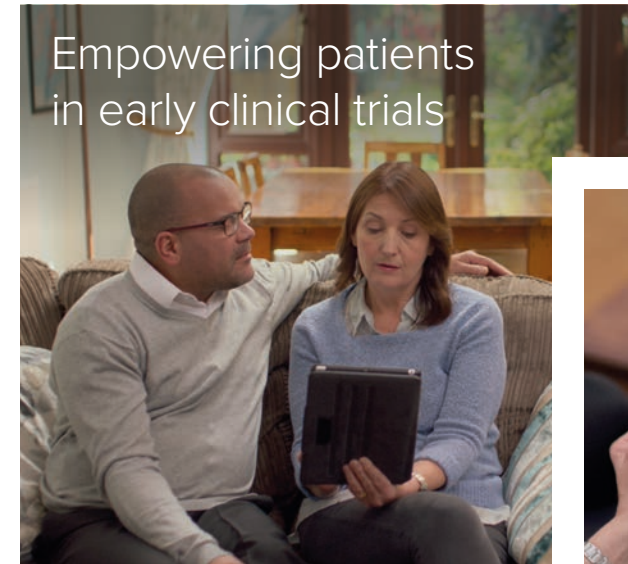
The digital ECMT brings researchers, clinicians, technology and patients together to innovate in early clinical trials. Our aim is for patients, carers and families to work in partnership with researchers on clinical trials and new technologies.

We are an innovative clinical digital research group, based within the Cancer Research UK Manchester Institute (CRUK MI), part of The University of Manchester and closely aligned to the Experimental Cancer Medicine Team (ECMT) at The Christie NHS Foundation Trust. We focus on:

- Putting patients at the centre of early clinical trials
- Applying digital science to improve decision-making
- Forging collaborations that improve outcomes for patients and the development of new medicines

- We conduct research through collaborations, sponsorship and grants:
 - Developing new care pathways that involve new methods for empowering patients and clinical teams
 - Changing the role of the patient from a passive recipient to an active participant and co-researcher
 - Clinical algorithm development and application of machine learning techniques to identify and alert to safety signals


Delivering tomorrow's clinical trials today



The widespread and general acceptance of the internet, mobile technologies, home test-kits and sensors, brings with it the opportunity to make changes to patient care pathways and fundamentally change the culture of early clinical trial delivery. We are challenging the current thinking about how clinical trials are delivered and argue that the clinical trials of the future need to be reframed to engage more purposefully with patients. Digital technologies offer the potential to realise our ambition to transform early clinical trials and the patient's role. For optimal benefit these digital transformations need to be developed and assimilated into

new care pathways that are scientifically tested under clinical trial conditions as part of a new type of trial – the *Technology Clinical Trial*.

Technology Clinical Trials are more interactive than standard trials and include a central role for research nurses and active patient participation. We have established a research framework to explore ideas and engage with patients and clinical teams involved in the care pathway. We develop new delivery and design models to embrace technology and data-science for the optimal benefit of all those involved in the digital trials.

 **To find out more about our research contact us at info@digitalECMT.org**

The Technology Clinical Trial

Established in 2017, a cornerstone of our research process is our *Design Lab*, based in an active clinical research facility. This is a dedicated space within the Clinical Research Facility at The Christie where we can listen to, and work with patients, carers and staff. We seek to understand people’s needs, their current interactions with a clinical trial, what motivates their involvement in a trial, existing delivery models and the changes needed to transform early clinical trials. Ideas and potential solutions are then developed through our Incubator process to ensure that the solutions and research designs are co-created from both a scientific and user perspective. Research, projects

and trials are then delivered through our *Technology Clinical Trials* to scientifically characterise the new solution under clinical trial conditions.

