

2020

British Cardiovascular Society **Emerging Leaders Programme 2020**



Introduction

This programme has been designed to equip delegates with the skills required to lead service change and importantly to provide professional leadership more widely within cardiology and the NHS.

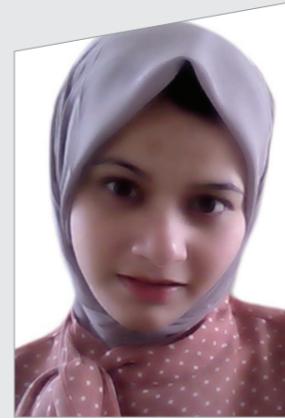
Each year, senior cardiology trainees and recently appointed consultants are invited to join the cohort of the ELP at the **BCS Leadership Academy** (usually) held at the BCS Annual Conference.

The programme is led by **Dr Sarah Clarke**, Immediate Past President of the BCS with fellow Course Directors, **Dr Clive Lewis** and **Chris Wilkinson**, and **Prof Simon Ray**, current President of the BCS. The faculty includes a mixture of national and local leaders in health care delivery and cardiology, and colleagues from the American College of Cardiology.

For the 2020 ELP the whole programme was delivered using an online platform. While this was not ideal the delegates really appreciated being able to engage in the programme during the pandemic and the associated restrictions around face to face events. A meeting of the newly formed ELP Alumni will hopefully bring the delegates together and in person in the not too distant future.

This yearbook provides details of the delegates of the second programme for networking purposes. The abstract for their service improvement project is also included, along with some comments about the programme and what they gained from being involved. The book will be useful for those considering applying for future programmes and will also provide insights for the sponsors who kindly financially supported the 2020 programme.

Thanks are extended to AstraZeneca, Bayer, Daiichi-Sankyo, Pfizer and Boehringer Ingelheim for their sponsorship: it is noted that they have had no input to the development or delivery of the programme.



Dr Farhana Ara

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Dr Farhana Ara is a final year Cardiology registrar with a subspecialist interest in Devices and Heart Failure. Dr Ara graduated from Guy's, King's and St. Thomas' Hospital School of Medicine in 2009 and has subsequently been awarded a merit for her MSc, with her thesis written on the novel detection of arrhythmias. She has ample general cardiology and DGH experience from working across the country, with senior training undertaken at Royal Papworth NHS Trust, including a six-month attachment in Advanced Heart Failure and Transplantation. She has won several prizes throughout her career but is keen on quality improvement and improving service, achieving recognition both via award and journal publication. Recently, she won the Junior Doctors Prize at Royal Papworth for 'Compassion, Caring and Competence'. Dr Ara is currently a social media editor for the ESC. In her spare time, she travels and reads widely. She has also completed eight half-marathons for various charitable causes and won prizes for her baking.

Navigating challenges completing a QIP during COVID19: Pacing in post-TAVI patients

Quality improvement projects (QIP) are commonly undertaken by junior doctors in training [1]. They contribute to change in a rapidly-evolving NHS [2]. Healthcare professionals are encouraged to participate in audit and QIP. COVID19 has caused a global reduction in research activity as clinical priorities led to the re-deployment of frontline clinicians [3]. The BCS Emerging Leaders Programme, which commenced in October 2020 for its second year, provided training to navigate the challenges faced; leading to successful completion of a preliminary audit identifying risk factors in patients who have undergone transaortic valve implantation (TAVI) and subsequently required permanent pacing.

Objectives

To identify a suitable clinical QI project: recognising predictive risk factors for post-TAVI pacing

To build a team to participate in the project

To understand key leadership concepts in overcoming challenges in completing the project (including the impact of COVID19)

Methods

On arrival to RPH in 2019, I was involved in 3 cases of complete heart block following TAVI. I conducted a literature review and presented this in a joint meeting with EP consultant (CM) and TAVI operator (WD). The audit was filed and accepted by our trust audit department.

WD provided access to the TAVI database. We were joined by two medical students (AC, JL) who collected the data and a research SpR (JC) with experience in medical statistics.

Demographic and clinical (pre-, intra-, and post-procedural) data were collected from all patients who underwent TAVI at our centre from August 2017 to November 2020.

Patients with pre-existing PPMs were excluded from the study.

Predictive factors were selected through univariate analysis, and selected characteristics were incorporated into a multivariate binomial logistic regression model, in order to create a 30-day PPM risk-prediction model.

Results

In total, data from a total of 446 patients were analysed.

Of these, 40 (8.97%) received PPM implantation within 30 days of the procedure.

Multiple factors met significance at multivariate logistic regression analysis (see table) and include pre-TAVI RBBB (OR 6.62 [95% CI, 1.37-36.51]) intra-TAVI 3rd degree AV block (OR 12.80 [95% CI, 3.44-53.34])

Five variables were incorporated into a multivariate logistic regression model which showed excellent discriminative ability to predict PPM implantation.

COVID19 interrupted our data collection as medical students were unable to attend onsite. Clinicians were re-deployed during the peaks of the pandemic admissions and TAVI procedures were also suspended in March 2020.

BCS Leadership skills

Key leadership concepts [4]

Understanding self to understand others: DISC personality tool [5]

Overcoming challenges and developing resilience [6]

Service development, commissioning, business case planning [7]

Building team effectiveness and managing difficult conversations [8]

Overcoming challenges using key BCS leadership skills

Having a vision - widening sphere of concern to sphere of influence [9]

Overcoming challenges with BCS Leadership skills

Enabling new ways of working – team discussions were conducted via zoom/teams during social distancing measures

Sharing of work/skills – each team member developed their skill-set in producing this work (inspiring and coordinating the group, conducting literature review, analysing, writing, presenting data)

Developing resilience – COVID19 delayed data collection and the study was paused for several months

Managing difficult conversations – authorship contributions were discussed openly within the team and early, pre-COVID work was acknowledged in abstract submission.

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Dr Gordon Begg

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Since February 2021 Gordon has been a Consultant Cardiologist with a special interest Cardiac Rhythm Management at Pinderfields Hospital, Wakefield; part of the Mid Yorkshire Hospitals NHS Trust.

He was an undergraduate at the University of Sheffield, beginning his medical career in that city. He then completed his Core Medical and Cardiology training in West Yorkshire, with a sub-specialty interest in advanced rhythm management. During that time, he undertook a research fellowship and gained an MD from the University of Leeds, resulting in several peer-reviewed publications. After completion of his cardiology training, he undertook a clinical fellowship in electrophysiology and devices at the James Cook University Hospital, Middlesbrough.

He has an informal interest in education and has taken over supervision of the Pinderfields final-year medical student placement.

Outside work, he enjoys the challenges and rewards of having a young family, and maintains a passing interest in astronomy, on those rare occasions when the Yorkshire skies allow it.

Improving arrhythmia services in a large district general hospital

The Mid Yorkshire Hospitals NHS Trust provides cardiology secondary care, including PCI and complex device implantation, to a population of around 700,000. There is no on-site electrophysiology provision, this is carried out in the local tertiary centre.

The overall aim of the project is to use my skills in electrophysiology to improve the local provision of arrhythmia care; to ensure primary care colleagues can access cardiology expertise to support arrhythmia management, and when onward referral is needed patients will see the right professional, in the most appropriate setting, at the first possible opportunity.

The first step was to set up a dedicated arrhythmia clinic. I devised specific referral criteria, which were approved by the consultant body. Via the electronic single point of referral used by primary care, patients who meet these criteria are now triaged to this clinic as their first hospital contact (face to face or virtual), and relevant investigations requested prior to first review. This should enable faster arrhythmia expert review than previously, including earlier counselling regarding benefits and risks of interventional treatment. For many patients, this may negate the need for onwards referral to tertiary care. Others will have a clearer understanding of the procedure prior to referral.

The next step is to develop referral proformas and treatment protocols for common arrhythmia conditions, to support our colleagues in primary care. This will involve integration into the existing electronic referral and liaison system used in primary and secondary care (SystemOne e-Consult), the first time this has been attempted. I have devised a referral proforma for patients presenting with palpitations in primary care, which will provide the test case for this integration. A palpitations investigation and management protocol will follow. This should result in rationalised, standardised use

of investigations, and risk stratification that will enable primary care colleagues to manage low-risk patients with cardiology support and guidance. Further protocols will follow, including for atrial fibrillation.

