British Society for Heart Failure
19th Annual Autumn Meeting
Heart failure: the multisystem problem

PROGRAMME AND ABSTRACTS
Fleming Room, Queen Elizabeth II Centre, London
24–25 November 2016

Website: www.bsh.org.uk
Twitter: @BSHeartFailure
The BSH is grateful to the following for meeting-specific contributions:

**Gold exhibitors:**
Medtronic
Novartis Pharmaceuticals

**Silver exhibitor:**
Servier Laboratories

**Bronze exhibitors:**
Bayer
Biotronik
Boston Scientific
CORE Heart Failure Education (PCM Scientific)
Merck Sharp & Dohme
Pharma Nord
St. Jude Medical
Vifor Pharma

**Other contributors:**
Alliance for Heart Failure
Cardiomyopathy UK
Kent Surrey Sussex Academic Health Science Network (KSS AHSN)
National Institute for Cardiovascular Outcomes Research (NICOR)
Pumping Marvellous Foundation

The BSH also gratefully acknowledges the support provided by the Friends of BSH:

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Accreditations
This programme has been accredited by the Royal College of Nursing (RCN) Centre for Professional Accreditation. Accreditation applies only to the educational content of the programme and does not apply to any product. The meeting has been awarded 14 study hours and the reference is 6216.
This meeting has been approved by the Federation of the Royal Colleges of Physicians of the United Kingdom for 10 category 1 (external) CPD credits and the code is 106046.

Photography, video and audio recording
Please note that photographic, video or audio recording of the sessions and slides of this meeting is strictly prohibited. There will be a photographer on-site to take photographs which will be used on the BSH website, in the meeting report and for future publications. For scientific and/or technical reasons the BSH programme directors reserve the right to make any change to the programme. The BSH cannot accept responsibility for personal accidents, or loss or damage to private properties of participants and exhibitors at the BSH Annual Autumn Meeting. Participants and exhibitors are advised to make their own arrangements if they consider it necessary.
Programme – Day One  THURSDAY 24 NOVEMBER 2016

Programme directors: Lisa Anderson (London) / John Baxter (Sunderland) / Parminder Chaggar (Manchester) / Paul Kalra (Portsmouth)

08:45–09:20  Registration

09:20–09:25  Introduction  
Iain Squire (Leicester)

09:25–10:15  Session 1: Trials update
Chairs:  Andrew Clark (Hull) / Ceri Davies (London)
09:25–09:55  Trials update 2016  
John McMurray (Glasgow)
09:55–10:15  What's new in the National Heart Failure Audit?  
Theresa McDonagh (London)

10:15–10:45  Session 2: Politics
Chairs:  Annie MacCallum (Gloucestershire) / Simon Williams (Manchester)
10:15–10:45  Pushing heart failure up the political agenda  
Stuart Andrew MP (Pudsey) / Andrew Clark (Hull) / Angela Graves (Preston)

10:45–11:15  Coffee

11:15–12:15  Session 3: Systems of heart failure delivery
Chairs:  Chris Arden (Southampton) / Suzanna Hardman (London)
11:15–11:35  Achieving the best practice tariff and NICE quality standards  
Iain Squire (Leicester)
11:35–11:55  How can we help patients to self-manage?  
Jayne Masters (Southampton)
11:55–12:15  Remote monitoring; a new role for the Welsh post-office  
Jenny Welstand (Wrexham)

12:15–13:45  Lunch and Meet the Expert sessions

13:45–15:10  Session 4: Difficult devices
Chairs:  Parminder Chaggar (Manchester) / Peter Cowburn (Southampton)
13:45–14:05  Clinical dilemmas in selection for complex devices  
Roy Gardner (Glasgow)
14:05–14:25  Device considerations in young patients with heart failure  
Archie Rao (Liverpool)
14:25–14:45  Bridging the gap between heart failure and device clinics  
Paula Black (Blackpool)
14:45–15:10  Human interactions and systems safety – can the cath lab learn from outside healthcare?  
Martin Bromiley (Buckingham)

15:10–15:40  Tea

15:40–16:26  Session 5: Research
Chairs:  Lisa Anderson (London) / John Baxter (Sunderland)
15:40–15:50  BSH Research Fellow update  
Simon Beggs (Glasgow)
15:50–16:05  Funding for nurses in heart failure research  
Sophie Welch (London)

16:05–16:26  Rapid fire abstracts: Young Investigators’ Award
Judging panel:  Lisa Anderson (London) / John Baxter (Sunderland) / Suzanna Hardman (London) / Sophie Welch (London) / Simon Williams (Manchester)
16:05–16:12  Prevalence of palliative care needs in patients admitted to hospital with heart failure  
Ross Campbell (Glasgow)
16:12–16:19  Prediction of sudden death risk in patients with dilated cardiomyopathy and mild or moderate reductions in left ventricular ejection fraction  
Brian Halliday (London)
16:19–16:26  Prognostic value of simple frailty and malnutrition screening tools in patients with acute heart failure  
Shirley Sze (Hull)

16:26–17:10  Session 6: Heart failure question time
Chair:  Andrew Clark (Hull)
Panel:  John Cleland (Glasgow) / Martin Cowie (London) / Jayne Masters (Southampton) / Jim Moore (Cheltenham)

17:10–18:45  Cheese and wine reception
Programme – Day Two  FRIDAY 25 NOVEMBER 2016

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<tr>
<th>Time</th>
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<th>Chairs/Chairs</th>
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<tr>
<td>08:30–08:55</td>
<td>BSH Annual General Meeting (BSH members only)</td>
<td>Roy Gardner (Glasgow) / Iain Squire (Leicester)</td>
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<tr>
<td>09:00–09:20</td>
<td>Session 7: Service development</td>
<td>Roy Gardner (Glasgow)</td>
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<td></td>
<td>Practical tips for introducing sacubitril-valsartan into your care pathways</td>
<td>Simon Williams (Manchester)</td>
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<tr>
<td>09:20–10:20</td>
<td>Session 8: Kidneys and the heart</td>
<td>Paul Kalra (Portsmouth) / Jayan Parameshwar (Papworth)</td>
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<td>AKI in the UK – an update from ‘think kidneys’</td>
<td>Charles Tomson (Newcastle-upon-Tyne)</td>
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<td>Managing heart failure in AKI and CKD</td>
<td>Martin Cowie (London)</td>
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<tr>
<td>10:00–10:20</td>
<td>Iron deficiency and cardio-renal disease – beyond haemoglobin</td>
<td>Sunil Bhandari (Hull)</td>
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<td>10:25–10:55</td>
<td>Presentation of the Young Investigators’ Award</td>
<td>Iain Squire (Leicester)</td>
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<td>10:25–10:55</td>
<td>Coffee</td>
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<td>10:55–11:55</td>
<td>Session 9: Muscles and the myocardium</td>
<td>Jeremy Murphy (Darlington) / Jackie Taylor (Glasgow)</td>
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<td>Falls in heart failure</td>
<td>Andrew Davies (Sunderland)</td>
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<td>Frailty and heart failure</td>
<td>Callum Chapman (Twickenham)</td>
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<td>New developments in rehabilitation for heart failure</td>
<td>Aynsley Cowie (Ayr)</td>
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<td>11:55–12:25</td>
<td>Session 10: Keynote lecture</td>
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<td>Counting the cost of co-morbidities in heart failure</td>
<td>Michael Böhm (Germany)</td>
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<td>12:25–13:55</td>
<td>Lunch and Meet the Expert sessions</td>
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<td>13:55–14:35</td>
<td>Session 11: Hormones and the heart</td>
<td>Lisa Anderson (London) / Iain Squire (Leicester)</td>
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<td>Overlaps in heart failure and endocrine syndromes</td>
<td>William Drake (London)</td>
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<td>Takotsubo syndrome</td>
<td>Alexander Lyon (London)</td>
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<td>14:35–15:15</td>
<td>Session 12: Microbes and the myocardium</td>
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<td>Managing severe infections in heart failure</td>
<td>Susanna Price (London)</td>
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<td>Myocarditis</td>
<td>Stephen Pettit (Cambridge)</td>
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<td>15:15–15:45</td>
<td>Tea</td>
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<td>15:45–16:45</td>
<td>Session 13: Clinical cases</td>
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<td>Integrated palliative care in heart failure</td>
<td>Miriam Johnson (Hull)</td>
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<td>Valve disease in heart failure</td>
<td>Andrew Flett (Southampton)</td>
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<td>LVAD/TX</td>
<td>Parminder Chaggar (Manchester)</td>
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<td>16:45</td>
<td>Meeting close</td>
<td>Paul Kalra (Portsmouth)</td>
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## MEET THE EXPERT SESSIONS

**EXHIBITION AREA I – BRITTEN ROOM**

### THURSDAY 24 NOVEMBER 2016

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<tr>
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<th>Time</th>
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<tbody>
<tr>
<td>Dr Alison Seed, Lancashire Cardiac Centre, Blackpool</td>
<td>Short sessions running throughout the lunch period on demand</td>
<td>Short case study presentations explaining the early experience of risk monitoring in ambulatory heart failure patients using device reported parameters</td>
<td>Medtronic exhibition stand</td>
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<tr>
<td>Professor Martin R Cowie, Imperial College London</td>
<td>13:17–13:27</td>
<td>Heart failure and atrial fibrillation: anticoagulation in the real world</td>
<td>Bayer exhibition stand</td>
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<tr>
<td>Dr Sundeep Puri, Tameside Hospital, Manchester</td>
<td>13:29–13:39</td>
<td>Update on iron deficiency in the new ESC guidelines</td>
<td>Vifor Pharma exhibition stand</td>
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### FRIDAY 25 NOVEMBER 2016

<table>
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<th>Time</th>
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<th>Location</th>
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<tbody>
<tr>
<td>Dr Jacqueline Taylor, Glasgow Royal Infirmary</td>
<td>13:27–13:37</td>
<td>Managing heart failure in elderly patients – results from the UK specific live life study</td>
<td>Servier Laboratories exhibition stand</td>
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<tr>
<td>Professor Martin R Cowie, Imperial College London</td>
<td>13:39–13:49</td>
<td>Cardiomems – clinical experience</td>
<td>St. Jude Medical exhibition stand</td>
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ABSTRACTS

Trials update 2016

John McMurray (University of Glasgow)

My presentation will review late-breaking trials and clinical trial updates relevant to heart failure presented at the 2016 meetings of the American College of Cardiology (April), European Society of Cardiology (September) and American Heart Association (November), or published during 2016. The major new phase III mortality/morbidity trials announced during this period were: ATMOSPHERE (Direct Renin-inhibition With Aliskiren Alone And In Combination With Enalapril, Compared With Enalapril, In Heart Failure), DANISH (A DANish Randomized, Controlled, Multicenter Study to Assess the Efficacy of Implantable Cardioverter Defibrillator in Patients With Non-ischemic Systolic Heart Failure on Mortality), REM-HF (Remote management of heart failure using implanted devices and formalized follow-up procedures) and TRUE AHF (Short- and Long-Term Effect of Immediate Vasodilator Therapy in Acutely Decompensated Heart Failure). None of ATMOSPHERE, DANISH or REM-HF demonstrated benefit from the intervention studied; the results of TRUE-AHF are not public at the time of writing this abstract but will be presented at this annual meeting of the BSH.

Many smaller studies of novel drugs, cell therapies and devices also reported this year and more are now underway. The studies which reported this year will be summarised briefly. A US government funded N-terminal pro-B-type natriuretic peptide-guided treatment trial in recently ‘decompensated’ heart failure with reduced ejection fraction (HFREF) patients was recently stopped for futility (GUIDE-IT) and will be mentioned briefly as well.

Two more ‘positive’ trials with antidiabetes drugs (LEADER and SUSTAIN-6, both with glucagon-like peptide-1 agonists) were also presented in 2016, but neither showed a statistically significant benefit on heart failure, unlike the sodium-glucose cotransporter-2 (SGLT2) inhibitor empagliflozin in EMPA-REG OUTCOME, as discussed last year.

This year has seen the announcement of more new phase III trials in heart failure starting in 2016/7 than probably at any time in the past, including trials in HFREF with two different SGLT2 inhibitors (empagliflozin and dapagliflozin), a soluble guanylate cyclase stimulator (vericiguat, VICTORIA) and the cardiac myosin activator omecamtiv mecarbil (GALACTIC). In addition, there will be a trial in heart failure with preserved ejection fraction (HFPEF) using the SGLT2 inhibitor empagliflozin. Recruitment in the HFPEF trial with sacubitril-valsartan (PARAGON-HF) should also finish at the end of 2016/early 2017. A new trial with sacubitril-valsartan in patients at high risk of developing heart failure after acute myocardial infarction is also starting in the near future (PARADISE-MI).

What’s new in the National Heart Failure Audit?