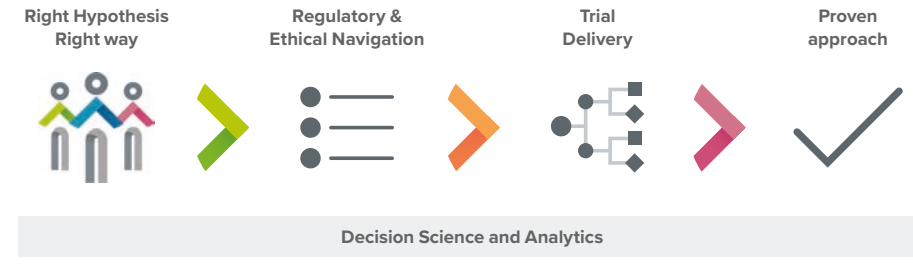
One of the challenges of delivering *Technology Clinical Trials* can be determining the appropriate regulatory process depending on the trial objectives and the many and varied collaborations. In order to address this, we have reviewed the regulatory landscape, developed a regulatory framework and a *Platform Trial Design* and master protocol. The modular adaptive trial design facilitates implementation by clinical teams and streamlines the regulatory approval process.

“ We are closely involved with patients, working with them to develop new treatments and new approaches. We really feel part of something special ”

Amy Smith
ECMT Clinical Research Nurse



Technology Clinical Trial



The *Platform Trial Design* enables us to explore the use of digital technologies and data directly with patients and carers to improve clinical decision-making and enhance the scientific and clinical learning in early trials by using an evidence-driven and risk-evaluated approach. Empowering patients and giving them the opportunity to be much more involved in their own trial has the potential to deliver more personalised clinical trials.

The first *Technology Clinical Trial*, PROACT (Patient Reported Opinions About Clinical Trials) has already started (see page 13) with a further clinical-trial-in-the-home for renal monitoring planned for 2019 (see page 10). We have a pipeline of digital development projects. The *Platform Trial* aims to deliver patient-driven personalised care with a master protocol and individual modules to address specific hypotheses

within this overall research aim. One of the first modules of the *Platform Trial* will include investigating the potential benefits of patient-centric blood sampling with patients collecting blood samples at home. The intention is to conduct more bioanalysis and generate additional data to both keep the patient safe and improve decision-making.

We have established a *Technology Clinical Trial* capability, gained an understanding of the central role that research nurses play in delivering technology trials, navigated the regulatory guidelines and developed a *Platform Trial* master protocol. By working together with patients and clinical teams in both clinical research and digital innovation we can push the boundaries of learning forward and change the way that clinical trials in the future are conducted.



One of our important goals is to change the patient's involvement in a clinical trial from that of an almost passive bystander to having the option of becoming an active member of the research team. One of the areas that we have been exploring is using technology to deliver aspects of an early clinical trial outside of the hospital and taking the clinical trial to the patient. The potential benefits include:

1. adaptive eligibility criteria through improving risk monitoring for patients
2. greater data capture of key clinical variables in the first cycles of treatment for enhanced decision-making
3. potential to develop predictive analytics and new endpoints

During 2018 our ambitious nephro-oncology research project reached an important milestone. This research aims to widen participation and adapt the eligibility criteria so that patients with reduced kidney function can take part in clinical trials. Working with the Manchester University NHS Foundation Trust's renal medicine team and patients we explored the potential and acceptability of a home-based approach and assessed whether new technological advances in point of care creatinine meters and digital science could be applied to enable personalised risk-based monitoring. The result is that we now have a clinical trial protocol and have identified a patient population to test a home-based monitoring approach using a device, data capture via a smartphone,

Taking the clinical trial to the patient

and risk-categorisation through an Acute Kidney Injury (AKI) algorithm. This clinical trial in the home is expected to start during 2019 and has two parts; Part A) assessing the feasibility and acceptance of patients measuring at home and Part B) understanding the potential for earlier diagnosis of changes in renal function through intensive home-monitoring. Our research now means that we are starting a *Technology Clinical Trial* to objectively test a home-based monitoring approach.