I am also about to commence a dedicated device MDT, having consulted with the other device implanters and wider cardiology team. This will involve cardiologists and physiologists and enable discussion of new implants as well as challenges with existing devices. Other conditions such as arrhythmia and ICC will eventually be incorporated into this MDT, possibly involving virtual links with tertiary care.

This is an ongoing, multifaceted project which should progress beyond what is outlined here. At the time of writing, it is in its early stages and assessment of patient-orientated outcomes has not yet taken place. I plan to undertake the first of many such assessments soon, to demonstrate effects on patient satisfaction, time from presentation to treatment, quality of onward referrals to tertiary care, and compliance with national and international guidelines. Working with colleagues in primary, secondary and tertiary care, these initial steps will inform potential future service expansion, including clinical nurse specialists and/or consultant physiologists.



Dr Jonathan M Behar

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Jonathan Behar is a Locum Consultant Cardiologist and Electrophysiologist at the Royal Brompton and Harefield Hospitals. He trained in north London including a specialist arrhythmia fellowship at the Barts Heart Centre and obtained a PhD at Kings College London on the subject of image guidance for cardiac device therapy. His research led to the development of a patented software platform in collaboration with Siemens Healthcare and King's College London which is being tested in an international clinical trial and was shortlisted for a European innovation award in 2017. He is a previous NHS England Clinical Entrepreneur Fellow with an interest in digital transformation to help facilitate improved patient care.

Project title: A digital pathway to support pre-procedural, shared decision making and consent

Background

Patients remember less than 10% of what is discussed with them in consultations. Currently in most NHS trusts, the pre-procedural consent process involves a single face-to-face consultation with a health care provider to discuss their (often highly complex) procedure, its risks and benefits. However, there is good evidence that patients often think of additional questions after the consultation

and would benefit from real-time access to easily digestible, high quality information. It is also common for the consent process to be completed on the day of the procedure, potentially leading to delays on the day of their procedure and not leaving enough time for responses to further questions.

As part of pre-procedural assessment, we have a duty to inform and ensure patients understand the proposed treatment, its risks and benefits. Patient feedback informed us that our previous single-episode consultation required improvement. In addition the onset of the pandemic required us to minimise in-person attendances at our hospitals for reasons of infection control. Having converted many of our consultant-led outpatient appointments to virtual interactions in a matter of weeks, we were keen to exploit the opportunity to do the same for pre-assessment.

Objective & Methods

We designed and delivered a novel, pragmatic, digital and holistic pathway for pre-operative shared decision making and consent for electrophysiology & device procedures at the Royal Brompton Hospital. Patients are sent information of their procedure date, accompanied with details of a pre-assessment appointment. They are provided with links to procedural specific animation videos to help them understand their procedure in greater depth as well as an online, digital version of their procedure specific consent form. They are encouraged to read this ahead of their pre-assessment appointment, prompting them to write down and hone specific questions for their appointment, conducted via Attend Anywhere. They sign the electronic consent form during their appointment and this creates a digital word document which is created in the patient's electronic record. We recorded patient reported outcomes before and after implementation to assess the response of this initiative.

Results:

Patient reported outcomes demonstrated a significant improvement in understanding following our intervention. 26/48(54%,pre) vs 47/51(92%,post) said they understood their procedure, 28/48(58%) vs 46/51(90%) said they understood the possible benefits, 24/28(50%) vs 46/51(90%) said they understood the possible risks and 18/48(38%) vs 39/51(76%) said they understood the alternatives.

Conclusion:

Our pathway has empowered patients to be more effective decision-makers about their own care, improved their experience of the service, reduced hospital contacts and infection risk, reduced the use of paper, postage and travel and supported our clinical and administration teams to work remotely. As this new digital pathway provides multiple solutions to several of the problems we were facing, our cross-site working group on shared decision making is expanding the use of this pathway across the trust with further implementation across adjacent care groups planned during 2021.



Dr Damien Collinson

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Originally from the West of Ireland, Damien Collison studied medicine at the University of Dublin, Trinity College. Graduating with an honours degree in 2007, he trained in general internal medicine in Ireland and Australia, attaining membership of the Royal College of Physicians of Ireland in 2010. He entered the college's higher specialist training programme in 2011 and, following completion of general cardiology training, emigrated to Scotland in 2015 to undertake a fellowship in complex coronary intervention at the Golden Jubilee National Hospital in Glasgow. After being awarded his Certificate of Completion of Specialist Training in Cardiology in 2017, he continued to work as a senior clinical research fellow for the National Health Service/University of Glasgow, acting as a sub-investigator for a number of major cardiovascular clinical trials including COLCOT and ISCHEMIA. In conjunction with Professors Keith Oldroyd and Colin Berry, he designed and developed the TARGET-FFR randomised controlled trial as the basis of a postgraduate research degree in medicine (MD) at the University of Glasgow. The study's findings were presented live to an international online audience at a Late-Breaking Clinical Trial session at TCT Connect 2020. He was appointed as an interventional cardiologist at the Golden Jubilee National Hospital in 2020 and maintains an active involvement in the

organisation's cardiovascular research portfolio, acting as local PI for the ongoing International Study of Coronary Microvascular Angina (iCorMicA). In April 2021, he received the British Cardiovascular Intervention Society's Young Investigator Award for his work on TARGET-FFR. Having developed subspecialty expertise and a research interest in invasive coronary physiology assessment, he continues to collaborate and publish regularly in the field.

Standardisation of diabetes screening and management in patients admitted to NHS Golden Jubilee National Hospital for treatment of Acute Coronary Syndromes

Diabetes is a modifiable risk factor for cardiovascular disease (CVD). Patients with coexistent diabetes and coronary artery disease are at higher risk for recurrent myocardial infarctions and complications such as in-stent restenosis. The 2019 European Society of Cardiology / European Association for the Study of Diabetes guidelines on diabetes, pre-diabetes, and cardiovascular diseases made a Class IA recommendation that screening for potential diabetes in patients with CVD is initiated with HbA1c and fasting plasma glucose. NHS Golden Jubilee National Hospital (GJNH) is a tertiary cardiac referral centre in Scotland. At present, screening for diabetes among patients with Acute Coronary Syndromes (ACS) treated at GJNH and its referring health boards is only performed sporadically. For example, in the final week of April 2021 just 21% (6/28) of ACS patients admitted to the GJNH Coronary Care Unit were screened for diabetes. Due to a low volume of requests at GJNH, HbA1c is currently only batch processed on Tuesdays and Fridays. This leads to an extended turn-around-time and creates a clinical risk as results often only become available after patients have already been transferred or discharged.

As part of a service and quality improvement project on the management of diabetes at GJNH, a proposal was made to include HbA1c testing as a component of routine admission blood tests for patients with ACS. Initial discussions with the clinical chemistry department indicated that the projected increase in testing would allow for increased efficiency of processing with results available on a daily basis. However, higher volumes of testing would incur an increased cost for the organisation and, accordingly, the proposal is currently under review with the GJNH Cardiology Clinical Governance committee.

What began as an idea for a diabetes screening pilot project among ACS patients has since prompted an overall reassessment of diabetes management at GJNH and the scope of the undertaking continues to expand. GJNH does not have a clinical endocrinology service on-site and the nature of historical service agreements with neighbouring health boards is uncertain. In conjunction with diabetes teams in Greater Glasgow & Clyde, we plan to develop new 'care bundles' for the management of diabetes in patients with cardiovascular disease. These would incorporate algorithms for the initiation of appropriate medications in newly diagnosed diabetes and titration of therapy in ACS patients identified as having suboptimal glycaemic control. Rather than pushing the issue back to primary care, a more proactive approach in our tertiary centre will afford earlier initial intervention and risk factor modification. These concepts align with and complement ongoing efforts in our anaesthetics department to improve the perioperative management of diabetes at our institution. While remaining very much a 'work in progress' at present, the project has grown to become a truly multidisciplinary endeavour with the promise of tangible improvements in the safety and quality of the service provided to our patients.



Dr Oliver Guttman

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Oliver is a Consultant Cardiologist with specialist interest in Inherited and Inflammatory Cardiovascular Diseases and Interventional Cardiology. He is the Clinical Lead of the Coronary Care Unit at Barts Heart Centre.

He is actively involved in research in myocarditis, risk stratification in cardiomyopathy and outcomes of percutaneous coronary intervention.