Theresa McDonagh (King’s College Hospital, London)

No abstract was required for this presentation.
Pushing heart failure up the political agenda
Stuart Andrew (MP for Pudsey, Horsforth and Aireborough) / Andrew Clark (Castle Hill Hospital, Hull) / Angela Graves (Pumping Marvellous Foundation, Preston)

The Alliance for Heart Failure is a grouping of organisations concerned with trying to improve care for all patients with heart failure. It consists of patient groups (Pumping Marvellous Foundation and Cardiomyopathy UK to the fore), professional associations (particularly the BSH and the British Society of Echocardiography) and industry members.

We are delighted to report that one of the Alliance’s first achievements was to form the nucleus of the advisory panel to the All-Party Parliamentary Group (APPG) on Heart Disease when the APPG (under the chairmanship of Stuart Andrew, MP for Pudsey in Leeds) ran an enquiry into heart failure care. The report of the enquiry was launched on 13 September and is available on the BSH website (www.bsh.org.uk).

The report, Focus on Heart Failure, makes 10 ambitious recommendations, which we urge the NHS to start implementing straight away. Together with the impetus provided by NICE and SIGN guidelines, guidelines on care from the ESC and the Best Practice Tariff, we are sure that heart failure will continue to climb the political agenda.

We are delighted to be able to welcome Stuart Andrew, MP, to address the conference this year.
Achieving the best practice tariff and NICE quality standards

Iain Squire (University of Leicester)

In 2015, NHS England introduced a best practice tariff (BPT) for heart failure, and for many other conditions. The first year of the BPT (April 2015–March 2016) was voluntary. For the financial year 2016–17, the BPT is compulsory.

• The tariff is worth a 5% uplift in the amount the Trust is paid for each admission.
• It is an ‘all or none’ phenomenon; the tariff is paid for all or for none of heart failure admissions.
• The National Heart Failure Audit return is pivotal:
  – 70% of patients must have had input to their inpatient care from a specialist heart failure team
  – 60% of patients coded as heart failure in the first diagnostic position in Hospital Episode Statistics must be submitted to the National Heart Failure Audit.
• Outliers, including those trusts reporting zero% inpatient mortality, will be identified by name.

The NICE quality standard for chronic heart failure (CHF) in adults (www.nice.org.uk/guidance/qs9) indicates that it is needed in the context of CHF being a “complex clinical syndrome of symptoms and signs that suggest the efficiency of the heart as a pump is impaired”. The quality standard document recognises the individual, familial and societal impact of heart failure and is “expected” to contribute to improvements in the following outcomes:

• mortality due to heart failure
• hospital admissions
• ability to manage a long-term condition
• quality of life
• medication safety.

The quality standard describes itself as “a concise set of prioritised statements” designed to drive measurable improvement in the three dimensions of quality: patient safety, patient experience and clinical effectiveness. Heart failure services should be commissioned from and co-ordinated across all relevant agencies encompassing the whole CHF care pathway, and acknowledges the pivotal role of multidisciplinary teams in the management of CHF. To a large extent the seven quality statements simply revisit statements in national (and international) guidelines.

In this presentation we will review the BTF and the NICE quality standards, and briefly consider the major challenges for clinicians involved in the care of patients with CHF.

How can we help patients to self-manage?

Jayne Masters (University Hospitals Southampton)

The abstract for this presentation was not submitted before going to press.
Remote monitoring; a new role for the Welsh post-office

Jenny Welstand (Betsi Cadwaladr University Health Board, Wrexham)

In this talk Jenny will describe the development and use of a virtual telephone clinic (VC) in North East Wales as a key part of service provision. Starting in 2000, when the hospital and outpatient service comprised a single-handed nurse, the clinic was initially small. It was used to augment follow up between face-to-face outpatient clinic appointments. At this time, literature on the use of the telephone as a means to assess and deliver care was being favourably reported, so development of the VC started.

Over time, the now expanded Welsh team have developed the VC to be a formal part of clinical service delivery alongside outpatient clinics, inpatient ward rounds, advice hotline for patients/families and healthcare professionals. The pre-booked clinic usually has 30–40 calls daily, ranging from simple follow up calls including titration or commencement of angiotensin-converting enzyme inhibitors/angiotensin II receptor antagonists/beta-blockers/mineralocorticoid receptor antagonists, through to more complex calls requiring management of fluid retention or assessment of deteriorating symptoms. The VC operates as a clinic appointment. All patients referred to the local team are always seen first in an outpatient setting, so suitability for medication changes over the phone has been assessed.

What became apparent quickly was just how popular the VC was with patients and their families; particularly the elderly, who have found their own ways of taking advantage of it. One lady requested the team ring when her hairdresser visits; another Welsh-speaking gentleman living in a remote village crosses the road to the post-office: the post mistress takes the call and translates for both patient and the team. She ensures he is clear about a medication change or when he needs a blood test, etc. She quickly became familiar with the issues the team needed to know about and kept a watchful eye on weight, signs of early deterioration which she would flag up.

At a time when resources are challenged in healthcare, use of a VC maybe a helpful way for some specialist teams to maximise their time. This said, a note of caution is needed. It takes a skilled heart failure practitioner who is confidently competent in all aspect of the management of heart failure to undertake what can involve complex decision making; being confident is not being competent. Telephone assessment might be a new skill and takes time to learn and to develop.

References

Further reading
Wise J. Cochrane review says telephone follow-up of heart failure patients is effective. *BMJ* 2012;345:e6187.
Clinical dilemmas in selection for complex devices
Dr Roy S Gardner (Golden Jubilee National Hospital, Glasgow)

Choosing the correct device for the correct patient can be challenging. Although guidelines are there to support us, the evidence base is constantly changing. This presentation will use cases to highlight this evolution of evidence.

Device considerations in young patients with heart failure
Archie Rao (Liverpool Heart and Chest Hospital)

The objective of my talk is to raise awareness of the implications of implantable cardiac devices in younger (adult) patients. As thinking professionals, I believe we ought to consider the impact of device and lead selection on long-term outcomes in younger patients and hope that increasing awareness will mitigate the risks of inappropriate implantation, programming and inadequate follow up in these patients.

Further reading

Bridging the gap between heart failure and device clinics
Paula Black (Blackpool Teaching Hospitals NHS Foundation Trust)

Over the past few years the number of heart failure patients having devices implanted has increased greatly and will continue to do so. We still have a difficult job at times to know which of our patients are more at risk at any given time of decompensation and hospitalisation.

I would like to share the work we have been doing collaboratively to utilise the skills of both the heart failure team and cardiac physiologists to identify and optimise care for heart failure patients who may be experiencing problems at an earlier stage.

It is imperative that we work together as one team in order to provide optimal care for these complex patients.

Human interactions and systems safety – can the cath lab learn from outside healthcare?
Martin Bromiley (Buckingham)

Martin will explain the loss of his late wife due to a range of factors in a medical procedure. He will contrast the approach to safety taken in healthcare with other safety critical industries and highlight key lessons. Martin will also talk about the role of systems in achieving higher standards of safety and a little of his work in helping shape the future culture of the NHS.
BSH Research Fellow update
Simon Beggs (Golden Jubilee National Hospital, Glasgow)

What is the role of arrhythmias in heart failure?
Despite significant therapeutic advances, hospitalisation for heart failure continues to confer a high risk of adverse events even after patients return home. The post-hospitalisation period delivers high 30-day rates of both rehospitalisation and death. This phase of heightened risk following hospital discharge has been termed the “vulnerable early-discharge period”. Risk factors for these events have been explored; however, the role played by arrhythmias has not been clearly defined. Existing knowledge is based largely on ‘snapshot’ monitoring of cardiac rhythm, such as ECGs taken during hospital admission, which may not reflect the overall arrhythmic burden of such patients. The new generation of minimally-invasive injectable cardiac monitors presents an opportunity to investigate the role of arrhythmias in these patients more fully.

In this presentation, I will provide an overview of my research study examining the association between arrhythmias and adverse events in patients with heart failure. This study has been generously supported through an educational grant from Servier.

Further reading

Funding for nurses in heart failure research
Sophie Welch (Royal Brompton and Harefield NHS Foundation Trust, Imperial College London)

Heart failure nurses play a vital role in the delivery of successful services and are uniquely positioned to improve patient outcomes.1,2 With new treatments and advanced management strategies,3,4 the professional scope of heart failure nursing will continue to evolve. There is growing interest from nurses to integrate clinical research into their career pathway. Yet nurses face a number of challenges not shared by many physicians. Improving access to funding is necessary to advance the role of nurse researchers and this requires a multi-disciplinary approach.

There is growing recognition and support for the development of nurse researchers nationally and internationally. The Heart failure specialists of Tomorrow (HoT),5 a new society of the HFA, aims to improve access to education, training and funding for all health professionals working in the field of heart failure. The HoT initiative uniquely promotes interdisciplinary collaborations and provides a platform to support nurses clinically and in research roles. The HFA nurse training fellowship grant of 24,000 Euros aims to train and develop heart failure researchers by working in another host institution. The recent launch of the ESC nurse training grant confirms the value placed on raising the international profile of nursing research.

In the UK, Health Education England (HEE) and the National Institute for Health Research (NIHR) are working to increase the number of nurses and allied professionals undertaking clinical academic research. The Integrated Clinical Academic (ICA) programme offers five awards, combining research and clinical practice from novice to expert.

For nurses wanting to develop their research and academic expertise, the preparation and transition from clinical nursing can seem daunting. This presentation will detail different funding streams available to nurses in the UK and Europe. Examples of previous grant winners’ projects will demonstrate the breadth of nursing research. The presenter’s journey from clinical nursing to nurse researcher will highlight some of the common challenges and key considerations for nurses wanting to pursue research in heart failure. Sources of support and guidance on grant applications and research design methodology will be discussed.

References
Young Investigators’ Award (YIA)

The YIA was created to motivate junior doctors (and other healthcare professionals) to present their work and provide a platform via which they are able to gain experience presenting to a large audience and raise their profile amongst colleagues. It also provides an opportunity for delegates to hear about some interesting new data.

Submissions
The BSH received 12 abstract submissions for the YIA this year. As per the abstract guidelines, these submissions were from:

- BSH members
- physicians, nurses or other professionals allied to medicine
- staff who are not in consultant posts, substantive or honorary.

All abstracts related to contemporary data and had only been previously presented/published elsewhere in 2016.

Short listing
Entries were short listed based on the quality of the research by a panel of eight current BSH Board members who were not conflicted by any of the submissions. The three best abstracts were chosen for oral presentation.

Presentation
Authors will present their abstract during Session 5 on Thursday (15:40–16:26). Each presenter will have 5 minutes for presentation.

Questions
For the first time this year, questions will be permitted from the audience as well as from the judging panel. If you would like to pose a question, please raise your hand and wait for a microphone to be handed to you. Before asking your question, please state whether you have any conflict of interest with any of the YIA presenters. There will be 2 minutes of questions for each presenter.

Judging panel
The panel consists of five non-conflicted independent judges:

- Dr Lisa Anderson
- Dr John Baxter (also responsible for ensuring presenters keep to time)
- Dr Suzanna Hardman
- Miss Sophie Welch
- Dr Simon Williams

The session has two independent chairs:

- Dr Lisa Anderson
- Dr John Baxter

Each judge will provide a confidential score for each of the presentations to the BSH Secretariat. The BSH Secretariat will total all scores and provide details of the winning presentation to Professor Iain Squire, who will announce the winner at 10:20 on Friday 25 November.

Winners and runners-up
The winning presentation will be announced at 10:20 on Friday 25 November during the course of the meeting.

All presenters will receive the following:

- certificate
- complimentary registration for the 19th BSH Annual Autumn Meeting 2016
- complimentary registration for the BSH Heart Failure Day for Revalidation and Training on 2 March or the BSH Heart Failure Nurse and Healthcare Professional Study Day on 3 March 2017 in London.

The winner will also receive a prize of £250.
Prevalence of palliative care needs in patients admitted to hospital with heart failure

RT Campbell,¹* CE Jackson,² A Wright,¹ RS Gardner,³ P McSkimming,⁴ F Finlay,² PM Davidson,⁵ MA Denvir,⁶ KJ Hogg,⁷ MJ Johnson,⁸ MC Petrie,¹ JJ McMurray¹

(¹BHF Glasgow Cardiovascular Research Centre, University of Glasgow, Glasgow; ²Queen Elizabeth University Hospital, Glasgow; ³Golden Jubilee National Hospital, Clydebank; ⁴Robertson Centre for Biostatistics, University of Glasgow; ⁵Johns Hopkins University, Baltimore, MD, USA; ⁶Edinburgh University, Edinburgh; ⁷Glasgow Royal Infirmary; ⁸Hull York Medical School, University of Hull)

Background: Heart failure (HF) is common, and for many patients, is associated with high morbidity and reduced life expectancy. Contemporary guidelines suggest concomitant treatment with specialist palliative care services (SPCS) should be introduced early in the disease trajectory. However, the prevalence of PC needs in patients with HF has not been described.

Purpose: This study aimed to assess the prevalence of PC needs, using quantitative outcome measures, in a contemporary cohort of patients admitted to hospital with HF, and ascertain what proportion of those with PC needs actually accessed SPCS.