- **New care pathway – patient-centric sampling at home using a device**
- **Data capture via a mobile phone app**
- **Machine-based risk assessment using an automated clinical NHS rules-based algorithm**



“ Our nephro-oncology project has the potential to challenge and change the current Inclusion criteria in clinical trials. I would like to see populations within clinical trials become truly reflective of the ‘real world’ including patients with all levels of kidney function ”

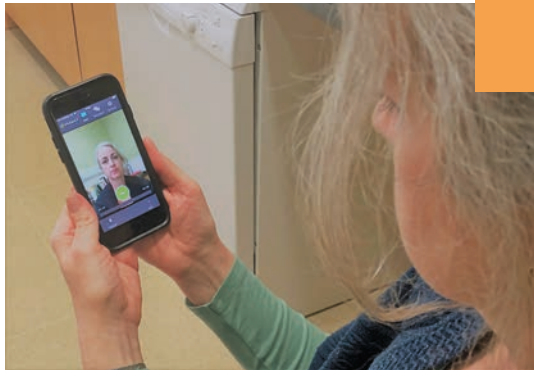
Leanne Ogden
digital ECMT, Clinical Research Fellow

Patient Voice in early clinical trials

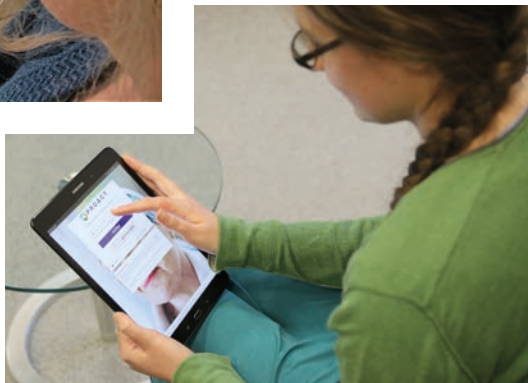
Modern day research is being changed by the advent of new technologies and we want to make sure that patients and clinical teams are driving that change. Our aim is to fundamentally change the dynamics of early clinical trials. Putting patients at the centre of early clinical trials transforms their role from that of a passive subject to a positive participant and potential co-researcher with us. We are empowering patients in early clinical trials and providing a way for them to directly contribute to drug development on their own terms.

Patient-centric drug development means that researchers and sponsors need to listen to the experience of patients on clinical trials. Changing the communication paradigm and giving patients a voice in early clinical trials is a fundamental goal for one of our first *Technology Clinical Trials* that started in December 2017.

“ Fab app that makes talking to the medical team easy and hassle-free ”
PROACT patient



Putting patients at the centre of early clinical trials



Giving patients a voice

We develop new delivery and design models to embrace technology and data-science through our *Technology Clinical Trials*. Our aim is to transform decision-making and the patient's role for the optimal benefit of all those involved in early clinical trials.

One of the first *Technology Clinical Trials* is ongoing. PROACT (Patient Reported Opinions About Clinical Trials) is seeking to address “what impact does the experimental medicine and early clinical trial have on peoples' daily lives? And what are the benefits and burdens from a patient's perspective?”. Developed with patients, PROACT allows direct, secure communication between clinical trial patients and their medical team.

Using a mobile phone app or website, patients can record personal video, audio, or text messages to say how they are

feeling and functioning while taking part in a clinical trial, including ‘real-life’ insights about how adverse events affect them.

PROACT is available for patient use alongside the experimental medicine and existing processes within a clinical trial. We have made significant progress to date, with over 90% of patients offered PROACT choosing to take part. The research nurses have been instrumental in adopting and supporting the delivery of this type of trial and have embedded PROACT into their daily practice. Initial feedback is that PROACT can enhance the engagement between the research nurses and patients. PROACT is currently available across multiple sponsor trials in a Phase 1 unit and there are plans to extend to other sites across the Experimental Cancer Medicine Centres network.

“ PROACT allows patients to keep in touch with their study team in between their visits to clinic. This gives us updates on how patients are coping with any side effects and we are able to provide them with better support ”

Chloe Thomson
ECMT Clinical Research Nurse



Changing care pathways

Patient engagement award

In 2018, we partnered with the pharmacy team and patients at the Manchester Experimental Cancer Medicine Centre to improve the co-ordination and communication for patients on a clinical trial waiting for intravenous (IV) treatment to be prepared. Taking inspiration from everyday life and takeaway food deliveries we involved both patients and staff to develop a solution for IV treatment preparation.

The solution was a prototype mobile phone Treatment Tracker Pharmacy App that was trialled with both patients and staff. Patients can view the progress of their treatment preparation, giving them an indication of how long the preparation may take, which means that patients feel more in control of their time.