Introduction of a structured ward round on CCU at Barts Heart Centre

Background/Aim:

Guidance from the Royal College of Physicians and the National Institute for Health and Care Excellence (NICE) recommends the use of structured approaches to ward rounds. There is evidence that such approaches increase staff satisfaction, reduce adverse events and reduce length of stay. Locally at Barts we had seen an increased number of adverse events such as prescribing errors and overdue venous cannula checks. We proposed introducing a structured ward round to introduce a standardised order of checks and actions to be completed in a set manner with each patient. This aims to improve ward round efficacy, improve delivery of care, and improve the patient's experience.

Methods:

This was a study of a pilot pathway performed at Barts Heart Centre for a structured ward round on the coronary care unit. An electronic proforma including 27 mandatory data points to include on the structured ward round (SWR) template was introduced and data collection was audited. Assess outcome of these measure in terms of length of stay, patient safety and staff satisfaction. Outcomes included completeness, number of prescribing errors and datixes per months and patient and staff satisfaction. Measured against control wards with no change and data prior to change. Qualitative measures included contextual factors and measures of change and experiences of clinicians. Quantitative measures included length of stay (LOS), monthly "calls for clinical review," and cost of care delivery.

Results:

The SWR was introduced on two wards. CCU 1: Prior to implementation and average of 13/27 data points were included at ward round entries. One-month post implementation this had improved to 26/27. Nine months post implementation this was 25/27. On CCU 2 prior to implementation data completeness was 8/27. Three months post implementation this had increased to 25/27.

Pre-implementation 21 datixes were logged in 7 months (Average of 3 datixes/month).

Post-implementation 6 datixes were logged 3 months (Average of 2 datixes/month)

Length of stay was on average 4 days pre-implementation, which was reduced to 3.5 days post implementation. Positive feedback was received from nursing and pharmacy colleagues who highlighted an increased awareness of patient plans and drug chart completion however a formal survey is out for feedback from the nurses and pharmacists on 3A is awaited.

Conclusion:

We demonstrated that a structured ward round improves data collection, outcomes and improves patient and staff satisfaction.



— Dr Jonathan Hinton

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Jonathan is a Wessex interventional trainee and is currently the interventional fellow at Southampton. He has just completed a two-year research period looking at the role of high sensitivity troponin assays outside the context of acute coronary syndromes at the University of Southampton. He has a particular interest in medical education and among other roles is one of the lead Medical Education Fellows in Wessex.

Developing a cardiology admission proforma fit for the 21st century.

Introduction:

The initial clerking and subsequent documentation is essential to guiding the management of patients. The way that these clerking proformas are designed also offers an opportunity to provide reminders to clinicians and highlight areas where mistakes or omissions can lead to impacts on patient safety. The current clerking proforma dates back from to the 1990's and as such has lots of sections that are not relevant to current cardiology practice.

Method:

A brief survey was designed to highlight some of the weaknesses of the current proforma. The wider team was encouraged to share ideas on how it could be improved. A working group was then established, which included junior and senior cardiologists as well as a clinician with a special interest in diabetes.

Results:

The initial survey demonstrated a number of important issues with the previous proforma: no patients had a blood sugar level documented on admission; more than half of forms did not state the grade of admitting doctor or the time of the review; more than half did not have any details relating to the patients home circumstances. After eleven versions, a proforma was produced that had wide support, addressed the issues demonstrated previously and also provided helpful reminders of mandatory assessments that need to be completed on admission. This was about to be rolled out but then a trust wide plan was enacted to create a universal computer-based admission form. The work that went into this project is now informing the development of this version.

Conclusion:

This work demonstrates both the importance of creating documents that are relevant to current practice and the potential that the proformas can have to improve patient safety. Furthermore, once documents are put in place, these need to be reviewed frequently to ensure that they remain effective for current practice.



— Dr Hussain Contractor

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Hussain Contractor is a Consultant Interventional Cardiologist at Manchester University NHS Foundation Trust, Wythenshawe Hospital. He graduated his MBChB in 2001 with a Commendation from the University of Aberdeen and also graduated an Intercollegiate BSc in Molecular and Cell Biology (1st Class Hons) in 1999. After completing his SHO training in Australia and Bristol, Hussain trained as an interventional cardiologist in Manchester. Completing a DPhil in 2012 at the University of Oxford in the field of ischemia-reperfusion injury and cardioprotective strategies, he has published widely in this field and remains active in cardiology research. In 2015 Hussain gained the Boston Scientific Interventional Fellowship to Vancouver Island, Canada, where he completed his training. He has been a Consultant since 2016 where he specialises in complex angioplasty and chronic total occlusions. He has a strong interest in strategies to optimise cardiac secondary preventive strategies and has led efforts in Greater Manchester to establish community based clinics for long term secondary prevention.

Establishing a Vascular Optimization Clinic in Greater Manchester

Preventive cardiology concentrates on the long-term outcome, emphasising that the modification of risk factors in CAD patients may have a greater impact on longevity than sophisticated interventions. Greater Manchester (GM) currently has the highest premature cardiovascular mortality in England and the CVD Strategic Clinical Network has set a target of reducing cardiovascular death by 600/yr. Secondary prevention for high-risk patients is crucial but currently lacks dedicated structures beyond the immediate post-infarct period.

In a pre-existing arrangement, GM currently enjoys the services of a community based 'Tier 2' cardiology clinic staffed by GPSi and ANPs, previously purposed with seeing low-risk out-patient cardiac presentations. By re-allocating capacity within this structure, in a pilot project supported by the CCG and SCN, we describe the establishment of a vascular disease optimization clinic, for survivors of myocardial infarction

Initial approaches were made shortly before the start of the ELP programme utilizing a wide-ranging engagement strategy to gain support of key regional bodies including the CVD SCN, staff in the Tier 2 clinic and clinical staff working in the cardiology departments of MFT. A brief business case was presented to the CCG who supported re-allocation of clinic space in alignment with goals to reduce CV mortality and encourage community care.

A wide-ranging protocol for medical management was agreed with stringent lipid, blood pressure and diabetes targets allowing protocolized care in the community with the ability for advice and guidance from cardiology staff where necessary, as well as governance and oversight, but without the need for regular clinical involvement. With further engagement with departmental managerial staff, we have implemented cross-site protocols for electronic referrals

In this pilot project we thus far been able to demonstrate the establishment of a community Vascular Optimization Clinic utilizing protocolized care to deliver a programme designed to optimize risk factors and ultimately to reduce the likelihood of recurrent cardiovascular events. Despite numerous challenges due to COVID we have reviewed 77 individuals, mostly remotely, characterizing residual risk with low cost, easily available data and implemented personalized lifestyle and medical optimization without increasing pressures on secondary or primary care services. We have seen high levels of patient engagement with only 5 individuals thus far declining referral or not attending. We have also been able to establish a robust electronic referral system between hospital and community services, increasing sustainability and reducing the likelihood of missing patients.



Dr Daniel Jones

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Dan is an Academic Interventional Cardiologist based within the Barts CVCTU (Queen Mary University of London) and at Barts Heart Centre, St Bartholomew's Hospital. His research interests lie in the treatment and prevention of ischaemia/reperfusion injury, contrast nephropathy and improving outcomes after coronary angiography/angioplasty. He is working with the NIHR to assess whether CT scanning is beneficial in patient with previous bypass surgery undergoing angiography.

Dan is actively involved in teaching both at undergraduate and postgraduate level and he is the joint-lead for In-patient Cardiology Services and the Cardiology Advanced Clinical Practitioner/Physician Associate programme at St Bartholomew's Hospital.

The Safety and feasibility of a 24-hour discharge pathway for low-risk patients following primary percutaneous coronary intervention for ST-elevation myocardial infarction.

Aims:

Regional heart attack services have improved clinical outcomes following ST elevation myocardial infarction (STEMI) by facilitating early reperfusion by primary percutaneous coronary intervention (PCI). Early discharge after primary PCI is welcomed by patients and increases efficiency of healthcare. The global COVID-19 pandemic has strained resources with reduced staffing and bed availability, while increasing concerns about risk of viral exposure related to time in hospital. The objective of my BCS ELP project was to design, implement and test the safety and feasibility of a novel early hospital discharge (EHD) pathway for low-risk STEMI patients.