Methods: An unselected cohort of near consecutive patients admitted to hospital with a primary diagnosis of HF were approached to participate. Patient reported outcome measures (PROMs) assessing quality of life (QOL), symptom burden, and mood disturbance, were assessed at baseline and every 4 months for the duration of the study. The Kansas City Cardiomyopathy Questionnaire and Short-Form 12 were used to assess QOL, the Edmonton Symptom Assessment Scale (ESAS) to assess symptom burden, and the Hospital Anxiety and Depression Scale to assess mood disturbance. The WHO definition of PC was adapted to describe patients with PC needs. Specifically, we defined PC needs as one or both of:

- Severe impairment of any PROM preceding death
- Persistently severe impairment of any PROM.

Medical records and SPCS databases were used to identify patients who accessed SPCS.

Results: 272 patients were recruited, and assessed every 4 months for a mean of 2.1 years, between 9/1/2013 and 1/12/2015. A total of 963 assessments were made. There were 103 (38%) deaths during follow-up. 73 (27%) of participants met the above definition of PC needs. In total, 33 (12%) patients accessed SPCS and 6 (2%) patients accessed hospice care (in or outpatient care). Of the 73 with PC needs, 19 (26%) accessed SPCS and 5 (7%) accessed hospice care, (Figure). Patients with PC needs were more likely to access SPCS than those without PC needs (p<0.001).

Conclusion: More than a quarter of patients admitted to hospital have PC needs. Most patients with HF and PC needs did not access SPCS.

Conflicts of interest: Nil.

Figure. Prevalence of PC needs in patients with HF.
Prediction of sudden death risk in patients with dilated cardiomyopathy and mild or moderate reductions in left ventricular ejection fraction

Brian P Halliday,1* Ankur Gulati,1 Aamir Ali,1 Kaushik Guha,1 Monika Arzanauskaite,1 Simon Newsome,2 Martin R Cowie,1 Dudley J Pennell,1 John GF Cleland,1 Sanjay K Prasad1 (1NIHR Biomedical Research Unit, Cardiovascular Magnetic Resonance Unit and Department of Cardiology, Royal Brompton Hospital, London; 2London School of Hygiene and Tropical Medicine)

Background: Guidelines recommending implantable cardioverter defibrillators (ICD) for the primary prevention of sudden cardiac death (SCD) in patients with dilated cardiomyopathy (DCM) and a left ventricular ejection fraction (LVEF) <35% lack sensitivity. A large number of patients who suffer sudden cardiac death (SCD) have mild or moderate reductions in LVEF. Methods that identify patients at high-risk of SCD within this sub-group are required.

Purpose: To investigate whether mid-wall fibrosis (MWF), detected by late gadolinium enhancement cardiovascular magnetic resonance (LGE-CMR), predicts an increased risk of SCD in patients with DCM and a LVEF ≥40%.

Methods: We prospectively recruited consecutive patients referred for CMR between 2000 and 2011 with DCM and an LVEF ≥40%. The diagnosis was confirmed by independent experts using clinical, CMR and angiographic data. The presence of mid-wall fibrosis was determined by a specialist blinded to clinical data. The primary end-point was a composite of SCD and aborted SCD. Aborted SCD was defined as successful resuscitation from ventricular fibrillation, haemodynamically unstable ventricular tachycardia requiring cardioversion or an appropriate ICD shock. An independent panel, blinded to the CMR data, adjudicated all outcome events.

Results: In total 432 patients (273 male, median age 50 years, median LVEF 50%, 25.7% with MWF) were followed up for a median of 4.5 years. In total, 21 of the 111 (18.9%) patients with MWF reached the primary end-point, compared with 11 of the 321 patients (3.4%) without (HR 6.5, 95% CI 3.2–13.5; P<0.0001; Figure). On multivariable analysis, after adjustment for conventional prognostic factors, MWF remained an independent predictor of the primary endpoint (HR 7.6; 95% CI 3.3–17.4; P<0.0001). When analysed individually MWF predicted SCD (HR 3.5; 95% CI 1.1–10.8; p=0.028) and aborted SCD (HR 14.6; 95% CI 4.7–46.2; p<0.0001). Estimated hazard ratios for patients with a MWF extent of 0–2.5%, 2.5–5% and >5% compared to those without MWF were 6.95 (95%CI 2.5–19.2), 7.44 (95% CI 2.2–25.3) and 8.36 (95% CI 3.4–20.5) respectively.

Conclusion: MWF on LGE-CMR identifies a sub-group of patients with DCM and a LVEF ≥40% who are at high-risk of SCD and who may benefit from ICD therapy.

Conflicts of interest: Brian P Halliday is supported by a British Heart Foundation Clinical Research Training Fellowship. He has no conflicts of interest to declare.

Figure. Kaplan–Meier curve of the time to first event for the primary end-point by presence (dashed line) or absence (solid line) of mid-wall fibrosis.

![Kaplan–Meier curve](image-url)

*Presenting author
**Prognostic value of simple frailty and malnutrition screening tools in patients with acute heart failure**

S Sze,1,2* J Zhang,1 P Pellicori,1 D Morgan,2 A Hoye,1 AL Clark1

(1Department of Cardiology, Castle Hill Hospital, Hull York Medical School (at University of Hull); 2Department of Cardiology, Diana, Princess of Wales Hospital, Grimsby)

**Background:** Frailty and malnutrition are common in patients with heart failure (HF), and are associated with adverse outcomes.

**Purpose:** To evaluate the prognostic value of three malnutrition and three frailty indices in patients admitted acutely to hospital with HF.

**Methods:** 265 consecutive patients (62% males, median age 80 (interquartile range (IQR): 72-86) years, median NTproBNP 3633 (IQR: 2025–6407) ng/l) admitted with HF between 2013 and 2014 were enrolled. Patients were screened for frailty using the Derby frailty index (DFI), acute frailty network (AFN) frailty criteria and clinical frailty scale (CFS), and for malnutrition using the geriatric nutritional risk index (GNRI), controlling nutritional status (CONUT) score and prognostic nutritional index (PNI).

**Results:** According to the CFS (>4), DFI and AFN; 53%, 50% and 53% were frail, respectively. According to the GNRI (≤98), CONUT score (>4) and PNI (≤38), 46%, 46% and 42% patients were malnourished, respectively. Frail and malnourished patients were older; more likely to be nursing home residents; more likely to suffer from comorbidities; had lower BMI, worse symptoms and renal function.

Frailty and malnutrition indices correlated with each other. Although increasing frailty correlated with worsening malnutrition, the correlation was weak ($R^2 = 0.22$, $p<0.001$).

During a median follow-up of 598 days (IQR 319–807 days), 113 patients died. 1-year mortality was 1% for those who were neither frail nor malnourished; 15% for those who were either malnourished or frail; and 65% for those who were both malnourished and frail. Patients who were frail and malnourished had an almost 30 times greater mortality risk than those who were neither frail nor malnourished (Figure).

Amongst the malnutrition scores, PNI, and amongst the frailty scores, CFS, increased model performance most compared with base model. A final model including CFS and PNI increased c-statistic for mortality prediction from 0.68 to 0.84.

**Conclusion:** Worsening frailty and malnutrition indices are strongly related to worse outcome in patients hospitalised with HF.

**Conflicts of interest:** None declared.

**Figure.** Kaplan–Meier curves for all-cause mortality by the combined groups of malnutrition (PNI >38 = not malnourished, PNI ≤ 38 = malnourished) and frailty (CFS ≤ 4 = not frail, CFS > 4= frail).
Heart failure question time

Heart failure question time is a new element to this year’s programme and will take the form of a topical debate, chaired by Professor Andrew (Dimbleby) Clark, with questions put to the panel that have been selected prior to the session from those submitted by the audience.

The panel consists of four guests:

- Professor John Cleland, Director of Robinson Centre for Biostatistics and Glasgow Clinical Trials Unit, University of Glasgow
- Professor Martin Cowie, Professor of Cardiology, Imperial College London
- Mrs Jayne Masters, Lead Heart Failure Nurse, University Hospitals Southampton NHS Foundation Trust
- Dr Jim Moore, GP & GPSI Heart Failure, Cheltenham

In your delegate pack, you will find a question card. If you would like to pose a question, please complete the question card and place it in the box on the BSH exhibition stand in the Britten room before 13:00 on Thursday. If you would like to raise your question from the audience, please include details of your name, mobile and e-mail.

During lunch on Thursday (13:00–13:45), the submitted questions will be reviewed and selected by Dr John Baxter, Professor Andrew Clark and Dr Paul Kalra.

If your question is selected and you would like to raise the question yourself, you will be contacted (via the mobile number and/or e-mail address indicated on your question card) and asked to come to the BSH exhibition stand during the tea break on Thursday (15:10–15:40) for a short briefing by Professor Andrew Clark. You will be asked to raise your question from the audience during session 6 (16:26–17:10).

Practical tips for introducing sacubitril-valsartan into your care pathways

Simon Williams (Wythenshawe Hospital, Manchester)

Simon was lucky enough to be accepted to sit on the NICE TA panel for sacubitril-valsartan as a clinic expert. He and his team have been using sacubitril-valsartan since July. This talk will cover recent guidelines and the regulatory approval (including NICE) as to the place of sacubitril-valsartan in the treatment of heart failure with reduced ejection fraction. Simon will share the Manchester experience (bureaucracy, safety, governance, naivety, persuasion) in introducing the drug locally and regionally including practical tips for its introduction and things you may not have thought about!
AKI in the UK – an update from ‘think kidneys’

Charles Tomson (Freeman Hospital, Newcastle-upon-Tyne)

The association between kidney disease (both chronic kidney disease [CKD] and acute kidney injury [AKI]) and poorer outcomes in heart failure and other cardiovascular diseases is well established. However, causal directions are unclear. Congestion and hypotension both result in reductions in glomerular filtration rate (GFR). Atherosclerosis and hypertension are often associated with intrarenal vascular disease (nephrosclerosis) and atherosclerotic renal vascular disease; the intrarenal component may explain why revascularisation (ASTRAL, CORAL) did not improve kidney function. Decongestion may increase serum creatinine by causing haemoconcentration, without a true change in GFR; and is not always associated with evidence of tubular damage. Worsening renal function in acute decompensated heart failure (ADHF) is a poor prognostic sign, but less so in patients receiving renin–angiotensin–aldosterone system (RAAS) inhibitors. Haemoconcentration during ADHF treatment is associated with better long-term prognosis. The prognostic significance of changes in kidney function during heart failure treatment in the community setting remains unknown.

Reduced kidney function may also cause cardiovascular disease. In more advanced kidney disease, numerous ‘non-traditional’ risk factors (e.g. hyperphosphataemia, fibroblast growth factor-23) combine with conventional risk factors (e.g. obesity, diabetes) – all of which are risk factors for CKD progression – to cause very high cardiovascular morbidity and mortality.

AKI, arguably, is associated with far more avoidable harm than venous thromboembolism. The 2009 National Confidential Enquiry into Patient Outcomes and Death report ‘Adding Insult to Injury’ identified major opportunities for improved care. Think Kidneys is an England-wide quality improvement programme intended to reduce harm associated with AKI. All laboratories are now required, when reporting serum creatinine concentrations, to implement use of an algorithm comparing current with previous values, and to issue ‘warning stage test results’ if the algorithm identifies biochemical AKI. Data on patients triggering such an alert will be submitted to a registry, with data linkage to Hospital Episode Statistics. The registry will also collect information on dialysis-requiring AKI and subsequent outcomes. Educational materials on AKI and tools to identify patients at risk of AKI have been developed. Simple and pragmatic guidance has been developed, with audit tools, to guide management of AKI both in primary and secondary care. We have ‘sat on the fence’ on the question of ‘sick day guidance’, unconvinced that a blanket approach to advising patients to stop RAAS inhibitors and diuretics during acute illness will do net good; and we seek to minimise the risk that an unthinking ‘creatinine-centric’ approach to sick patients will do harm, particularly amongst those with heart failure.

Further reading


Managing heart failure in AKI and CKD

Martin Cowie (Imperial College London)

In more severe heart failure, kidney dysfunction is the rule rather than the exception. ‘Acute kidney injury’ (AKI) is almost always flagged up by automatic lab-based reports in patients when they are admitted to hospital with decompensation and where increased diuretic therapy is applied. Such a flag should trigger thought, not automatic backing-away from diuretic therapy. Excluding non-heart failure causes of AKI is important, such as infection, inflammatory disease, and renovascular disease, but for the majority of patients with decompensation adjustment to diuretic doses and types, with temporary down-titration of other vasoactive therapies is likely to be required. Fluid management is often tricky, and for some patients measures such as ultrafiltration or dialysis may be required. In general, early consultation with a renal physician is important so that, where appropriate, a strategy for renal replacement therapy can be put in place as an outpatient. More generally, worsening renal function in a patient with heart failure identifies a period of higher risk for the patient, and closer attention by the multi-disciplinary team is essential in both primary and secondary care. Patients need to know what over-the-counter medications to avoid, and when fluid and dietary salt restriction is appropriate. This short lecture will provide an overview of the key issues, and an opportunity to discuss some of the current challenges in delivering optimal care.