Based on the findings from this feasibility assessment the hospital team plan to develop the Treatment Tracker Pharmacy App further and conduct a longer three-month trial.

Feeling more in control

- Improved communication for nurses, pharmacy staff and patients waiting for IV treatment preparation
- Changed the patient care pathway and enabled patients and staff to track the treatment preparation status, saving valuable time
- Given back some time and control to patients



With patients, researchers, clinical teams and technology working together we can innovate in early clinical trials and make a positive difference to patients.

The digital ECMT has been recognised for the ground-breaking work we are doing to change the role of patients in early clinical trials. We received the Patient Engagement award at the Intelligent Health Awards 2018, during the Microsoft Health & Artificial Intelligence Summit held in Brussels, December 2018.

“ Thank you for inviting me to trial the app today and for the opportunity to provide feedback on its usefulness. It is definitely a potential benefit, as it provides the ability to leave the department, go ‘off site’ and yet remain in contact ”

Patient feedback

“ We were absolutely delighted to receive this Patient Engagement award from Microsoft in recognition of the research we are doing – designing clinical trials of the future, which will require much closer involvement of patients as co-researchers ”

Dónal Landers
Director, digital ECMT



Precision medicine and decision science

Advances in precision medicine are paving the way for personalised treatment approaches in cancer treatment and clinical trials. Experts from Cancer Research UK Manchester Institute, the Manchester Experimental Cancer Medicine Team and The Christie are leading the way with the TARGET (Tumour chARacterisation to Guide Experimental Targeted therapy) trial. TARGET involves the development and validation of liquid biopsies (blood tests) using molecular profiling of circulating tumour DNA (ctDNA) to help match the right patient to the right early phase clinical trial or treatment.

“ eTARGET has transformed the way we undertake our Molecular Tumour Board (MTB) for data visualisation and interpretation. It is a fantastic solution to the challenge of integrating genomic and clinical data ”

Dr Matthew Krebs
Clinical Senior Lecturer in Experimental Cancer Medicine and Honorary Consultant in Medical Oncology

Collaboration between Dr Matthew Krebs, the TARGET trial Chief investigator and Dr Julie Stevenson, the digital ECMT Business Analyst, led to the development of a digital solution to support real-time decisions. eTARGET integrates clinical and next generation sequencing genomic data. A multidisciplinary group of clinicians, scientists and bioinformaticians meet as part of the TARGET molecular tumour board (MTB). Key considerations for the development of eTARGET were automating data extraction from disparate sources in different organisations and developing a secure cloud infrastructure. Further benefits are that patient data can be viewed remotely, making a virtual MTB possible.

Now an integral part of the MTB's decision-making process, eTARGET has transformed the data visualisation and interpretation by integrating genomic and clinical data in a single portal and capturing decisions in real-time. Decisions regarding significant variants, trial matching and requirements for further analyses are all held in eTARGET. Through eTARGET, a genomic dataset has now been established and can be utilised as a research tool to interrogate the TARGET data. Plans for future developments include investigating the potential to further analyse patient genomic profiles in cBioPortal, an open-access, open-source resource for interactive exploration of multidimensional cancer genomics data sets.

Digital solution to support real-time decisions



“ eTARGET is a perfect example of why the work of the digital ECMT is so important and how they contribute to the holistic goals of the biomarker centre ”

Professor Caroline Dive
Deputy Director and Senior Group Leader, Cancer Research UK Manchester Institute; Director, Manchester Centre for Cancer Biomarker Sciences

Decision science

Changing the interpretation of early clinical trials

Early clinical trials are where future medicines start to emerge and it's a time of great learning about an experimental medicine. Every person who volunteers for a trial has a unique contribution to make. The ~10,000 data-points gathered from each early clinical trial patient is an information and interpretation challenge. Data can come from many different sources, such as blood results, signs and symptoms and biomarker investigations. There may need to be refinements to the trial regarding the dose and schedule, the patient selection, the combination of drugs to be investigated and the deployment of potential predictive biomarkers. These iterations make the trial developmentally challenging and drives the need for near real-time access to emerging trial data to enable decision-making for the benefit of patients.