Methods:

500 patients who were treated by primary PCI for STEMI who were deemed low risk for early major adverse cardiovascular events (MACE) were selected for inclusion in the EHD pathway and were successfully discharged between 24-48 hours after successful PCI. Patients were reviewed by a structured telephone follow-up at 48 hours post discharge by a cardiac rehabilitation nurse, and for a virtual follow-up at 2 weeks, 8 weeks and at 3 months by cardiology ACPs, pharmacists and a consultant cardiologist.

Results:

The mean length of hospital stay was 27.5 (interquartile range 24.5- 32.3) hours (pre pathway mean 78.9 (48.1- 130.2) hrs). After discharge all patients were contacted at each time point with none lost to follow up. The median follow-up was 251 days (IQR: 101-298 days). In the early discharge group, there were 2 deaths (0.4%), both due to COVID-19 (both >30 days after d/c) with 0% cardiovascular mortality. MACE rates in the early d/c group were 1.2%. A further 40 patients (8%) had A&E presentations with non-cardiac chest pain and 35 patients (7%) had non-chest pain admissions. Patient feedback showed that 85% were 'satisfied' or 'very satisfied' with the overall quality of the early discharge pathway service. 75% reported cost savings and 62.5% saved time off work owing to the virtual nature of the follow-up pathway.

Conclusions:

Selected low-risk patients can be discharged safely following successful primary PCI using a pathway which is supported by a structured, multidisciplinary virtual follow-up schedule. This pathway has been adopted by our service as the standard pathway for AMI discharge going forward.



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Integrated Care in the Management of Acute Atrial Fibrillation Presentation and Creation of HotAF Clinic

Background:

Atrial fibrillation is the commonest cardiac arrhythmia affecting 2-4% of the population. It is associated with significant mortality and morbidity including stroke, heart failure and poor quality of life. On average, 1200 patients present to the emergency department every year with a primary diagnosis of atrial fibrillation. Whilst a third of patients are discharged the same day, a similar number of patients are clinically stable and may be inappropriately admitted to hospital whilst waiting for rate control without necessarily being seen by an arrhythmia specialist. In addition, patients found to have atrial fibrillation in the surgical pre-assessment clinic often have long waits for routine arrhythmia clinic review thereby resulting in delayed or cancelled surgery.

Aims and Objectives:

I identified a need to reduce inappropriate admissions and prolonged hospital stays; reduce recurrent admissions and expedite arrhythmia specialists review. I produced a streamlined treatment pathway for patients with an acute presentation with atrial fibrillation for early initiation of appropriate treatment, criteria for referral either to the Hot AF clinic or routine arrhythmia clinic. The creation of the Hot AF clinic will allow expedited specialist arrhythmia review within 2 weeks of acute presentation or surgical pre-assessment to optimise therapy, improve longterm management of atrial fibrillation and prevent surgical delays.

Methods:

Regular meetings were held to discuss the clinic proposal and pathway with the different stakeholders including general practitioners and representatives from the clinical commissioning groups, acute trust services, surgical assessment teams and anaesthetists. A streamlined pathway was produced for the management of atrial fibrillation across the emergency services and surgical pre-assessment clinics including guidance for the initiation of therapy and risk modification. I set out criteria for referral to the expedited Hot AF clinic and guidance for referrals to the routine arrhythmia clinic. All stakeholders supported the proposal for the Hot AF clinic. I submitted a business case for the clinic proposal. Despite the delays due to the Covid-19 pandemic, I anticipate the roll out of the Hot AF clinic within the next couple of months. An online form is being generated to facilitate referrals. A patient information leaflet will be created to provide detailed information about treatment options and risk modification. I planned teaching sessions for junior doctors and nurses in the emergency services and surgical pre-assessment clinic ahead of the roll out. Data will be audited few months later to ensure effectiveness.

Conclusion:

A streamlined pathway for the management of atrial fibrillation in the emergency services and surgical pre-assessment clinic was produced to improve the management of acute atrial fibrillation. In conjunction with a Hot AF clinic to expedite specialist arrhythmia assessment.



Dr Freya Lodge

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Freya Lodge is a Cardiology Consultant with a special interest in cardiac imaging. Freya trained in Cambridge and London and worked as a junior doctor in London. She undertook her cardiology training in Wales and completed a cardiac imaging fellowship at Queen Elizabeth Hospital in Birmingham. She currently works at Aneurin Bevan University Health Board in South Wales where she specialises in echocardiography and cardiac magnetic resonance imaging.

Development of a Cardiac Magnetic Resonance Service in South-East Wales

Introduction:

Cardiac Magnetic Resonance (CMR) scanning in Aneurin Bevan University Health Board (ABUHB) currently falls significantly below the per capita scanning rate recommended by the British Society of CMR, a target of 2275 scans per million population. Scans in ABUHB are outsourced to University Hospitals Bristol through a part-payment commissioning system at above market rates. ABUHB commissioned 276 scans in 2018-2019, a fifth of the projected requirement for a health board population of 594,164 people.

Aims:

We sought to develop an in-house CMR service in a phased fashion to reduce costs, improve access to CMR for health board residents, and enhance

the training & development proposition for staff. This service would also promote excellence within the health board, meet Cardiology trainee requirements, improve Radiology staff retention, and reinvigorate the downgraded district general hospitals in the wake of the opening of a new acute hospital, The Grange.

Methods:

The cost of outsourcing the CMR service was compared with the cost of commencing an in-house service. The new service leverages existing assets, with newly extended health board scanning capacity through the creation of The Grange. A phased programme was proposed, with inpatient scanning commencing first and outpatient CMR following. The service was piloted with two inpatient slots per week. Test patients were scanned with an industry representative providing training for radiography staff and reporting cardiologists. A business case for outpatient scanning was compiled to assess the benefit to ABUHB of bringing the service in house.

Results:

Eight inpatient scans have now been completed, resulting in 5 fewer inpatient transfers to Bristol, reduction in length of stay, significantly altered management in 4 patients and markedly reduced waiting time for CMR in all patients. At a commissioning cost of £633 compared with the in-house price of £250, each scan performed within ABUHB has a saving implication of £383. The inpatient service has therefore saved £3064 so far, in addition to costs of transfer to Bristol and reduction in costs associated with bed days.

Outpatient scanning is projected to commence in early 2022. Costs include upgrade to reporting computers, a virtual server and dedicated reporting software to improve speed and accuracy of reporting.

- The total cost of these items is £27,385.
- In the first year, we anticipate 250 scans (including 90 inpatient scans), leading to a saving of £95,750.
- We therefore anticipate a saving of £68 365 in the first year alone.
- Projected scanning volumes will allow ABUHB to reach optimal scanning volume per capita within five years, reducing inequality in access to diagnostics.

Conclusion:

Commencement of inpatient CMR at ABUHB has already reduced inpatient length of stay and improved diagnostic accuracy. The planned introduction of outpatient scanning will significantly reduce costs associated with CMR and increase scanning capacity, improving patient access to high-quality diagnostics, and enhancing training prospects for registrars.



Dr John McGowan

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John graduated from the University of Manchester in 2008 and undertook clinical training in the North West. He undertook a period of research at The Hatter Cardiovascular Institute, University College London, where he was awarded an MD(Res) for his research on anthracycline-induced cardiotoxicity. He returned to Manchester to complete subspecialty training in Heart Failure and Echocardiography in 2020.

He is currently a Post-CCT Fellow in Cardio-oncology and Imaging at Barts Heart Centre, London. He is involved in research using echocardiography in cardio-oncology patients, including combined exercise stress echocardiography-cardiopulmonary exercise testing in cancer survivors.

He has been the National Trainee Representative on the British Cardio-Oncology Society since 2016. His long-term ambition is to develop Cardio-oncology services in the North West.

Improving cardiovascular care for patients receiving immunotherapy for cancer in North London

Background:

The role of immune checkpoint inhibitors (ICI) in the treatment of cancer is increasing. Since 2020, ICI are approved as first- or second-line therapy in over 50 malignancies and 43% of patients with cancer will have cancers eligible for an ICI.(1) Cardiovascular immune-related adverse events (CV irAE) include myocarditis in 1.8% of patients.(2) Early recognition, aggressive immunosuppression and management by a multidisciplinary team are required as the mortality is up to 50%.(3) ICI are associated with a 3-fold increased risk of atherosclerotic cardiovascular events and ≥ 3 -fold higher rate of aortic plaque progression.(4) Appropriate primary prevention for CVD is required.

The cardio-oncology service at Barts Heart Centre has experience of managing ICI-related myocarditis and has an established pathway for shared inpatient care with oncologists. Currently other hospitals refer patients on a case-by-case basis for specialist advice and transfer of care.