Iron deficiency and cardio-renal disease – beyond haemoglobin

Sunil Bhandari (Hull and East Yorkshire Hospitals NHS Trust, Hull)

This brief talk will review in vitro and in vivo data and recent clinical studies of the effects of intravenous iron in patients with heart failure, anaemia, iron deficiency, and renal dysfunction.

The heart is subject to a number of adaptive and subsequently maladaptive changes in patients with chronic kidney disease (CKD). There are structural changes, with both concentric and eccentric hypertrophy in part linked to fibroblast growth factor-23; changes in energetics, with a switch from fatty acids to glucose metabolism; ischaemic vulnerability from both iron and erythropoietin deficiency; oxidative stress and changes in calcium cycling within the mitochondria. However, the key components in the process are the adjustments in mitochondrial function which serve as the powerhouse for all tissues.

Iron plays a pivotal role in oxygen uptake, transport, storage and metabolism in both skeletal and cardiac muscle. In models of stressed hearts with CKD there is an increase in stage 4 respiration in addition to an increase in uncoupling proteins leading to mitochondrial dysfunction and an increase in transition pore formation, leading to impaired contractile function of cardiomyocytes. Therefore, a deficiency of iron may lead to impaired mitochondrial function via effects on transition pore opening and subsequent inhibition of the pro-survival pathway and activation of apoptotic pathways. Also, chronic iron deficiency may cause structural abnormalities in cardiac myocytes leading to reduced exercise capacity and performance.
Falls in heart failure
Andrew Davies (Sunderland Royal Hospital)

Falls, dizziness and heart failure often co-exist. Shared contributors such as reduced physical activity with consequent muscle weakness in older people, polypharmacy, potential arrhythmias, altered blood volume and the reduced cerebral autoregulation all combine to make those with heart failure at higher risk of falls.

What can a clinician with an interest in heart failure do to identify risks and begin the process to treat or refer on appropriately? This lecture will focus on the key parts of an assessment that identify causes which can be treated, simple ways to identify causes of ‘dizziness’ and suggestions about how we can review and alter medications appropriately. Using the AGS/BGS and NICE guidance on falls assessments and treatments we will look at the evidence for exercise, home assessment/modification, medicines rationalisation and management of orthostatic hypotension.

In addition, we will look at a clinic based assessment of dizziness and how differentiating hypotension from general instability or vertigo is important in deciding treatment and drug rationalisation.

Changing medication which has prognostic benefit in heart failure is not to be undertaken lightly and we will look at the safest ways to assess whether a change is necessary and if so how we involve patients in such discussions.

The aim of this lecture is to give heart failure clinicians a practical guide to dizziness and falls in those with heart failure and what approaches they can adopt in their own clinical practice.

Frailty and heart failure
Callum Chapman (West Middlesex University Hospital, Twickenham)

Heart failure is a cardiogeriatric syndrome1 with an incidence of 20% in those aged >80 years2 and a prevalence of frailty of >70% in the same age group.3 The definition of frailty is not easy, but in general it is a syndrome characterised by weakness, fatigue and increased vulnerability to physiological stressors with associated adverse health outcomes. Although it may be a feature of chronic illness at any age, it typically increases in frequency and worsens with advancing age, and results in dependency. Its effects are ‘dose’ related and the more features that are present, the greater the risk of adverse outcomes including death. Importantly, however, the frailty phenotype is ‘fluid’ and may respond to appropriate interventions.4,5 The ESC Guidelines 20166 recommend the use of a scoring system (of which there are >20), such as the Frail Score, to identify and monitor affected patients.

The onset of heart failure in older, frail people may be insidious and easily missed, and the predominant clinical features are often related to worsening functional status (including declining mobility, worsening cognitive function and falls) rather than the classic symptoms and signs which have low sensitivity and a poor negative predictive value in this group. Frailty in patients with decompensated heart failure is linked to early disability, reduced quality of life measures, increased re-admission rates, longer lengths of stay and increased mortality.3,7–9

Older heart failure patients should be managed using the same evidenced-based approach which has proved so effective in the general population and in accordance with guidelines.4,10 Nevertheless, drug tolerability may be poor and the goals may change over time with the emphasis switching from prolongation of life to improving quality of life. These objectives are not mutually exclusive and the use of standard evidence-based heart failure medication to reduce mortality may also help to improve symptoms, exercise tolerance and functional status. Importantly, the use of the Comprehensive Geriatric Assessment (CGA) has been shown to outperform heart failure indices for 30-day mortality risk and highlights the potential benefits of a multidisciplinary patient-centred approach in the management of frail older patients.11,12

References
New developments in rehabilitation of heart failure

Aynsley Cowie (Crosshouse Hospital, Ayr)

Over the past 20 years, there has been much progression within the research base for exercise training and heart failure. As with other cardiac groups, initial work focused on laboratory style interventions; the aim was to examine the safety and effectiveness of rehabilitation in this population who were traditionally considered ‘high risk’ for exercise training. With this evidence base now established, the clinical and research focuses in this field are becoming more diverse.

We are starting to consider the use of exercise training across a wider spectrum of heart failure diagnoses (i.e. not just those with stable, NYHA class II–III left ventricular dysfunction) and across a wider heart failure population demographic (i.e. not just relatively young, healthy males), and to consider the impact of training upon a wider range of outcomes. The value of early initiation of exercise soon after hospital discharge is becoming apparent, as is the importance of involving the family/caregiver in rehabilitation to enhance patient engagement. With the recognition that the nature of heart failure means that this group does not follow a linear pathway to recovery, there has been the need to consider alternative, contemporary models of rehabilitation (e.g. home-based training, telerehabilitation), which deviate from the traditional ‘block’ of outpatient cardiac rehabilitation delivered in a hospital setting.

This session will consider some of these new developments within the evidence base and their translation into clinical practice within the NHS.

Counting the cost of co-morbidities in heart failure

Michael Böhm (University of the Saarland, Germany)

Annual mortality rates in heart failure have declined gradually over years. However, there is still a higher rate in patients not enrolled in trials, but captured and followed-up in ‘real world’ registries. Patients treated outside trials are usually older and suffer from more co-morbidities, which could contribute to worse outcomes in these patients compared with trial patients. The ESC Heart Failure Guidelines 2016 explicitly state that co-morbidities might interfere with the diagnostic processes, aggravate heart failure symptoms and contribute to the burden of hospitalisation and mortality. Furthermore, co-morbidities could have an impact on heart failure treatments such as the use of beta blockers in patients with chronic obstructive pulmonary disease (COPD) and obstruction and diabetes. Co-morbidity load increases with progressing severity of heart failure. Therefore, the majority of hospitalisations in the year before death are not related to heart failure worsening. Co-morbidities like COPD and renal failure increase oxidative stress and worsen prognosis. Treatment of anaemia and, more importantly, iron deficiency has led to an increase in exercise tolerance with some evidence for a reduction in hospitalisation rates and improvements in renal function. Despite the dominating role of accumulating co-morbidities on outcome in SOLVD, the treatment effects of angiotensin-converting enzyme inhibitors were maintained. Similar data have been reported for heart rate reduction with ivabradine in the SHIFT trial.

Summary

Heart failure begets co-morbidities and co-morbidities beget heart failure. Co-morbidities adversely affect outcome in heart failure patients by, in particular, increasing the hospitalisation rates in advanced heart failure. Co-morbidity treatments might favourably influence outcomes, although their effects on clinical endpoints have to be scrutinised in prospective randomised clinical trials.
Overlaps in heart failure and endocrine syndromes
William Drake (St Bartholomew's Hospital, London)

Traditional teaching has been that endocrine (secondary) causes of hypertension are uncommon. Recent studies on the prevalence of primary aldosteronism (PA) (Conn’s syndrome) suggest that it may be present in up to 10% of unselected hypertensive patients and up to 25% of those whose elevated blood pressure is resistant to therapy. Moreover, the cardiovascular burden (heart failure, stroke, atrial fibrillation and renal failure) of PA is several-fold greater than a like-for-like elevation of blood pressure in the context of essential hypertension. It remains the case, even in 2016, that most cases of phaeochromocytoma are diagnosed at post mortem. Together, these facts should alert physicians who treat hypertensive heart failure (general physicians, general practitioners, endocrinologists, cardiologists) to think about the possibility of secondary hypertension more often than is currently the case. Using clinical case material, this talk will discuss some of the issues relevant to the accurate and reliable diagnosis of endocrinopathies that contribute to the overall burden of heart failure.

Takotsubo syndrome
Alexander Lyon (Royal Brompton Hospital and Imperial College London)

Takotsubo syndrome is an acute reversible heart failure syndrome which is increasingly recognised in modern cardiology practice. Dr Lyon chaired the HFA Taskforce on Takotsubo syndrome and a Position Statement was published earlier this year.¹ He will review the various clinical and pathophysiological facets of Takotsubo syndrome, including nomenclature, definition and diagnosis, primary and secondary clinical subtypes, anatomical variants, triggers, epidemiology, pathophysiology, and will include the studies evaluating the myocardial responses to high adrenaline exposure,² clinical presentation, complications, prognosis, clinical investigations and treatment approaches. Novel structured approaches to diagnosis, risk stratification and management are presented with new algorithms to aid decision making for practising clinicians. These also cover more complex areas where diagnosis is uncertain, presentation delayed, and also the management of complex cases with ongoing symptoms following recovery, recurrent episodes or spontaneous presentation.

References
Managing severe infections in heart failure
Susanna Price (Royal Brompton Hospital, London)

Myocardial dysfunction in sepsis is a well-recognised entity in the critical care literature, and may occur in previously normal hearts, or in patients with heart failure admitted with sepsis. Early studies using nuclear scanning identified a pattern of reversible sepsis-associated myocardial dysfunction, affecting both ventricles, with contractility returning to normal over 7–10 days. Attempts to identify a myocardial depressant factor (MDF) have largely been abandoned, although imbalance of a number of factors known to modulate myocytes and vascular function has been implicated in this dysfunction, including inducible nitric oxide synthase, endothelin receptors, pro- and anti-inflammatory cytokines. More recent imaging studies have suggested that prior to the classic changes in ventricular function seen in sepsis, abnormalities in strain/strain-rate may be identified, although the implications for treatment of such abnormalities remain unclear.

A cardiogenic component to septic shock should always be explored, and any assessment of cardiac performance in sepsis must be in the context of what the normal response of the heart in sepsis (increased cardiac output and contractility) should be, as well as the impact of critical care interventions on cardiac function. Although focus is frequently on left ventricular function, right ventricular dysfunction is common in the critical care arena, and careful evaluation of the presence/absence of right ventricular restriction, pulmonary vascular resistance should be performed.

In the absence of specific treatment for ventricular dysfunction in sepsis, management remains supportive, relating to the use of volume, pressor and positive inotropic agents, as well as minimising the impact of ventilator-induced ventricular dysfunction, with aggressive reduction in pulmonary vascular resistance where required. The choice of inotrope/pressor remains challenging; the effect of each drug on the immune system and the microcirculation is probably important, but remains under-investigated. Further, the individual response to beta adrenergic agents in cardiac disease is variable. Here, up-titration can paradoxically limit stroke volume, potentially by inducing subendocardial ischaemia. Where profound shock supervenes with significant ventricular dysfunction, small series have reported good survival with the use of extracorporeal life support (ECLS), however definitive trials on the use of ECLS in sepsis are lacking.

Further reading
Myocarditis
Stephen Pettit (Papworth Hospital, Cambridge)

Myocarditis is an inflammatory disorder of the heart muscle. The most common clinical features are arrhythmias and acute heart failure. Myocarditis may be suspected by clinical or imaging features, but histopathological examination of myocardium is needed to confirm the diagnosis. Endomyocardial biopsy is recommended in patients with suspected myocarditis, although the diagnostic yield is poor in many clinical scenarios. Pathologists classify myocarditis according to the inflammatory infiltrate: lymphocytic, eosinophilic, polymorphic, giant cell or granulomatous (cardiac sarcoidosis). The presence of viral genetic material by polymerase chain reaction (PCR) or cardiac auto-antibodies may suggest an underlying viral or autoimmune cause.

The natural history of myocarditis varies greatly and depends on the underlying cause. Lymphocytic myocarditis has a favourable prognosis and most patients recover spontaneously. Giant cell myocarditis has the worst prognosis. Treatment of myocarditis is challenging. All patients with heart failure should receive standard therapy. Patients with severe haemodynamic instability may require mechanical circulatory support. Patients with the most fulminant presentation may have a favourable prognosis and so heart transplantation should not be performed unless it is certain that recovery will not happen.

Many specific therapies, targeted against the underlying cause of myocarditis, have been proposed. The efficacy of antiviral drugs, intravenous immunoglobulin or immunoabsorption has not been established and these treatments are not recommended. Immunosuppression is an area of controversy. Immunosuppression had a neutral effect in the myocarditis treatment trial, a randomised controlled trial that included patients with lymphocytic myocarditis of uncertain cause. However, corticosteroids are widely used for granulomatous myocarditis (cardiac sarcoidosis) and certain forms of eosinophilic myocarditis. In addition, many experts would consider aggressive immunosuppression in patients with giant cell myocarditis.