Innovation in early clinical trials is key as cancer is not one disease and we need to understand not just the type of

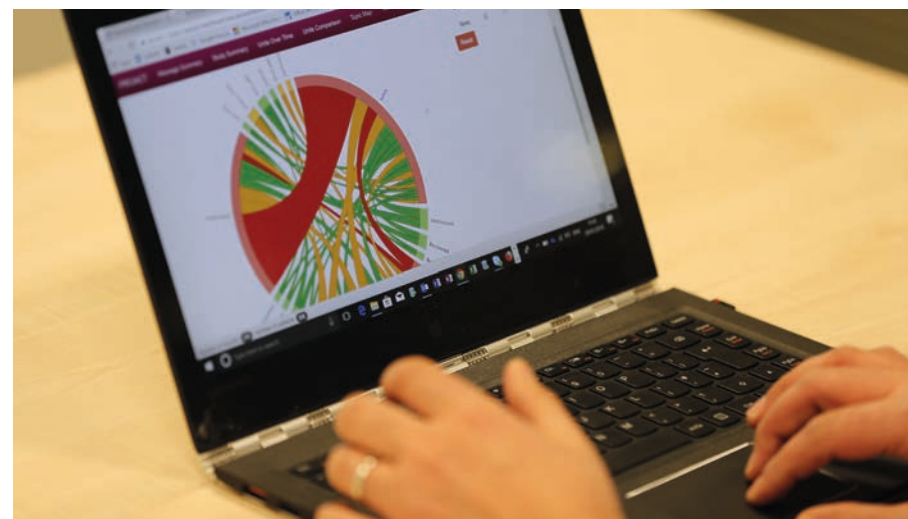
cancer, such as breast or lung, but also the molecular profile of an individual's type of cancer. We have a dynamic Genomic Profile in our research platform that integrates genomic and clinical data in real-time. This provides a greater understanding of gene signatures associated with response and enables predictive biomarkers to be identified, which in turn means being able to adapt trials for patient benefit. The digital ECMT brought together clinicians, technology and genomic experts. We are now able to create a link between our Genomic Profile and cBioPortal (open source tool for genomic analysis) to perform more in-depth analysis for patients of interest. An additional enhancement is the ability to track genetic changes in the tumour over time using ct DNA (circulating tumour DNA) visualisations, which could contribute to the earlier detection of disease progression for some patients.

“ The ACUITY research platform will enable the delivery of our technology clinical trial, which will help us to fundamentally improve our patient care pathway and bring the clinical trial closer to the patient ”

Dónal Landers

Director, digital ECMT

Research platform to enable adaptive decision-making



Clinical trials of the future require a move from visualising only that data pre-specified by the trial protocol and collected via the eCRF, to an interactive platform which integrates multiple sources of data to enable adaptive decision-making by sponsor, investigator and patient. Data is likely to come not just from the eCRF but from patients themselves, either from home monitoring devices, or wearables, as well as machine learning data from algorithms and links to real world datasets.

We are researching and designing new ways to conduct and interpret clinical trials. We are developing a research platform to integrate these multiple sources of data to provide insights that will change the conduct of trials and the exploration and interpretation of data for the benefit of patients. The new ACUITY research platform enables the synthesis of these thousands of data points and presents this information in a clear and concise visualisation.

Collaborations

“ We collaborate with partners to research digital innovations that empower patients and change decision-making in clinical trials ”

Siobhan Southam
Strategic Engagement Leader



We work together in partnership to transform decision-making and the patient's role

Achieving patient engagement and digital innovation in early clinical trials requires partnership and expertise. We forge collaborations to bring patients, data analytics and behavioural science together to change the conduct and interpretation of early clinical trials.

The digital ECMT delivers the leading iDecide research programme, the focus of a 5-year (£11.5M) collaboration between four strategic partners in oncology research; the Centre for Cancer Biomarker Sciences, the University of Manchester, The Christie NHS Foundation Trust and AstraZeneca.

Through the iDecide research programme, AstraZeneca is one of nine business partners in iMATCH. Set up in March 2018, iMATCH (innovate Manchester Advanced Therapies Centre Hub) is a consortium to coordinate a strategy to scale-up advanced therapies for a range of debilitating conditions. The digital ECMT provides digital science expertise to iMATCH to develop rapid monitoring capabilities and integration into digital algorithms to establish early-warning systems.