Objectives:

1. To improve the baseline CV risk assessment, primary and secondary prevention management for patients receiving ICI;
2. To develop regional expertise in the identification and management of CV irAE;
3. To develop a specialist referral pathway for patients with CV irAE.

Methods:

A multi-professional working group was created consisting of cardiologists, oncologists and a cardio-oncology specialist nurse.

An audit of 20 consecutive patients commencing adjuvant ICI for malignant melanoma at St Bartholomew's Hospital in 2019-2020 was performed using data from GP and hospital electronic patient records. A QRISK@3 was calculated for all patients without established CVD

Current patient pathways were reviewed. A GP guidance letter was developed, reviewed by a GP representative and submitted to Mount Vernon Cancer Centre, University College Hospital and St Bartholomew's Hospital Cancer Directorates for local approval. The proposed referral pathway for CV irAE was approved by the Cancer Directorate at St Bartholomew's Hospital: Five district general hospitals (DGH) with cardiology services were included as pilot sites for implementation.

Results:

Audit: Two patients (10%) had a QRISK@3 calculated by their GP within 3 months prior to ICI. One patient (5%) had established CVD. The QRISK@3 was calculated for the remaining 19 patients. Nine patients (45%) had QRISK@3 $\geq 10\%$; two were already treated with a statin, whilst the remaining seven patients were untreated. Baseline CV risk assessment is currently not performed for the majority of patients prior to commencing ICI.

Baseline CV Risk assessment: A letter to the GP recommending a baseline CV risk assessment, including QRISK@3, and guidance for primary prevention based on NICE guidance* was developed. Oncologists agreed to take the required blood tests in clinic and make the results available for the GP. A patient information leaflet was developed, which directs patients towards the Macmillan Cancer Support Heart Health and Cancer Treatment booklet.

Developing Regional Expertise: A local cardiologist was appointed in each DGH to be a local champion for patients with CV irAE. A programme of educational material for GPs, Cardiologists and Oncologists is being developed.

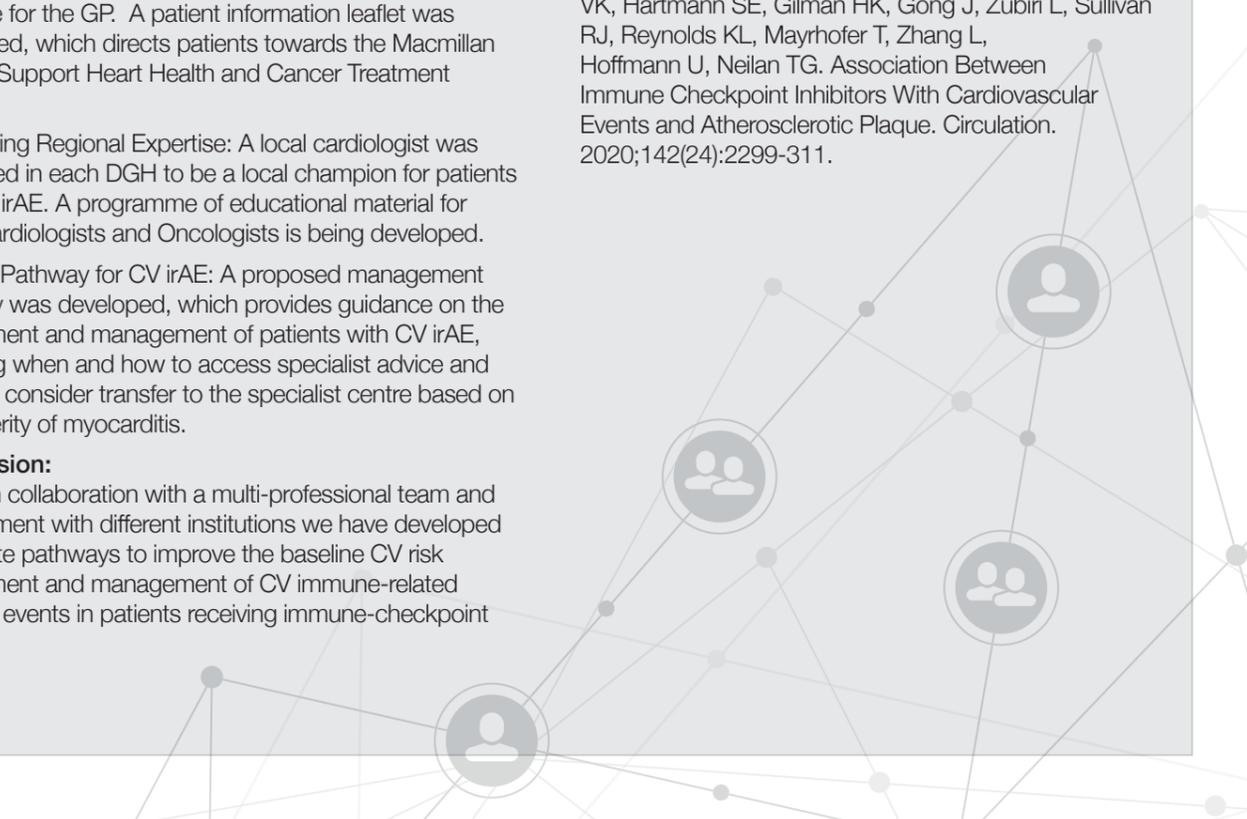
Referral Pathway for CV irAE: A proposed management pathway was developed, which provides guidance on the assessment and management of patients with CV irAE, including when and how to access specialist advice and when to consider transfer to the specialist centre based on the severity of myocarditis.

Conclusion:

Through collaboration with a multi-professional team and engagement with different institutions we have developed cross-site pathways to improve the baseline CV risk assessment and management of CV immune-related adverse events in patients receiving immune-checkpoint

inhibitors. The effect of this project will be evaluated in a re-audit. We aim to expand the network of hospitals involved in these pathways.

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Dr Jennifer Middleton

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Jen is a cardiology registrar specialising in Heart failure and Devices at Sheffield Teaching Hospitals and is currently undertaking a PhD in Pulmonary Hypertension. Jen's clinical work involves being part of the Heart Failure MDT and implanting cardiac devices, as well as working at the National Pulmonary Hypertension Centre. Jen is interested in patient empowerment, encouraging patients to be involved in their own care and personalisation of patient therapy whether that is medication or device optimisation in both a cardiology and pulmonary hypertension setting. Her research interests lie in remote monitoring technology and personalised medicine in patients with pulmonary hypertension and heart failure.

Establishing a pathway for the diagnosis and management of arrhythmias in patients with pulmonary hypertension

Background:

Pulmonary hypertension (PH) is a devastating, life-limiting disease driven by small vessel vascular remodeling and can lead to right heart failure and death. Pre-syncope, syncope and palpitations are frequently described by patients, however a firm diagnosis of arrhythmia is often not reached using 12-lead ECG and Holter monitoring. Holter monitors are often requested to be performed at local hospitals for patient ease but the test is often not performed or results are not fed back to the PH team. Insertable cardiac monitors (ICM) permit remote monitoring of a patient's heart rate, heart rate variability, heart rhythm and physical activity. When an arrhythmia is identified we know that guideline-based treatment of arrhythmias improves quality-of-life and prognosis in left heart disease but these guidelines are not PH-specific and this can make arrhythmic management in this cohort complicated.

Aims:

1. Set up a clinical ICM service at Sheffield PVDU to improve access to remote continuous monitoring of arrhythmias in patients with PH and increase diagnostic accuracy in symptomatic patients.
2. Use knowledge obtained to determine a treatment pathway for arrhythmias that is specific to and safe the PAH population.

Methods:

We set up a clinical service allowing appropriate PH patients to be referred to us for an ICM (LinQ-Medtronic) for diagnosis and monitoring. Abnormal rhythms detected or symptomatic episodes are recorded by the device and a home monitor downloads daily to a secure server accessible by the clinical team.

A PH-specific treatment pathway was developed by the PH team and the cardiology team to standardise treatment for these patients. The pathway advises on anticoagulation, most appropriate antiarrhythmic drug use and allows access to the heart rhythm MDT and consideration for early catheter ablation.