Myocarditis may be a relapsing condition. Biomarkers such as cardiac troponin may be helpful in monitoring disease activity or response to treatment in certain situations. All patients with myocarditis require long-term follow up.

Further reading and information
Integrated palliative care in heart failure

Miriam Johnson (Hull York Medical School, University of Hull)

The need for palliative care experienced by people with advanced heart failure is well documented in the literature encompassing physical symptoms, psychological morbidity, social isolation and impact on family and work life, and spiritual concerns. Likewise, the barriers to patients accessing palliative care are known, with the most rehearsed being that of an uncertain disease trajectory and difficulties in knowing ‘when it is time’. However, patient need, clinical consensus and policy statements require that barriers are overcome. Three recent phase 3 randomised controlled trials have confirmed benefit for patients randomised to receive additional care from a multi-disciplinary specialist palliative care team. This provides proof of concept, but many patients do not need specialist palliative care services to address their palliative care needs; therefore, referral of all patients is neither necessary nor sustainable.

However, traditional cardiology services do not systematically assess palliative care needs, and education and training in symptom control and communication skills are not routine. Therefore, many patient and carer issues go unrecognised and unaddressed. In answer to this problem, integrated care services for people with advanced heart failure are developing. Integrated care is where general palliative care is provided by the usual care team (be it primary care or secondary care services) with access to support from specialist palliative care teams alongside ongoing cardiac treatments. Specialist palliative care services provide education, training and support to the usual care team, where needed, as well as management of complex and persistent problems. Management of palliative care concerns is driven by a problem-based approach rather than by prognosis which obviates the main barrier to patients receiving a palliative-care approach.

This session will present integrated palliative care as an effective model of providing general and specialist palliative care for people with advanced heart failure in a sustainable way. Components of care will be described and outcomes illustrated by case history.

References

Valve disease in heart failure
Andrew Flett (Southampton General Hospital)

A clinical case of severe valve disease in heart failure (spanning over 2 years of follow up) will be presented including echocardiography, transoesophageal echocardiography and cardiac magnetic resonance imaging. Relevant studies\textsuperscript{1} and guidelines\textsuperscript{2,3} will be discussed along with the clinical dilemmas such cases can raise.

References

LVAD/TX

Parminder Chaggar (University Hospital of South Manchester, University of Manchester)

Cardiogenic shock (CS) is associated with a high mortality rate,\textsuperscript{1} and short-term mechanical circulatory support (MCS) may be instituted in patients who are refractory to standard treatments. Exit strategies from MCS include explant for myocardial recovery, conversion to a durable left ventricular assist device (LVAD) or transplant. A search for the underlying aetiology of CS may help guide the longer-term treatment strategy, particularly in patients with potentially reversible causes of heart failure. LVADs improve prognosis and quality of life in patients with advanced heart failure\textsuperscript{2,3} and, in the UK, are licensed as a bridge to recovery or transplant. However, durable LVADs are associated with risks, including stroke, infection and bleeding, while survival is longer with transplantation.\textsuperscript{4,5} Therefore, an exit strategy from LVAD (explant for recovery or transplant) should always be considered. This case presentation will highlight a rare cause of CS and describe the care pathway of LVAD recipients, including exit strategies and the management of common complications.

References
Dr Lisa Anderson
Heart Failure lead St George’s Hospital, London
Honorary Reader in Cardiovascular Medicine
Dr Anderson trained at Liverpool Medical School, completing junior doctor rotations in Liverpool and London before joining the London (SW) Cardiology SpR training scheme. Dr Anderson was BHF Fellow at the Royal Brompton Cardiac MR Unit from 1998 to 2001, developing a method (T2*) for early detection of cardiac iron that is now the International Gold Standard and has led to a significant fall in cardiac deaths in thalassaemia.

Dr Anderson was appointed as Consultant in Heart Failure at St George’s in 2005, has worked with GP colleagues and commissioners to build up community and hospital heart failure services.

In 2016, the St George’s Heart Failure Unit opened, providing specialist nursing, therapist and cardiology care to admitted patients with heart failure. The purpose of this unit is to improve patient experience and outcomes, to better integrate acute with community care and to provide a centre of excellence in which to train heart failure nurses and fellows.

Dr Anderson was appointed as Councillor to the BSH Board in 2015 and is a member of the HFA Study Group on Imaging. Dr Anderson has ongoing research interests in heart failure and CMR.

Mr Stuart Andrew
Stuart’s upbringing in North Wales cannot be described as that of a typical Conservative. He grew up on a council estate; his father was a welder who had experienced long-term unemployment; his mother worked in a newsagent’s shop. Stuart’s professional experience prior to entering Parliament was largely in fundraising and the charity sector, joining the BHF in 1994. He then worked at Hope House Children’s Hospice and Martin House Children’s Hospice, where he was the Fundraising Manager.

He was initially elected to Leeds City Council in 2003 and was a keen campaigner against excessive developments in his ward (which he continues to be). In May 2010, he was elected as the Member of Parliament for Pudsey, Horsforth and Aireborough. His interests have primarily been in health, transport and planning.

In the 2015 General Election he was re-elected and took on the role of Parliamentary Private Secretary (PPS) to Patrick McLoughlin, who was the Secretary of State for Transport. He remains Patrick’s PPS in his capacity as Chancellor of the Duchy of Lancaster and Conservative Party Chairman. Stuart was recently made the Vice Chairman of the Conservative Party, with specific responsibility for cities.

He currently chairs the All-Party Parliamentary Groups on Heart Disease and Islamophobia.

Dr Chris Arden
Chris Arden is a GP near Winchester, Hampshire. He also works in a community cardiac clinic in Southampton as a GPSI in cardiology, assessing patients with suspected heart failure, atrial fibrillation, palpitations, hypertension and murmurs. He has BSE accreditation in echocardiography.

The community cardiac service provides facilities for echocardiography, ambulatory ECG, BP and event recorder monitoring; receiving consultant mentorship support from secondary care and working in partnership with specialist heart failure and cardiac rehabilitation nursing colleagues.

Chris Arden is Cardiovascular Lead for West Hampshire CCG and a member of the CardioVascular GP group, British Society of Echocardiography and British Heart Valve Society. He is a board member of the BSH and is on the editorial boards of the British Journal of Cardiology and Primary Care Cardiovascular Journal.

Dr John Baxter
Dr John Baxter is a Consultant Geriatrician and Clinical Lead for heart failure in older persons at Sunderland Royal Hospital. He is an Observer on the Board of the BSH and is a past Treasurer of the British Geriatric Society Cardiovascular Section.

Dr Simon Beggs
Dr Simon Beggs is a Research Fellow in Glasgow, currently out of clinical training in order to pursue a PhD examining the role of arrhythmias in people with heart failure. After graduating from Edinburgh University Medical School, his early clinical training was in the West of Scotland, including a fellowship with the Scottish National Advanced Heart Failure Service based at the Golden Jubilee National Hospital. He was named as the 2015 BSH Research Fellow at last year’s Autumn Annual Meeting. Upon completion of his PhD he intends to resume clinical training, with a specialist interest in heart failure.

Professor Sunil Bhandari
Sunil Bhandari is a consultant nephrologist at Hull and East Yorkshire Hospitals NHS Trust and an Honorary Clinical Professor at the Hull York Medical School (HYMS).

He graduated from the University of Edinburgh, trained in Renal and Transplant Medicine in Yorkshire (UK) and Sydney Australia. He has clinical and laboratory interests in the signalling pathways in uraemic cardiomyopathy, including the effects of iron on mitochondrial function and the progression of renal disease.

He is lead investigator for several clinical studies, including STOP-ACE and Iron and the Heart. He has co-authored over 100 papers in peer-reviewed journals. In addition to his research he has long-standing interests in medical education, serving as Joint Director of the UK Advanced Nephrology Course and the UK Applied Nephrology Course, Deputy Head of School of Medicine – Health Education England Yorkshire and Humber, and a Member of the Specialist Exam Writing Committee. He serves as the International Director for RCPE.

Mrs Paula Black
I am a Heart Failure Specialist Nurse working within primary and secondary care, looking after heart failure patients; I also have a special interest in patients with devices. My current post involves collaborative working with cardiac physiologists as well as hospital and community heart failure teams.

I have 29 years of nursing experience in medicine and cardiology, working in a variety of roles which have been clinical and strategic. I am passionate about developing services further to improve care for patients by encouraging multidisciplinary working.
**Professor Michael Böhm**

In 2000 Professor Michael Böhm was appointed Professor and Director of the Department of Internal Medicine and Cardiology at the University of the Saarland, Homburg/Saar, Germany. Prior to this, he was Professor of Cardiology at the University of Cologne.

He received his medical degree from the Medical University of Hannover, and undertook residencies at the University of Hamburg and the University of Munich, certifying in internal medicine in 1992 and cardiology in 1993. He was Heisenberg Fellow of the Deutsche Forschungsgemeinschaft in 1994.

Professor Böhm has been the recipient of numerous awards including, since 2000, the Arthur Weber Award of the German Society of Cardiology/Heart and Circulation Research, the Franz-Groß-Science Award of the German Society of Hypertension and the Franz Loogen Award of the Society for Cardiovascular Research. In 2012 he was awarded the Order of Merit of the Federal Republic of Germany (Bundesverdienstkreuz).

Professor Böhm is President of the German Society of Cardiology, and Chief Editor of *Clinical Research in Cardiology* and Consulting Editor of *Basic Research in Cardiology*. He is on the Editorial Board of, or is a reviewer for, a number of other journals. He has published widely, and is/has been involved in many international clinical trials.

**Mr Martin Bromiley OBE**

Martin Bromiley is a Captain for a major UK airline.

In 2005 his late wife died during a routine hospital procedure. A review established her death was the direct result of human factors and failings in non-technical skills, created by systemic failings in the healthcare system. Martin started to research the culture in healthcare around safety and recognised that the NHS was culturally a long way behind most other high risk industry.

As a result of his experiences he supported the making of a DVD entitled ‘Just a routine operation’ which explored the lessons of his late wife’s death, as well as a BBC Horizon programme.

Martin also founded the Clinical Human Factors Group (CHFG), a charitable trust which aims to promote best practice around human factors (www.chfg.org). Since then the Group has promoted human factors at the highest levels in healthcare.

In 2014 the New Statesman ran an extensive article on Martin’s contribution to healthcare and recently *Times* journalist Matthew Syed used Martin’s story as the basis of his bestseller ‘Black Box Thinking’.

Martin is still Chair of the CHFG and gives his time for free (donations to the CHFG are always welcome)!

**Dr Ross Campbell**

Ross Campbell trained in medicine at the University of Glasgow, graduating in 2006. He is currently a clinical lecturer in cardiology at the University of Glasgow, working at Glasgow Royal Infirmary and the Golden Jubilee National Hospital. He has a particular interest in heart failure and cardiac imaging. He has just completed his PhD study funded by the British Heart Foundation entitled ‘Prevalence of palliative care needs in patients admitted to hospital with heart failure’.

**Dr Parminder Chaggar MBChB**

Parminder Chaggar graduated from the University of Sheffield Medical School in 2003 and is a Cardiology SpR in the East of England Deanery, subspecialising in heart failure and devices. He really should have gained CCT a long time ago but has successfully procrastinated through two clinical fellowships in advanced HF and devices, and is currently in research in Manchester. His deanery may finally eject him from the programme in 2017 when he will be looking for a HF-devices Consultant post (shameless plug – please come and speak to me if you think I am employable) or possibly a post-CCT fellowship....

**Dr Callum Chapman**

Dr Callum Chapman gained a medical degree from the Royal Free Hospital (University of London) in 1987 and undertook postgraduate training in General Internal Medicine & Geriatrics in the Northwestern Thames region. He was appointed a Consultant Physician in General Internal Medicine (GIM) and Geriatrics at the West Middlesex University Hospital in 2002 and developed his sub-speciality interest in heart failure becoming Clinical Lead for Community/Chronic Heart Failure Services in 2003. He has a particular interest in the management of older people with advanced heart failure and complex co-morbidity, and has ongoing involvement with research into the management of anaemia and iron deficiency in patients with heart failure.

He is an Honorary Senior Lecturer at Imperial College School of Medicine, with a large undergraduate teaching commitment, and also takes every opportunity to promote the cause of postgraduate education in heart failure for both primary and secondary care colleagues.

**Professor Andrew Clark**

Professor Andrew Clark is professor of clinical cardiology in the University of Hull. He was educated at Pembroke College, Cambridge, and trained in medicine at Westminster Medical School. He trained in heart failure at the National Heart and Lung Institute and Glasgow Western Infirmary. He has published widely on aspects of heart failure, and is co-editor of the *Oxford Textbook of Heart Failure*. His research interests are in exercise physiology, palliative care for heart failure and the natural history of heart failure. He is a Past-Chair of the BSH.