We partner with the Manchester Experimental Cancer Medicine Team in relation to the PROACT trial and *Technology Clinical Trials*. We also partner with the CRUK Centre for Drug Development to support CRUK sponsored Phase 1 clinical trials with our digital science platform. In addition, we collaborate with several groups including the Research IT group and Computer Science department at The University of Manchester.

Being at the heart of world leading clinical, scientific and academic research excellence means that we can bring together the right experts needed for each individual initiative and project.



To collaborate with us
please contact us at info@digitalECMT.org

2018 news

Title	Type	Location	Date
Winner – Patient Engagement Award Intelligent Health Awards 2018, held at the Microsoft Health and Artificial Intelligence Summit	Award	Brussels, Belgium	December
The Technology Clinical Trial – potential future hybrid trial models BioData World Congress	Presentation	Basel, Switzerland	November
IDecide collaboration – Newsletter#2	Newsletter		November
The digital ECMT, iMATCH and REACT Immuno-Oncology Network Meeting – Manchester ECMT	Presentation	Manchester, UK	October
Closer monitoring of renal function in early phase clinical trials Teenage Cancer Trust	Presentation	Macclesfield, UK	October
Collaboration for Patient Benefit: A New Model European Patient Summit – London, Eyeforpharma	Invited presentation	London, UK	October
The Technology Clinical Trial Microsoft Envision conference, USA	Invited presentation	Orlando, USA	September
Nephro-oncology: Closer Monitoring of Patient Renal Function in Early-Phase Clinical Trials CRUK MI, CEP talk	Presentation	Manchester, UK	September
IDecide collaboration – Newsletter#1	Newsletter		July
Design a clinical trial around the patient's home digital ECMT Hackathon challenge: Sanger Institute/ Wellcome Trust – sponsored by Microsoft	Hackathon	Cambridge, UK	July
The Technology Clinical Trial Intelligent Medicine – Future Decoded, Microsoft Research	Invited presentation panel discussion	Cambridge, UK	June

Title	Type	Location	Date
Technology, research and you International Clinical Trials Day – The Christie	Display / exhibition	Manchester, UK	May
Developing cancer medicines of the future with digital health Digital Health World Congress, 8–9 May	Invited presentation	London, UK	May
Showcase – the digital ECMT, changing the conduct of clinical trials	Poster	Cambridge, UK	April
Research in a digital age: PROACT Research Nurses Meeting	Presentation	Manchester, UK	March
eTARGET makes light work of hard decisions CRUK MI – CEP talk	Presentation	Manchester, UK	March
iMATCH (innovate Manchester Advanced Therapies Centre Hub) consortium – Innovate UK grant awarded	Press release		March
Technology makes light work of hard decisions UoM Research IT	Invited presentation	Manchester, UK	February
Technology makes light work of hard decisions UoM Research IT	Blog / newsletter	Manchester, UK	February
Research in a digital age: engaging patients, driving decisions CRUK Research Nurses	Invited presentation	London, UK	February
REACT Genomic profile IMED Science Star Award – AstraZeneca	Award	Cambridge, UK	February