Results:

Between October 2019 and April 2021 42 patients with PH were implanted with an ICM in Sheffield. All patients had a diagnosis of idiopathic PAH with the majority of patients being female (79%), Caucasian (87%) and WHO FC II-III. Most patients were on guideline-directed treatment. A PH-specific treatment protocol was designed for use at Sheffield Teaching Hospitals. 40.7 patient years of data have been collected to date. 3 patients were diagnosed with new atrial flutter and had acutely successful catheter ablations. 2 patients were diagnosed with atrial tachycardia, 2 frequent symptomatic atrial ectopy and 1 atrial fibrillation requiring medication and DC cardioversion. 1 patient presented with syncope and was found to have 2:1 heart block and had a dual chamber pacemaker implanted locally.

Discussion:

The use of ICM technology in our PH population has allowed continuous, remote monitoring of symptomatic patients referred to Sheffield Pulmonary Vascular Disease Unit. Symptoms are correlated to ICM data enabling quick diagnosis of arrhythmia or symptoms secondary to PH. Patients diagnosed with an arrhythmia now have a PH-specific treatment pathway enabling streamlined, guideline-directed treatment.

Conclusion:

We have successfully set up a clinical ICM service for PH patients in Sheffield enabling an increased diagnostic certainty for symptomatic patients. Those diagnosed with an arrhythmia are now treated using a PH-specific treatment algorithm enabling safe, guideline-directed management and access to specialist cardiology care.





Dr Jim O'Brien

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Jim O'Brien qualified from University College Dublin in 2007. Following Basic Specialist Training and Higher Specialist Training in Cardiology with the Royal College of Physicians Ireland, he went on to pursue subspecialty fellowship training in cardiac electrophysiology, cardiac genetics/inherited cardiac conditions and complex cardiac device therapy in the Mater Heart House, Dublin, and the Liverpool Heart and Chest Hospital, Liverpool, during which time he sat the ESC exams in general cardiology, echocardiography, cardiac devices and cardiac electrophysiology.

He became a consultant cardiologist in the Mater Private Hospital in January 2021, specializing in cardiac electrophysiology, complex cardiac devices and inherited cardiac conditions. He has major publications in EHJ, Europace and Journal of Arrhythmia.

Dr O'Brien was part of the ELP cohort but was unable to complete his project.

Dr James O'Neill

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James has recently been appointed as a Consultant Cardiologist with a specialist interest in Infective Endocarditis, Echocardiography and Heart Failure at Leeds Teaching Hospitals NHS Trust. He graduated from Newcastle University in 2008 and undertook junior doctor training in Northumbria and West Yorkshire before going on to complete his cardiology training in the West Yorkshire Deanery.

Prior to subspecialty training, James undertook a two year clinical research fellowship in cardiac electrophysiology at the Yorkshire Heart Centre which examined why South Asians have a lower prevalence of atrial fibrillation despite a higher prevalence of risk factors for the arrhythmia and this resulted in an MD awarded by the University of Leeds.

He lives in Leeds with his wife and two young children, enjoys running and is an avid Liverpool FC supporter.

Standardising the referral and management of patients with infective endocarditis at a large tertiary cardiothoracic centre

Background:

- The Yorkshire Heart Centre (YHC) based at Leeds General Infirmary provides regional specialist cardiology care to a population of 5.4 million living in West Yorkshire.
- The Infective Endocarditis (IE) service at YHC treats around 100 patients with IE each year with 35.4% requiring surgical intervention.
- The current model for the referral of suspected or confirmed cases of IE involves contacting a cardiologist or microbiologist, each of whom has a sub-speciality interest in IE, by e-mail or telephone.
- This model has worked well for many years but there are a number of disadvantages. There is variability in the referral information provided, a lack of a robust audit trail and a small risk that the referral may not be seen, and therefore acted upon, in a timely fashion.
- The forthcoming GIRFT report on cardiology recommends that *'all networks should have a ... defined referral pathway... for the rapid assessment and referral of suspected endocarditis patients to a surgical centre 7 days a week to minimise delays'*¹. The GIRFT report also states that there should be provision for the *'referral of non-emergency patients to a network endocarditis MDT via a single point of entry'*¹.

Aims:

- To design and implement an electronic referral platform which can be accessed by clinicians from within Leeds Teaching Hospitals NHS Trust (LTHT) in order to streamline and simplify the IE referral process via a single point of entry.

Methods:

- The referral information that was felt to be essential was first agreed by all members of the IE team. This included the patient history, a list of important pre-disposing factors, the blood culture and echocardiography results and the antimicrobial regimen that the patient had received.
- Once the referral information had been agreed, meetings were held with a private provider, Patient Pass, which specialises in the development of secure online platforms for communication and referral between secondary and tertiary care.
- An online referral system was devised and refined over a few weeks before going live within LTHT in September 2020.

Results:

- The IE service at YHC has an online platform which allows clinicians from within LTHT to refer patients with suspected or confirmed IE to the team.
- This has simplified and streamlined the referral pathway, the referrals have become standardised due to the mandatory information required and there is now a robust audit trail which has improved the accountability of the whole process.

Future directions:

- Moving forward, the aim is to liaise with other hospital trusts in the region in order to agree the SOP and referral pathway and then enable them to refer patients via the same online referral platform.
- Additionally, there are plans to develop a more structured regional endocarditis service whereby cardiologists and microbiologists with an interest in IE are identified at each district hospital and are linked to the tertiary centre in a Hub and Spoke model.
- As part of this, there is an aim to set up a weekly virtual MDT, specifically to discuss patients with IE from around the region and have the option for referring clinicians to 'dial-in' and participate in the management discussions.



Dr Pierpaolo Pellicori

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Honorary Consultant Cardiologist (NHS Greater Glasgow and Clyde)

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I am a clinical cardiologist currently working as a senior clinical research fellow in the Robertson Centre for Biostatistics at the University of Glasgow with an honorary consultant cardiologist contract with NHS Greater Glasgow and Clyde.

I obtained my medical degree from Sapienza University in Rome and completed my specialist training in Cardiology in 2008 from the same institution. I spent my last 9 months of training abroad at a tertiary centre (RWTH University, Aachen, Germany) to improve my skills in advanced echocardiography. I subsequently worked for 6 months with an Italian Charity (Emergency) in Sudan and then applied for GMC registration before moving to the UK in 2010. Over the past ten years, I have combined both research and clinical duties. I have published more than 100 papers, many in high-quality peer-reviewed journals. I have received numerous prizes in recognition for my work, including being shortlisted several times and twice winning the young investigator award (YIA) at the British Society of Heart Failure (BSH) Annual Meeting. My proudest achievement so far was an award from the American College of Cardiology for one of the two most relevant papers published by a young cardiologist in JACC-cardiovascular imaging in 2013.

My current area of interest is the use of new imaging modalities as tool to quantify clinical congestion with greater precision. I am fully committed to a career as an academic clinician and look forward to collaborating with enthusiastic colleagues from all over the world!

Football at the Heart of Research

Background:

In the UK and Italy, a lot of medical research is supported by charities, which had their income slashed during the ongoing COVID-19 pandemic. This might have catastrophic consequences, slowing scientific progress and putting at risk the career of thousands of researchers in these Countries.

Objectives:

- Create a fundraising campaign to increase public awareness of these issues.
- Establish a network and collaboration with and amongst research charities in the UK and Italy.
- Give international visibility to football "minorities" (non-professional teams, young and/or female football players).
- Enhance my organisational and communication skills, as well as my proficiency and understanding of different social media network platforms.
- Demonstrate my capacity to generate original ideas and implement them.

Methods:

Between February & March 2021, I approached three charities that recently gave me research support (Heart Research UK, British Heart Foundation and Fondazione Umberto Veronesi). We developed a fundraising plan and communication strategy. I e-mailed professional football teams in Italy (n=100) and UK (n=68) and contacted hundreds of football players via Facebook or Instagram asking them to support this initiative and donate merchandise or kit used in official matches which could subsequently be auctioned on eBay. I identified and engaged with representatives of football minorities, who also donated memorabilia:

- ✓ **Adrian Galliani**, a young footballer at Nottingham
- ✓ **Alia Guagni**, an Italian woman football player
- ✓ **Team Diamante**, a non-professional team from my home village

Two crowdfunding pages on Gofund and Paypal were also created. We agreed that all income would be shared equally amongst the three charities.