**Professor John Cleland MD, PhD, FRCP, FACC, FESC**

Professor Cleland was appointed the Director of the Robertson Centre for Biostatistics and Clinical Trials in 2016, an internationally accredited Clinical Trials Unit offering a complete service both to academic clinicians and industry. The special area of expertise is cardiovascular disease but includes all branches of medicine and social sciences.

Professor Cleland qualified from the University of Glasgow. He completed his training at St. Mary’s Hospital, Paddington and the Hammersmith Hospital, London in 1989. In 1994, he was awarded a Senior Research Fellowship by the British Heart Foundation. He was appointed Professor of Cardiology at the University of Hull in 1999 and subsequently at the National Heart & Lung Institute, Royal Brompton, Harefield and Hammersmith Hospitals, Imperial College London, where he retains a part-time contract.

His main area of interest is in heart failure, extending from its epidemiology and prevention, through the development and implementation of guidelines for the application of current knowledge, to large randomized trials. Particular current interests include the influence of myocardial substrate on therapeutic response, novel methods of delivering care and theranostics.
He is a Past Chairman of the European Society of Cardiology’s Working Group on Heart Failure and of the BSH, founded the European Journal of Heart Failure, is a National Institute of Health Research Senior Investigator and chairs the Academic Committee of the National Heart Failure Audit and the National Clinical Specialties Research group on Heart Failure. He has published more than 800 papers in peer-reviewed journals and is a Thomson Reuters Highly Cited Researcher.

Dr Peter Cowburn
Dr Peter Cowburn is a Consultant Cardiologist with a special interest in heart failure at University Hospital Southampton. His MD thesis was undertaken in Glasgow studying the haemodynamic effects of endothelin and endothelin receptor antagonists in patients with chronic heart failure (CHF). Following SpR training in the Wessex region, he completed an 18-month heart failure/device fellowship in Toronto, Canada, where he trained in cardiac resynchronisation therapy (CRT). He reported the first case series of inotrope-supported CRT and has an interest in the haemodynamic and renal effects of CRT. He was Deputy Chair of the BSH in 2007–9, having served as a Councillor to the Board in 2005–7. At Southampton General he helped establish a novel nurse-led inpatient heart failure service, which led to a dramatic reduction in inpatient mortality.

He established an inpatient ultrafiltration programme in 2010, the first in the UK. He was a member of the working group who published guidelines for the referral and assessment of adults for cardiac transplantation (Heart 2011). He was one of the document reviewers for the ESC guidelines for the diagnosis and treatment of acute and chronic heart failure 2012. He was delighted to be reappointed to the BSH Board as a Councillor in 2015.

Dr Aynsley Cowie
Scientific Officer BACPR/Consultant Physiotherapist in Cardiology, University Hospital Crosshouse, NHS Ayrshire & Arran

Aynsley has held the role of scientific officer for the British Association for Cardiac Rehabilitation (BACPR) since December 2014. She chairs a committee in planning its annual conference (held this year in Cardiff on 6 and 7 October), and acts as BACPR’s representative on the editorial board of the British Journal of Cardiology. Aynsley has worked as cardiac rehabilitation physiotherapist within NHS Ayrshire & Arran for 12 years, and completed a PhD examining effects of home- versus hospital-based exercise training in chronic heart failure in 2011. Aynsley has recently started in a new post as consultant physiotherapist in cardiology. One of her first tasks is to lead on a Scottish Government-funded project to develop a patient-reported outcome measure (PROM) for cardiology using a qualitative methodology. Data collection is currently underway and the tool will be piloted with various cardiac populations very soon.

Professor Martin R Cowie
Martin Cowie is Professor of Cardiology at the National Heart & Lung Institute, Imperial College London, UK and Honorary Consultant Cardiologist at the Royal Brompton Hospital, London. A founding member and past-Chair of the BSH, Professor Cowie has also been a Board Member (and Chair of the Education Committee) of the Heart Failure Association of the European Society of Cardiology (ESC). He advises the National Institute for Health and Care Excellence (NICE) in England on its heart failure guidelines and quality standards. He sits on the Cardiovascular Round Table and the EU Affairs Committee of the ESC, and leads its work in e-health, recently being appointed as Chair of the e-health Unit at the European Heart Health Institute in Brussels.

Professor Cowie’s studies and reviews have been featured in a variety of peer-reviewed journals, including The New England Journal of Medicine, The Lancet, Circulation, JAMA, European Heart Journal, British Medical Journal, and the European Journal of Heart Failure. He has contributed chapters to many books, and has written a book for patients entitled ‘Living with Heart Failure – A Guide for Patients’. His research interests centre on the use of new technologies to improve the outcome, efficiency and experience of care for people living with heart failure. Professor Cowie is a Fellow of the Royal College of Physicians of London, and Edinburgh, and a Fellow of the European Society of Cardiology.

Dr Andrew Davies

I have run a syncope and falls service since being a consultant, building on my research as a registrar on ‘blackouts masquerading as falls’. I am involved in teaching and training as a Foundation Programme Director and am on the BGS cardiovascular committee as treasurer. But I really love being on the hills with the wind in my hair or more importantly the après-walk at the local hostelry with the family enjoying Yorkshire’s finest Black Sheep Bitter!

I am a geriatrician who sees the patients all geriatricians do, and I am signed up to the British Olympic cycling team’s approach to geriatric medicine – it's all about the small gains that result in a major change for patients. Hence my interest in how little changes in patients’ treatments and balancing benefits with patients’ involvement are key to getting optimised therapy in those with falls and heart failure.

Dr Ceri Davies
Dr Ceri Davies has been a Consultant Cardiologist and General Physician at Barts Health NHS Trust since 2005. After a period of research into heart failure at the Royal Brompton Hospital, his clinical training took place in NE London and Cambridge. His specialist interests are the management of heart failure and advanced non-invasive cardiac imaging (cardiac computed tomography and cardiac magnetic resonance imaging). He was an Observer to the BSH Board from 2013 to 2015, and is now a Councillor.

Professor William Drake
Professor Drake grew up in Lincolnshire and studied medicine at Christ Church, Oxford and the Royal London Hospital Medical College. After a year of junior jobs at St Bartholomew’s Hospital, he spent a year at Groote Schuur Hospital, Cape Town, before returning to the UK to take his MRCP and train in Endocrinology, including a research fellowship. Following a year as a Clinical Fellow at the University of British Columbia, Vancouver, he returned to the UK and has been a Consultant Physician at Barts and the London since February 2004 and was made Professor of Clinical Endocrinology in August 2010.
**Dr Andrew Flett**  
Consultant Cardiologist, University Hospital Southampton  
NHS Foundation Trust  
Appointed at University Hospital Southampton NHS Foundation Trust in 2013, Dr Andrew Flett is a consultant cardiologist with a specialist interest in heart failure, devices and cardiovascular magnetic resonance (CMR). During his heart failure training and research at University College London he also trained in cardiomyopathy at the Heart Hospital. He has published widely in CMR and cardiomyopathy related research.

**Dr Roy S Gardner**  
Consultant Cardiologist and clinical lead, Scottish National Advanced Heart Failure, Golden Jubilee National Hospital, Clydebank, Glasgow  
- Honorary Associate Professor – University of Glasgow.  
- Treasurer: BSH.  
- Specialist interest in advanced heart failure, cardiac transplantation, mechanical circulatory support, and complex devices (ICDs and CRT).  
- Author/Editor: Oxford Specialist Handbook of Heart Failure and Oxford Textbook of Heart Failure.  
- Active research profile in heart failure, complex devices, and biomarkers.  
- Editorial advisory board: Biomarkers in Medicine.  
- ESC patient care committee, and ESC advanced heart failure curriculum committee member.  
- Scientific advisor: NICE – interventional procedures programme.

**Mrs Angela Graves**  
Angela Graves is the Clinical Lead for the Pumping Marvellous Foundation, the UK’s patient charity for heart failure. Angela has an extensive cardiology nursing background, in both the acute and community setting. She previously developed and led the heart failure specialist nursing service for East Lancashire NHS Hospital Trust, which went on to gain national recognition for excellence in cardiology nursing. As part of her role for the Pumping Marvellous Foundation, she is focused on ensuring patients with heart failure receive excellent after-care and support in order to help them self-manage their condition successfully, and significantly reduce their chance of being readmitted to hospital. She is currently the co-chair for the Alliance for Heart Failure and has been co-chair of the advisory group for the recent All-Party Parliamentary Group for Heart Disease enquiry into heart failure care. Ms Graves has been awarded the title ‘Queens Nurse’ in recognition for her leadership and innovation in Community Nursing.

**Dr Brian Halliday**  
Brian graduated from Medicine with Honours in 2008 from the University of Edinburgh and was awarded the Murdoch Brown Silver Medal for Medicine and the Thomas Keith Memorial Prize for Surgery. He also obtained First Class Honours in his intercalated BSc (Med Sci) degree. He completed his foundation and core medical training in Edinburgh and London before being awarded a National Training Number in Cardiology in the London Deanery.  
Brian was awarded a British Heart Foundation Clinical Research Training Fellowship in 2015 under the supervision of Dr Sanjay Prasad and Professor John Cleland. The research focuses on personalising therapy in patients with dilated cardiomyopathy. He will investigate methods of improving the risk stratification of patients with mild and moderate levels of cardiac dysfunction with the aim of finding better ways of identifying those at high risk of sudden cardiac death. He will also investigate the treatment of patients with a previous diagnosis of dilated cardiomyopathy and recovered heart failure.

**Dr Suzanna Hardman**  
Dr Suzanna Hardman is a Consultant Cardiologist with an Interest in Community Cardiology at Whittington Health, London, a newly integrated care organisation, delivering acute and community services. She developed and leads the heart failure services across the hospital and community, and related research, and is an Honorary Senior Lecturer at University College London.  
A long standing member of the BSH, and erstwhile Chair of the Society, she continues to be involved in a wide range of heart failure initiatives including the National Heart Failure Audit, the RSM Cardiology Committee, the UK HF curriculum review, the UK Heart Failure Standards and the NICE Acute Heart Failure Quality Standards following her GDG membership for the NICE Chronic Guidance (2010), the NICE Chronic HF Quality Standards (2011) and the NICE Acute HF Guidance (2014). Dr Hardman is currently a member of the NICE Chronic HF GDG and maintains an interest in eCardiology following an FP7 initiative to develop a HF summary with SemanticHealthNeT, and has recently represented the BSH working with ICHOM.

**Professor Miriam Johnson MD FRCP MRCGP MB ChB(hons)**  
Miriam Johnson is Professor of Palliative Medicine at Hull York Medical School, Director of the Wolfson Palliative Care Research Centre, and Co-Director of the Supportive care, Early Diagnosis and Advanced Disease Research group at the University of Hull. Her clinical and research interests include mechanisms and management of breathlessness and inequalities in palliative care service provision (e.g. for people with non-malignant disease such as heart failure and respiratory disease). The projects employ a wide range of research methodologies (clinical trials of drug or complex interventions, qualitative studies, observational, secondary data analysis, data linkage studies) and collaborative partners are involved across different disciplines and countries. She has published widely and holds grants from a variety of bodies (NIHR, NHMRC, Dunhill Medical Trust, Marie Curie Cancer Care/CRUK, Yorkshire Cancer Research, British Heart Foundation).  
She is palliative care specialty joint lead for the Yorkshire and Humber Comprehensive Research Network. She set up one of the UK’s first integrated palliative care services for people with heart failure.

**Dr Paul Kalra**  
Paul Kalra is a consultant cardiologist with specialist interest in heart failure at Portsmouth NHS Trust. He has championed local heart failure services, developing an integrated team of heart failure nurse specialists across primary and secondary care and initiating local ICD and CRT implantation. He has developed and leads a cardiovascular research programme in Portsmouth.  
Paul has been on the BSH Board since 2009, and was recently appointed as Chair Elect. He was Programme Co-director of the Annual Autumn Meeting in 2010, 2013 and 2016, and the Training/Revalidation meeting in 2010, 2011 and 2015.
He co-founded the Cardiorenal Forum, which has held its 11th annual meeting in October 2016, and has recently received funding to conduct an outcome study of intravenous iron in patients with chronic heart failure (IRONMAN) in the UK. This is now recruiting. Please contact him if your site is interested in participating (paulkalra@doctors.org.uk).

Ms Dawn Lambert
Dawn Lambert is the lead nurse for the Heart Failure Service at Portsmouth Hospitals NHS Trust.
Dawn began her career as a qualified nurse at the cardiac unit in St. Mary’s Hospital, Portsmouth, and then the coronary care unit at Chichester, where she developed a keen interest in heart failure. Continuing in cardiology, she gained a valuable understanding of the benefits of exercise working with the cardiac rehabilitation team at the Royal Haslar Hospital, Portsmouth.
In 2006 Dawn was appointed the BHF Community Heart Failure Nurse for Eastleigh and Test Valley South. This new post supported patients over a large geographical area in Southern Hampshire and had a significant impact on heart failure admissions and re-admissions. After three years in the community, ready for a new challenge, Dawn was enticed back to Portsmouth to help set up the new secondary care specialist device service for cardiac resynchronisation therapy patients and, in 2013, became the nursing lead for secondary heart failure services.
Dawn’s most recent achievements include establishing a patient support group in conjunction with the Cardiomyopathy Association. She has also recently been appointed as one of two nurses to the board of NICOR to bring a nursing perspective to the National Audit.