2018 research activities

Title	Type	Location	Date
Rothwell <i>et al.</i> , (2019). Utility of ctDNA to support patient selection for early phase clinical trials: The TARGET Study. <i>Nature Medicine</i> ; 25 (4), 1–6.	Published		
Home renal monitoring for patients: technical assessment and patient acceptability NCRI, 4–6 November Published: Selected Abstracts from the 2018 NCRI Cancer Conference of National Cancer Research Institute <i>British Journal of Cancer</i> volume 119, pages 11–12 (2018), https://doi.org/10.1038/s411416-018-0299-z	Abstract Poster presentation	Glasgow, UK	November
Integrated Digital-Clinical Research in an Experimental Cancer Medicine Centre NCRI, 4–6 November	Abstract Poster presentation	Glasgow, UK	November
Pharmacy App – Can we use a mobile phone app to improve patient/staff experience to show the collection availability of intravenous clinical trial treatment at The Christie CRF? British Oncology Pharmacy Association (BOPA) Conference, 12–14 Oct Published: Abstracts. (2018). <i>Journal of Oncology Pharmacy Practice</i> , 24(8_suppl), 1–67.	Abstract Poster presentation	Birmingham, UK	October
REACT (Real-time Analytics for Clinical Trials): using digital science to enable decision-making for early cancer clinical trials Pistoia Alliance 2018 members meeting	Invited abstract Poster presentation	Boston, USA	October
Patient Engagement and Digital Innovation in Clinical Trials – an introduction to the digital Experimental Cancer Medicine Team (digital ECMT) Cancer Research UK Manchester Institute Colloquium	Abstract Poster presentation	Lancaster, UK	September
Can we use a mobile phone app to improve patient/staff experience to show the collection availability status of intravenous clinical trial treatment at The Christie CRF? CRF meeting Leeds – Pharmacy App	Abstract Poster presentation	Leeds, UK	July

Title	Type	Location	Date
eTARGET a digital science solution to integrate clinical and genomic data for the Manchester Molecular Tumour Board (MTB) EACR25, 30 June – 3 July Published: Stevenson J, Ayub M, Dransfield S, <i>et al</i> PO-047 Etarget: a digital science solution to integrate clinical and genomic data for the Manchester Molecular Tumour Board (MTB) <i>ESMO Open</i> 2018;3:doi: 10.1136/esmoopen-2018-EACR25.580	Abstract Poster presentation	Amsterdam, The Netherlands	June
Nephro-oncology: Closer monitoring of renal function in early-phase trials Technology meeting – PRISME	Poster	Paris, France	May
Using digital science to improve decision-making in Phase 1 clinical trials ECMC North Science Symposium	Poster	Newcastle, UK	March

Additional information

Hughes, A. *et al.*, (2016). Development and Evaluation of a New Technological Way of Engaging Patients and Enhancing Understanding of Drug Tolerability in Early Clinical Development: PROACT (Patient Reported Opinions About Clinical Tolerability). *Adv Ther*; 33 (6), 1012–1024

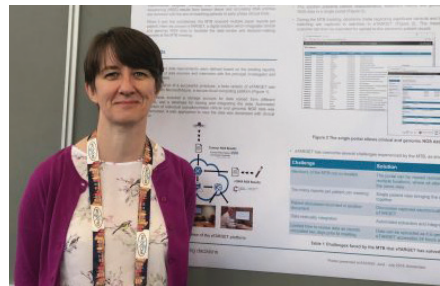
Rothwell *et al.*, (2019). Utility of ctDNA to support patient selection for early phase clinical trials: The TARGET Study. *Nature Medicine*; 25 (4), 1–6.



We are working to change the conduct of clinical trials and the exploration and interpretation of clinical trial data. We are a multidisciplinary digital clinical research group with expertise in patient engagement, data insights, analytics, digital technology and behavioural science.



Dr Leanne Ogden, Clinical Research Fellow, presented our nephro-oncology research collaboration with the Manchester University NHS Foundation Trust's renal medicine team at the annual National Cancer Research Institute conference. The aim of this research is to find ways to include patients with reduced kidney function in clinical trials by using intensive, home based, monitoring.



Dr Julie Stephenson, Senior Business Analyst, presented eTARGET, our technology solution to integrate genomic and clinical data and support real-time decisions for a molecular tumour board being, at the European Association for Cancer Research conference in Amsterdam.

Changing the conduct of clinical trials

- Implementation of a platform trial design for a *Technology Clinical Trial* and clinical operation capability working with the ECMT

Changing the interpretation of clinical trials

- Advanced precision analytics system to support *Technology Clinical Trials* – extend the digital EMCT capability to integrate clinical, genomics and patient derived data through machine learning/artificial intelligence (AI) approaches

Collaboration


- Extend our future collaborations and partnerships at a local, national and international level to forge new care pathways

Technology

- Extend our research areas to investigate technologies, patient micro sampling, wireless and patient devices

Decision Science

- Application of predictive science and developing algorithms, machine learning and artificial intelligence (AI) capability

 **To get in touch**
please contact us at
info@digitalECMT.org





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