Results:

The campaign started on the 2nd of April. By the 12th of May 2021, I have sold twenty items on eBay, generating £1,800, with an additional £1,500 being raised on crowdfunding pages. The most expensive football shirt was sold for £528. Campaign-reach was global via daily posts on Facebook, and was endorsed by football teams and players, as well as medical colleagues and several members of the general public who shared posts and retweeted this initiative. Ad-hoc meetings were held with members of the three charities, either individually or as a group. A final debriefing meeting is planned for June 2021, when this campaign will terminate.

Conclusions:

I utilised leadership and managerial concepts acquired during the Emerging Leaders Programme to tackle a serious but neglected problem caused by the COVID-19 pandemic. This initiative has helped me find a new set of skills and expanded my social and professional network.

Please note:

This event will terminate once this abstract is officially presented at the BCS meeting in June 2021. Until then, it is still possible to contribute at:

<https://gofund.me/8b50d921>

Conflict of interest:

I collect football shirts!





Dr Victoria Pettemerides

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Victoria was appointed as a Consultant at LHCH in 2020 where she specialises in inherited cardiac conditions, echocardiography and valve disease. Specialty training was completed in Manchester including a post CCT fellowship in advanced echocardiography at Wythenshawe Hospital. She also has an interest in sports cardiology and prevention, is completing a Masters at St Georges University Hospital London and contributes to the Sports and Exercise Cardiology service at LHCH.

Improving the disopyramide initiation service for patients with symptomatic obstructive hypertrophic cardiomyopathy.

Background:

Disopyramide therapy in combination with beta blocker or verapamil is a class Ib European Society of Cardiology recommendation for the treatment of symptomatic resting or provoked left ventricular outflow tract obstruction (LVOTO) in patients with hypertrophic cardiomyopathy (HCM) prior to septal reduction therapy (SRT). It can have pro-arrhythmic properties and patients should be monitored for QT prolongation as a marker of risk for arrhythmia. Patients referred to our regional SRT service often receive a trial of disopyramide before considering intervention. Current practice in our Trust requires a 48-hour inpatient admission and monitoring for serious adverse events (sustained atrial or ventricular arrhythmia, Torsades de Point) or significant QT interval prolongation (>500msec). This is costly, is limited by bed space, and is an inconvenience to patients. Furthermore, the Covid-19 pandemic prevented such patients from receiving this treatment.

Aim: to assess current practice and determine if disopyramide can be safely initiated in an outpatient setting, thus improving access to guideline recommended treatment.

Method:

A survey was sent to physicians across the UK to determine current usual practice and experience of adverse events. The electronic patient records (EPR) of patients admitted for disopyramide between 1st January 2019 and 17th March 2020 were retrospectively reviewed for adverse events or significant QT prolongation whilst an inpatient and at 3 and 12 months. A standard operating policy (SOP) was produced and approved by stakeholders to begin disopyramide therapy in the outpatient department. Suitable patients were brought to clinic to begin disopyramide and electronic records will be reviewed at 3 months.

Results:

57% of surveys were returned. 2 Cardiologists would refer to a specialist centre for disopyramide. Of those that prescribe disopyramide all but one centre initiated this as an outpatient and no serious adverse events were reported. At our centre 20 patients were admitted with an average cost of £1564.16 per bed stay. No patient suffered from arrhythmia or unacceptable QT prolongation during admission. One patient has been lost to follow up. 19/19 patients had acceptable QT interval and no known arrhythmia at 3 and 12 month follow up. 2/19 patients stopped medication due to intolerable anticholinergic side effects within 6 weeks increasing to 3/19 patients at 12 months. One patient died at 18 months following initiation from a non cardiac related cause. Since the development of an outpatient service on 1st March 2021, 10 patients have already been started on treatment and have continued at 7 and 14 days with no adverse events.

Conclusion:

This service development allows a greater number of patients to receive disopyramide therapy and has removed the cost and inconvenience of an inpatient stay with, to date no increase in adverse events. With further data, physicians working in our local referring hospitals may be able to safely and confidently prescribe disopyramide before referral for SRT.



Dr Hannah Sinclair

**Consultant Cardiologist in Inherited Cardiac Conditions
Guy's and St Thomas' Hospital (GSTT) and King's College Hospital**

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I am a consultant cardiologist at Guy's and St Thomas' Hospital (GSTT) and King's College Hospital. I specialise in inherited cardiac conditions (ICC) and cardiac MRI. I completed my specialist cardiology registrar training in Wessex Deanery.

I am particularly interested in the genetics underlying cardiac conditions and am undertaking an MSc in Genomic Medicine. From a research perspective I am currently looking at whole genome sequence variation in patients with arrhythmic dilated cardiomyopathy.

I am passionate about service development and upskilling members of the multidisciplinary team to take on new roles. I led the introduction of a cardiac physiologist delivered heart failure service at the Royal Bournemouth Hospital. At present I am working on a dedicated paediatric to adult ICC transition clinic at GSTT. I recently helped to deliver a Post-Covid syndrome dedicated Cardiology clinic, for those patients with cardiac symptoms following infection with Covid-19.

Post-Covid-19 Syndrome: A Dedicated Cardiology Clinic.

Background:

Approximately 10% of people experience prolonged illness after Covid-19. When signs and symptoms continue for >12 weeks and are not explained by an alternative diagnosis, this is referred to as 'Post-Covid Syndrome'. Specific cardiac symptoms include palpitations, chest pain, breathlessness (not explained by respiratory investigations) and dizziness/pre-syncope.

Methods:

A dedicated monthly clinic was established to see patients with cardiac symptoms or abnormal cardiac investigations following Covid-19 infection. A weekly virtual meeting was set up to share experience with colleagues in other London centres involved in this cohort of patients.

Results:

To date, 22 patients have been reviewed in the Guy's and St Thomas' dedicated clinic. Mean age 45 (range 25-70). 46% of patients were female. Of the 18 patients who have completed their investigations, 5 (28%) had evidence of myocarditis, 9 (50%) had no cardiac pathology and were reassured, 3 (17%) had coronary artery disease managed medically and 1 had an incidental diagnosis of hypertrophic cardiomyopathy.

Discussion:

Half of patients had no significant cardiac pathology and simply needed reassurance and lifestyle advice. At follow-up, these patients are slowly improving. Collaboration with colleagues involved in this cohort of patients was essential to pool knowledge and seek a collaborative opinion. Anecdotally, those with palpitations and inappropriate sinus tachycardia responded very well to b-blockers. Evidence is needed to guide optimal management in this cohort.



— Dr Victoria Stoll

Clinical Lecturer Queen Elizabeth Hospital, Birmingham

Dr Stoll is a Clinical Lecturer at The University of Birmingham with a specialist interest in Adult Congenital Heart Disease, Cardiac Magnetic Resonance (CMR) Imaging and Clinical Research.

She undertook her preclinical training at Cambridge University and clinical training at Oxford University, graduating with a Merit. After general medical training, Victoria was appointed as a Cardiology Registrar in the Oxford Deanery. During this time she was awarded a British Heart Foundation Clinical Research Fellowship to investigate novel CMR imaging techniques in patients with Heart Failure, under the supervision of Professor Neubauer. Her work was recognised with an Early Career Award at the Society for Cardiovascular Magnetic Resonance annual conference 2016.

After completion of her DPhil she was appointed as a Clinical Lecturer at the University of Birmingham. During her time as an NIHR Clinical Lecturer Dr Stoll has been awarded research grants from the Academy of Medical Sciences and Wellcome Trust. Victoria has extensive experience in teaching and undertook formal educational training resulting in the award of a Postgraduate Diploma in Learning and Teaching in Higher Education in 2014.

Improving access to MR imaging for patients with non- MR conditional cardiac devices.

Background:

The presence of a cardiac pacemaker or defibrillator has traditionally been regarded as an absolute contraindication to MR scanning. MR conditional devices do now exist, but older cardiac devices were not designed to undergo MR scanning. However around 75% of patients with a cardiac implantable electronic device (CIED) will have a lifetime indication for a MR scan. The consequences of not undergoing MR when indicated include late and misdiagnosis, as well as limiting access to appropriate treatments that require MR planning.

There is now increasing data suggesting the risk of scanning non-MR conditional devices is minimal provided specific safety protocols are followed. International guidelines now endorse MR scanning in patients with non-MR conditional devices, with the aim that all centres implanting cardiac devices should be able to offer this service.