Dr Alexander Lyon MA BM BCh PhD FRCP
Alex is a BHF Senior Lecturer in Cardiology at Imperial College London and an Honorary Consultant Cardiologist at the Royal Brompton Hospital.
Alex gained a first-class degree in medicine at Oxford University, and studied for his PhD at Imperial College London. He completed a postdoctoral year at Mount Sinai Hospital, New York.
His clinical interests include the fields of heart failure, Takotsubo syndrome and the development of novel therapeutics including gene therapy for chronic heart failure.
Alex is chair of the Cardio-Oncology Study Group and Takotsubo Syndrome Study Group. He chaired the recent HFA Takotsubo Syndrome Taskforce which published the first professional society position statement on Takotsubo syndrome. He runs a specialist clinic for patients with Takotsubo syndrome focusing on risk prediction and management of refractory symptoms.
Alex is clinical lead for the Cardio-Oncology service at Royal Brompton Hospital, president of the British Cardio-Oncology Society and the cardiology advisor to Macmillan Cancer. Alex was recently appointed chair of the ESC Heart Failure Association Cardio-Oncology Study Group and is a co-author of their ESC Position Statement and guideline document for the clinical community. He is a member of the International Cardio-Oncology Society and is co-chair of the 2017 ICOS-BCOS hosted Global Cardio-Oncology Summit in London.

Mrs Annie MacCallum BEM
Following decades of experience in all aspects of cardiac care and primary care practice nursing, I became a heart failure nurse specialist in 2001 as part of a multidisciplinary cardiology team in Gloucestershire. In 2016 I am responsible for a wide range of countywide multidisciplinary community based services including Heart Failure Service. Launched in 2003 the services provide community echo, GPsI clinics and heart failure nurse specialist follow up for patients at all stages of their disease. As part of the Board of the BSH from 2007 to 2015 I collaborated with nursing colleagues in founding the annual Heart Failure Nurse Study Day, now in its sixth year. I served as an affiliate board member of British Association for Cardiac Prevention and Rehabilitation 2010–2015.

Mrs Jayne Masters
I am the Lead Heart Failure Nurse for University Hospitals Southampton NHS Foundation Trust, where we provide an integrated heart failure service. I have been a board member of the BSH for the last 5 years and was a member of the Guideline Development Group for the Acute Heart Failure guidelines. Two years ago I was lucky enough to be awarded a doctoral fellowship by CLARHC Wessex/ University of Southampton and am currently half way through a PhD. My research is to try and understand what influences patients’ access to multi-disciplinary heart failure care.

Professor Theresa McDonagh
Theresa McDonagh is a Consultant Cardiologist and Clinical Lead for Heart Failure at King’s College Hospital, London.
Her research interests are in clinical heart failure, in particular the epidemiology of heart failure and left ventricular dysfunction, and the role of biomarkers in both the diagnosis and prognosis of heart failure, and in the delivery of heart failure care. She is also the Clinical Lead for the National Heart Failure Audit and the Chair of the Clinical Section of the ESC Heart Failure Association.

Professor John McMurray BSc (Hons) MB ChB (Hons) MD FRCP FESC FACC FAHA FRSE FMedSci
Professor John McMurray is Professor of Medical Cardiology and Deputy Director of the Institute of Cardiovascular and Medical Sciences at the University of Glasgow, UK, and honorary Consultant Cardiologist at the Queen Elizabeth University Hospital, Glasgow. He was the inaugural Eugene Braunwald Scholar in Cardiovascular (CV) Disease at the Brigham and Women’s Hospital, Boston, USA, and visiting Professor of Medicine, Harvard University, Boston, in 2010/2011, and is a Past-President of the Heart Failure Association of the ESC.
Professor McMurray’s primary research interest is in heart failure (HF) and his main research activity is clinical trials. He is, or was, the principal investigator, and member of the executive committee or steering committee in a number of large trials in HF, other CV diseases, renal disease and diabetes.
Professor McMurray sits on the editorial board of The New England Journal of Medicine, as well as several leading CV journals. He has published ~600 original papers, reviews and book chapters, and is the primary author/editor of 13 books. Professor McMurray was included in the 2014 listing of Highly Cited Researchers by Thomson-Reuters.
Professor McMurray has been a member or chair of many guideline committees, including the 2014 National Institute for Health and Care Excellence (NICE) Acute HF Guideline Committee. He is a member of NICE Appraisal Committee A.
Dr Jim Moore
I studied medicine in Edinburgh before moving to Gloucestershire to work as a GP principal. I have an interest in cardiology and cardiovascular disease, particularly those aspects that are relevant to primary care. I was involved in the development of the primary care based Gloucestershire Heart Failure service where I currently work as a GPwSI. I continue to represent primary care in the cardiovascular arena at both a local and regional network level. I am currently a member of the National Heart Failure Audit Steering group and have previously served on the Board of the BSH.

Professor Jeremy Murphy
I’m a consultant physician and cardiologist working in a district general hospital: 15 years ago I established a heart failure clinic, working with a local GP specialist. I now lead a large team that offers an integrated heart failure service across primary and secondary care whilst I continue to provide two weekly heart failure clinics. For the past 6 years I’ve been Professor of Cardiovascular Medicine at Durham University. My areas of research include: heart failure diagnosis and the place of advanced imaging, service models and the role of palliative care. I’ve recently stepped down as member of council at the Royal College of Physicians (London). I sit on the Northern Clinical Senate and I am Clinical Director for Research and Innovation in my own trust.

Dr Angus Nightingale
Dr Angus Nightingale is a Consultant Cardiologist at the Bristol Heart Institute where he leads the Heart Failure Team and Specialist Hypertension Clinic. He trained in Cambridge, London, Plymouth and Bristol, before doing research in Cardiff and Oxford with Professor Frennears looking at the role of endothelial function in muscle metabolism (discovering that high dose vitamin C did not improve fatigue and breathlessness in heart failure patients).

After completing his cardiology training in 2003 he left the UK for a Consultant Cardiologist post in Adelaide, Australia, where he set up a stress echo service and continued research in heart failure and aortic valve disease while participating in the primary PCI rota. He hurriedly came back to Bristol when his children started wanting to play cricket for Australia! His splits his time between clinical cardiology and leading the translational work of the University of Bristol Cardionomics Research Group targeting autonomic dysfunction in hypertension and heart failure. He is PI for a number of trials investigating modulation of carotid body activity, vagal nerve stimulation, renal denervation and deep brain stimulation in hypertension and heart failure. He is also heavily involved in postgraduate education and cardiology training in the South West.

Dr Jayan Parameshwar
Dr Jayan Parameshwar is a Consultant Cardiologist and has been associated with the Advanced Heart Failure programme at Papworth Hospital for over 25 years. He studied medicine at Pondicherry, India, and completed an internal medicine residency at the All India Institute of Medical Sciences, New Delhi. He did his cardiology training at Hillingdon Hospital, and at the National Heart and Royal Brompton Hospitals in London. His interest in heart failure was sparked by Dr George Sutton and Professor Philip Poole-Wilson.

He has served on the Board of Directors of the International Society for Heart and Lung Transplantation and as Associate Editor of the Journal of Heart and Lung Transplantation.

Dr Stephen Pettit
Dr Stephen Pettit studied medicine at the University of Newcastle upon Tyne. He trained in Cardiology in Glasgow, Liverpool and Cambridge. He has worked as a Consultant Cardiologist at Papworth Hospital since 2014. He is involved in the assessment of patients with advanced heart failure for transplantation and mechanical circulatory support, and in the care of these patients after surgery. In addition, he is involved with implantation, optimisation and follow-up of patients with complex pacemakers and defibrillators. He is interested in communicating clearly and honestly with patients, carers and colleagues. He is also interested in escaping hospital to spend time rock climbing, mountaineering and mountain biking.

Dr Susanna Price
Dr Susanna Price trained in both cardiology and intensive care medicine in the UK, and completed a fellowship at the Thoraxcenter with Jos Roelandt. She was awarded a PhD from Imperial College London, and following completion of her training was awarded the BHF Jill Dando GUCH Fellowship. She is a consultant at the Royal Brompton Hospital (where she is Clinical Lead for Critical Care) and an Honorary Senior Lecturer at NHLI, Imperial College London.

Dr Price is President-elect of the ESC Acute Cardiovascular Care Association. She sits on numerous committees including chairing the ESC Acute Cardiovascular Care Education & Training Committee and the RCUK Committee on focused echo in cardiac arrest, and is a member of the ESC Education Committee, ESC Press Committee, ALS subcommittee of the RCUK and SCCM US guideline committee. She is an associate editor of the European Heart Journal of Acute Cardiovascular Care, and an invited reviewer for a number of other journals. She has been a member of a number of Task Forces relating to international guidelines on the management of cardiovascular diseases including valvular disease, endocarditis, non-cardiac surgery, pulmonary hypertension, pericardial disease and grown-up congenital heart disease. Dr Price has authored numerous papers and book chapters on cardiology, echocardiography and intensive care, and lectures regularly globally.

Dr Archie Rao
I am a Consultant Cardiologist at the Liverpool Heart and Chest Hospital, a tertiary cardiac centre providing for a catchment of almost 2 million. I have a special interest in heart failure and device therapy and am involved in the management of heart failure, and the implantation and follow up of implantable defibrillators (ICDs) and cardiac resynchronisation therapy (CRT) devices.

I also do system revisions and lead extractions for a wider population, and have recently started a venoplasty service for vein occlusions and patients with access issues.

I am passionate about training and education and believe it is an investment in our future, and am currently on the European Heart Rhythm Association (EHRA) education committee.
Professor Iain Squire
Iain Squire is Professor of Cardiovascular Medicine at the University of Leicester and Honorary Consultant Physician at University Hospitals of Leicester. Professor Squire has helped to develop heart failure services in Leicestershire with one of the first community based heart failure nurse services in the late 1990s, and more recently a dedicated in-patient heart failure service, and nurse-led heart failure follow-up clinics, at Glenfield Hospital. Professor Squire has long association with the BSH; before becoming the current Chair, he held the offices of Deputy Chair, Treasurer and Councillor. Professor Squire has over 175 publications in peer-reviewed journals and is Vice Chair of NICE Technology Appraisal Committee A.

Dr Shirley Sze
I am a junior doctor who has just completed academic foundation training and has currently taken a year out of training programme to pursue an MD in cardiology sponsored by the Hull York Medical School, under the supervision of Professor Andrew Clark and Dr Pierpaolo Pellicori. I am currently based at the department of cardiology, Hull and East Yorkshire Medical Research and Teaching Centre, Castle Hill Hospital, Kingston upon Hull. My research interest is frailty and malnutrition in heart failure.

Dr Jackie Taylor
After studying medicine at Glasgow University, Jackie Taylor trained and accredited in general medicine and geriatric medicine, developing her interest in heart failure at this formative time of her career. She became a Lecturer in Geriatric Medicine, is a Consultant in Medicine for the Elderly at Glasgow Royal Infirmary and was previously Associate Medical Director for the specialty for NHS Greater Glasgow and Clyde (GGC). Dr Taylor represents geriatric medicine on the Heart Failure Sub-Group of the Cardiac Managed Clinical Network for GGC, responsible for developing and delivering the Heart Failure Strategy. She is Chair of the Cardiovascular Division of the British Geriatrics Society. From a clinical perspective, Dr Taylor’s main interest is the development of comprehensive multi-professional services for heart failure patients and, in particular, in improving the organisation of care.

Dr Charles Tomson
Qualified Oxford 1981. Registrar and research training in Newcastle 1984–1988. Consultant Nephrologist since 1991, initially at St Bartholomew’s Hospital London then at Southmead Hospital Bristol from 1993 before moving to Newcastle upon Tyne in December 2014. Member of Steering Committee for SHARP, ATTOP and PIVOTAL. Current research interests: evidence-based quality improvement; interventions to reduce inequity in access to treatment for kidney failure; shared decision-making.


Miss Sophie Welch
Sophie Welch is a cardiovascular BRU research nurse. She was awarded the Faculty of Medicine Dean’s Prize for obtaining a distinction in her cardiorespiratory nursing MSc at Imperial College London. Her dissertation project provided pilot data for her PhD study at Imperial College under the supervision of Drs Jillian Riley and Alex Lyon.

Sophie was awarded a nurse training fellowship grant by the HFA of the ESC to support her development as a researcher in the field of heart failure. This involved work at Liverpool Heart and Chest Hospital in collaboration with cardiologist, Dr Jay Wright.

Sophie currently works as a research nurse in the cardiovascular BRU based at Royal Brompton Hospital on clinical trials of drugs and novel therapies for patients with advanced heart failure. She was involved in the CUPID2 and Serca-LVAD gene therapy trials.

Last year, Sophie was invited to become the nurse representative and nucleus member of the Heart failure specialists of Tomorrow (HoT), a young society of the HFA promoting interdisciplinary collaboration. As part of this role Sophie works closely with the UK HoT national representative and the BSH.