Objective:

To establish an MR imaging service for patients with non-MR conditional cardiac devices, so as to improve the diagnosis and management of additional health conditions in these patients

Methods and Results:

In order to establish this service our aims were 1) Develop a standard operating procedure to ensure all staff had access to the information needed to safely deliver this service; 2) Create a patient information sheet so that patients had access to the information they needed prior to consenting to MR imaging 3) Implement a standard referral form which allows collection of the information needed to weigh up the risks and benefits of MR scanning for each individual patient.

The Queen Elizabeth Hospital, Birmingham has a well-established service for imaging patients with MR conditional devices, having previously completed over 250 scans. However prior to the commencement of this initiative seven patients with non-MR conditional devices were referred for MR imaging and declined due to their device. Following this initiative three patients have been accepted for MR scanning with two undergoing scans for possible malignant cord compression.

Conclusions:

Establishment of specific departmental protocols enables better access to MR imaging for patients with non-MR conditional devices, reducing misdiagnosis and enabling better access to treatment options. As referring clinicians become aware that cardiac devices are no longer an absolute contraindication to MR imaging it is likely demand for this service will continue to grow.





Dr Chris Wilkinson

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I am a clinical academic trainee at the Freeman Hospital, Newcastle. I completed my MD in cardiovascular epidemiology at Leeds and my MPH in Newcastle, where I now lead the Healthcare Quality module. Clinically, my training is in heart failure and cardiac MRI.

I am passionate about teaching, and am approaching the end of an MSc in Health Professions Education at Hull York Medical School, where I was previously a clinical lecturer.

My research interests are in improving quality of care and reducing inequalities, with a particular focus on appropriate use of oral anticoagulation in patients with atrial fibrillation. I was able to develop this work further with the award of an Ionescu Visiting Fellowship to Dalhousie University, Nova Scotia, to develop my research in improving outcomes for older people with frailty and cardiovascular disease.

Establishing an ambulatory unit for people with heart failure.

Chris Wilkinson, Maggie Fearby, Nicola Hildreth, Kristian Bailey

Background:

In the UK, heart failure accounts for 1 million bed days per year, and costs 2% of the total NHS budget – with is mostly attributable to hospitalisation.¹ In 2018/19, almost 75,000 people were admitted with heart failure, and the median length of stay was nine days.² The burden of heart failure is projected to grow substantially in the coming years, as a result of population ageing, accumulation of co-morbidities and increased survival from other cardiovascular diseases.³

Even before the pandemic, the NHS hospitals were operating above safe levels of bed occupancy.^{4,5} Therefore, in order to improve the current quality of care for patients with heart failure and to expand services to meet growing demand, changes of service provision are required.

There is growing evidence that heart failure care, including diuretics and prognostic medication optimisation, can safely be delivered in a day-case, rather than inpatient, setting for ambulatory patients.^{6,7}

Previous provision:

Newcastle upon Tyne Hospitals NHS Foundation Trust serves a population of over 3 million people. The Trust cares for 200,000 acute admissions and 1.25 million outpatient attendances annually.⁸

On-site consultant-led cardiology care is provided at the Royal Victoria Infirmary daily on the cardiology wards and acute medical admissions unit, and through referral from other specialities. Patients with heart failure would usually be admitted to the cardiology ward, or referred to a cardiologist if required, where a patient was admitted elsewhere. Following discharge, follow-up could be arranged through a well-established team of community heart failure specialist nurses.

Establishing a new model of care:

A major reconfiguration of the provision of acute heart failure services was implemented in April 2021, with the opening of a new ambulatory heart failure unit and arrival of two newly appointed heart failure specialist nurses.

Patients with heart failure can access the unit for daily specialist clinical review, intravenous diuretics, and optimisation of prognostically important medications – which would previously only have been available as an inpatient. Protocols have been established to ensure streamlined, efficient, and evidence-based care, whilst also optimising the patient experience.

The specialist nurses will be integral to the success of the new unit, expertise for inpatients on the cardiology ward, and accept direct referrals from other specialties, and liaise with the community teams. They are supported by the existing experienced heart failure cardiologist, who is supervising their development as independent prescribers, and peer and patient educators.

Evaluation and quality assurance:

The demographic and clinical characteristics of users will be prospectively collected. Survey data on patient satisfaction, and outcome data including 30-day readmission and mortality rates will be collected. The average length of stay will be compared, excluding the COVID-19 period of widescale service disruption.

Conclusion:

A new ambulatory cardiology unit, supported by a specialist nursing team, will expand and improve the provision of care for patients with heart failure, be more robust to meet future demand, and offers opportunities for staff development and education. A comprehensive evaluation, including patient satisfaction and clinical outcomes, is ongoing.

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Dr Mohammed Abubakr

Consultant Cardiologist and Clinical Lead for Chest Pain Service, Royal Cornwall Hospital

Mohammed took part in the Emerging Leaders Programme and successfully completed his project. We are awaiting permission to publish his abstract.





Comments from the Emerging Leaders Programme delegates – 2020/21

'I am incredibly grateful to have been selected for this course. I have found the speakers enlightening and the group inspiring. It has been an honour to hear from senior leaders throughout the healthcare sector and I have enjoyed learning skills that I have been able to develop and employ in my everyday practice'. **Farhana Ara**

'This is an engaging, interesting, and at times challenging programme that has been enormously beneficial to me, building significantly on other leadership training I have undertaken. Part of the unique strength of the course is the emphasis on delivering leadership within UK cardiology as opposed to the wider and more generic approach that must be taken when the audience is of mixed specialty backgrounds. It has provided me with real insight into the NHS structure and policy that shapes our specialty. Through the sessions on personality types and interpersonal skills I have been given tools that I think will greatly improve my abilities both as a leader and as a team member. Finally, it has been great to interact and work with pro-active, like-minded cardiologists at similar stages in their careers to myself, who have demonstrated the very high quality of future leaders we are lucky enough to have in our specialty'. **Gordon Begg**

'A wonderful opportunity to meet like minded colleagues and learn how to affect positive change within cardiology, together'. **Jonathan Behar**

'The ELP programme has surpassed my expectations providing insights into NHS leadership, management and structures that are entirely lacking from conventional training programmes. Wonderfully well organised, despite the overwhelming challenges of COVID, it has been a privilege to learn from a wide array of speakers clearly at the forefront of their respective fields, adding nuance and understanding to our everyday interactions in the medical frontline. In addition, it has been fantastic to get to know and work with an immensely talented group of young cardiologists from across the UK and look forward to many years ahead in their company. I am immensely grateful to BCS for establishing this initiative and feel it demonstrates the best of what a professional society should strive to provide for its members. I would strongly urge anyone interested to apply in future years – everyone should do it!'. **Hussain Contractor**

'I found the BCS Emerging Leaders Programme to be a great insight and education into the different styles, types and approaches of leadership in healthcare, the NHS and beyond. The line-up of speakers was impressive and varied with numerous inspiring talks and sessions. I found that despite the course being virtual this year with half day sessions that it is was still interactive with many educational group work sessions. Overall the programme is well organised with good use of supplementary material. I would strongly recommend the BCS ELP for Consultants in their early years'. **Daniel Jones**

'The ELP has given me an invaluable insight into many aspects of leadership and management, from NHS structure to dealing with difficult conversations with colleagues. I have frequently found cause to reflect on my own practice and actions. The speakers have been engaging, entertaining, and at times genuinely fascinating. I feel very lucky to have been able to participate in the programme and have also enjoyed the chance to meet cardiologists at a similar career stage to me. The course organisers have put together a dynamic and nuanced programme, and have been unfailingly supportive and available. I would highly recommend this programme to higher trainees and new consultants'. **Freya Lodge**

'I have thoroughly enjoyed participating in the Emerging Leaders Programme and it has far exceeded my expectations. Each session has been highly relevant, incredibly well organised (with special thanks going to Chris Wilkinson) and the invited speakers, who are experts in their fields and of international repute, have consistently provided enlightening, thought provoking and inspiring talks. I have gained a comprehensive insight into my own leadership style and have developed techniques to improve this. Most importantly, I have made friendships with peers at a similar stage of their career and they have provided a support network which I hope will continue long after the course has finished'. **James O'Neill**

'Taking part in the ELP has been a fantastic experience. It has been a real privilege to learn from internationally recognised academics, thinkers, clinicians and leaders. Every speaker brought a new insight - and has made me think differently about becoming the doctor and leader that I aspire to be. I am tremendously grateful to the BCS, and in particular to the ELP team for delivering a superb programme'. **Chris Wilkinson**