Dr Jenny Welstand
Jenny Welstand undertook her nurse training at Charing Cross Hospital in London qualifying in 1986. In 1990 she joined the cardiac unit in Oxford and developed roles in surgical pre-assessment, as a cardiology nurse practitioner, and established a community cardiac rehabilitation service.

Moving to North East Wales in 2002 she established an integrated heart failure service working between primary and secondary care. This service has substantially reduced readmissions and length of stay. The service focuses on helping patients to make sense of their diagnosis and supporting them with the effects of living with a disabling condition.

Jenny was awarded a Doctorate in 2013, winning the Lord Jones prize for best thesis and defensive at viva at Glyndwr University. Her thesis investigated the patient’s experience of living with heart failure. Presenting her findings in 2010 at the Cardiovascular Nurses Spring Meeting in Geneva, she won best oral presentation of conference. She has subsequently been invited to present at several major conferences.

Jenny has served as a council member on the British Council of Cardiovascular Nursing. She was very pleased to be invited to join the Board of the BSH as a Nurse Observer in 2015.

Dr Simon Williams
Consultant Cardiologist, Wythenshawe Hospital, South Manchester
Clinical lead for heart failure at Wythenshawe Hospital.

• Specialises in all aspects of heart failure: from community heart failure and general in-patient/out-patient management to acute heart failure treatment/cardiac transplantation.

• Current Deputy Chair BSH (2015–17).


• Writes a few articles in leading magazines with his mates from time to time in his role as Senior Lecturer at the University of Manchester.

• Likes running, supporting Altrincham AFC and watching Coronation Street.

• Was lucky enough to have sat on the recent NICE TA panel for sacubitril-valsartan.
**ALLIANCE FOR HEART FAILURE**

The Alliance for Heart Failure is a coalition of charities, patient groups, professional bodies and healthcare companies working together to raise the profile of heart failure in Government, the NHS and media, and improve outcomes for people with heart failure.

Members of the Alliance collaborate on overarching policy issues in the aim of securing prioritisation of heart failure and improving access to care, treatment and services for people with heart failure. Members remain independent, but the shared mission to deliver timely diagnosis and improve access to the right care and support is strengthened by joining forces.

Alliance member organisations are: Abbott Laboratories; Bayer PLC, British Association for Nursing in Cardiovascular Care; British Society for Echocardiography; British Society for Heart Failure; Cardiomyopathy UK; Cardiovascular Care Partnerships; Kent Surrey Sussex Academic Health Science Network; Medtronic UK; National Heart & Lung Institute; Novartis Pharmaceuticals UK Ltd; Pumping Marvellous Foundation; Roche Diagnostics Ltd; South East Clinical Networks.

The Alliance for Heart Failure is supported and funded by Abbott Laboratories, Bayer, Medtronic UK, Novartis Pharmaceuticals UK Ltd, and Roche Diagnostics Ltd.

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**BIOTRONIK**

BIOTRONIK is a leading European medical technology company, providing cutting-edge cardiovascular solutions in the areas of cardiac rhythm management, electrophysiology, and vascular intervention. Since its establishment in 1963 by Dr. Max Schaldach, developer of the first German pacemaker, several million BIOTRONIK devices have been implanted worldwide. In addition to improving patients’ day-to-day lives, BIOTRONIK plays a key role in the prevention of cardiovascular disease through its extensive research and development.

BIOTRONIK has a reputation for understanding the needs of its partners in the medical profession, collaborating closely with physicians to develop new products, and investing in clinical studies to ensure efficacy and patient safety. BIOTRONIK helps assess the unique challenges facing physicians worldwide, then provides the best treatment therapies available—be it cardiac implants, minimally invasive devices, or products for areas ranging from diagnosis and electrotherapy to vascular intervention and therapy management.

BIOTRONIK employs over 5,600 dedicated professionals worldwide and has developed a global distribution network in more than 100 countries.

We have an ever-expanding wealth of talent with professionals in research, development, distribution and customer.

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**BAYER**

Science for a better life

For over 120 years, Bayer has been researching and developing innovative medications and new therapeutic approaches that help make a difference to people’s lives. Bayer is working in a wide range of therapeutic areas on new treatment approaches for heart, vascular, lung and kidney diseases with a focus on processes and signalling pathways relevant to diseases of the cardiovascular system.

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BOSTON SCIENTIFIC
Boston Scientific transforms lives through innovative medical solutions that improve the health of patients around the world. As a global medical technology leader for more than 30 years, we advance science for life by providing a broad range of high performance solutions that address unmet patient needs and reduce the cost of healthcare.

We continue to innovate, expanding into new geographies and markets, while combining product-based interventions with longer-term solution partnerships called ADVANTICS Innovative Healthcare Solutions, a portfolio of programs designed to drive sustainable change.

One example of the ADVANTICS offering is our Disease Management programme. This offering is designed to improve and standardize care for chronic cardiovascular diseases. The programme is founded on the principle that integrating care around a patient will drive a more effective deployment of resources and reduce cost pressure. Once embedded, the learning and key changes implemented can then be adapted and phased across other long-term conditions that represent key priorities to the local health economy. Boston Scientific provides technologies, solutions and programs to help your hospital succeed in the new value-based healthcare environment.

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BRITISH SOCIETY FOR HEART FAILURE (BSH)
The BSH is a multi-disciplinary society and membership is open to all healthcare professionals involved with the diagnosis, treatment and management of heart failure, and research in this area.

The aims of the BSH are as follows:

• to increase knowledge and promote research about the diagnosis, causes, management and consequences of heart failure amongst healthcare professionals, with the intention of delaying or preventing the onset of heart failure and improving care for patients with heart failure
• to provide expert advice to healthcare professionals, patient or government organisations, including the National Health Service, when appropriate and as requested.

At present the BSH has nearly 1,200 members and nine companies that are Friends of the BSH. The BSH Board consists of the following members: Professor Iain Squire (Chair), Professor Andrew Clark (Past-Chair), Dr Paul Kalra (Chair-Elect), Dr Simon Williams (Deputy-Chair), Dr Roy Gardner (Treasurer), Dr Lisa Anderson, Dr Peter Cowburn and Dr Ceri Davies as Councillors. The Observers to the Board are as follows: Dr Chris Arden, Dr John Baxter, Dr Parminder Chaggar, Mr Paul Forsyth, Mrs Jayne Masters, Professor John McMurray and Dr Jenny Welstand.

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CARDIOMYOPATHY UK
Cardiomyopathy UK is a UK charity providing support and information to families affected by the heart muscle disease cardiomyopathy. We educate the medical profession about best practice in diagnosing and treating cardiomyopathy. We campaign for affected families to have regular heart checks and genetic testing to find family members at risk and save lives.

Our services include a helpline (0800 018 1024) with specialist cardiomyopathy support nurses, a range of publications and a website full of useful information, online forums where those affected by cardiomyopathy can share experiences, information days around the country with leading medical cardiomyopathy experts, volunteer-led support groups and a network of affected people who provide one-to-one support to others.

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CORE HEART FAILURE EDUCATION (PCM SCIENTIFIC)
CORE is a free, CME-accredited* educational programme on heart failure. The programme is open to GPs, cardiologists, cardiac nurses and the wider multidisciplinary team and covers the diagnosis, treatment and long-term management of heart failure. CORE Country Facilitators are running small, interactive meetings across the UK now, tailored specifically to their audience. To find out more, and sign up for meetings in your area, visit the CORE Heart Failure Education booth today.
*CME accreditation application in progress

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KENT SURREY SUSSEX ACADEMIC HEALTH SCIENCE NETWORK (KSS AHSN)
We support our members in Kent, Surrey and Sussex to improve the health and care of older people, accelerate the Five Year Forward View’s vision for sustainable new models of care and facilitate industry and voluntary sector engagement to help meet these ambitions. We are on track to deliver more than £100m of social benefit by 2020.

We are catalysts for the spread of innovation at pace and scale – improving health, generating economic growth and helping facilitate change across whole health and social care economies. We do this by connecting regional networks of NHS and academic organisations, local authorities, the third sector and industry – responding to the diverse needs of our patients and populations through partnership and collaboration, ensuring we create the right environment for relevant industries to work with the health and social care system.

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MEDTRONIC
As a global leader in medical technology, services and solutions, Medtronic improves the health and lives of millions of people each year. We believe our deep clinical, therapeutic and economic expertise can help address the complex challenges — such as rising costs, aging populations, and the burden of chronic disease — faced by families and healthcare systems today. But, we can’t do it alone. That’s why we’re committed to partnering in new ways and developing powerful solutions that deliver better patient outcomes.

Founded in 1949 as a medical repair company, we’re now among the world’s largest medical technology, services and solutions companies, employing more than 85,000 people worldwide, serving physicians, hospitals and patients in more than 160 countries. Join us in our commitment to take healthcare Further, Together. Learn more at Medtronic.com.

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MERCK SHARP & DOHME
Today’s MSD is a global healthcare leader working to help the world be well. MSD is a trade name of Merck & Co., Inc., with headquarters in Kenilworth, NJ, USA. Through our prescription medicines, biologic therapies and animal health products, we work with customers and operate in more than 140 countries to deliver innovative health solutions. We also demonstrate our commitment to increasing access to healthcare through far-reaching policies, programmes and partnerships. For more information, visit www.msd-uk.com.

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NATIONAL INSTITUTE FOR CARDIOVASCULAR OUTCOMES RESEARCH (NICOR)

National Heart Failure Audit

The National Heart Failure Audit is managed by NICOR within the Institute of Cardiovascular Science at University College London. NICORs remit is provide information to enable those who receive, deliver and commission healthcare to measure and improve services.

The audit has been developed in partnership with the BSH and is commissioned by the Healthcare Quality Improvement Partnership (HQIP). The purpose of the audit is to assess the quality of care and outcomes for patients with an unscheduled admission to hospital with heart failure, and to support improvements to the quality of care through initiatives such as Best Practice Tariff. The audit measures performance against national guidelines and standards for the treatment and management of heart failure.

The audit has been running for nearly 10 years and findings continue to show that access to specialist medical and nursing care is the gatekeeper to optimal care for heart failure patients, and underline the need to develop specialist in-patient services for heart failure patients.

NICOR are currently developing an interactive reporting platform that will incorporate publishing heart failure data. This facility will present the results visually and allow users to interact with the findings and show results by hospital and clinical commission groups. The NICOR team would welcome feedback and will be demonstrating the new platform at this year's conference.

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NOVARTIS PHARMACEUTICALS

Novartis provides innovative healthcare solutions that address the evolving needs of patients and societies. Headquartered in Basel, Switzerland, Novartis offers a diversified portfolio to best meet these needs: innovative medicines, eye care and cost-saving generic pharmaceuticals. Novartis is the only global company with leading positions in these areas. In 2015, R&D throughout the Group amounted to approximately 8.9 billion USD. Novartis Group companies employ approximately 118,000 full-time-equivalent associates. Novartis products are available in more than 180 countries around the world.

In the UK, Novartis develops, manufactures and markets innovative medicines, devices and diagnostic tests which help improve patient outcomes. Based on four sites across the north and south of England, we employ approximately 1,500 people to serve healthcare needs across the whole of the UK, as well as supporting the global operations of Novartis by manufacturing the active pharmaceutical ingredients used worldwide in many medicines. The company spent over £16 million on R&D in the UK in 2015. For more information, please visit www.novartis.co.uk.

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PHARMA NORD

Pharma Nord is one of Europe's leading manufacturers of dietary supplements and natural preventative medicines. The company develops, manufactures and markets its products, which are produced to pharmaceutical standards, with emphasis on documented bioavailability, efficacy and safety. Pharma Nord has sponsored a number of randomised controlled clinical trials of relevance to cardiovascular disorders, most notably the recent Q-SYMBIO and KISEL-10 studies. In the Q-SYMBIO study, long term daily supplementation with coenzyme Q10 (in addition to conventional medication) reduced cardiovascular mortality in patients with heart failure (NYHA class III or IV) by more than 40%. In the KISEL-10 study, long term supplementation with coenzyme Q10 and selenium reduced the risk of cardiovascular mortality in the normal elderly population by more than 50%, as well as significantly reducing frequency of hospital admissions and improving quality of life. These studies demonstrate the importance of Pharma Nord product quality and bioavailability, which other supplement manufacturers cannot match. Pharma Nord coenzyme Q10 is available within the EU as the licensed medicine Myoquinon®.

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THE PUMPING MARVELLOUS FOUNDATION
The Pumping Marvellous Foundation was founded to demonstrate leadership around the patient voice working in partnership with all stakeholders to ensure the patient and their families have the best quality of life that is achievable.

PMF has four primary goals that act as a cohesive multi-disciplinary approach to heart failure care.
1. To support patients, carers and their families on how to self-manage the psychological, socio-economic, and physical, impacts on their lives that the condition imposes
2. To improve timescales to diagnose heart failure at primary care gateways
3. To increase the number of patients receiving specialist heart failure care and support
4. To influence government, regulators and the pharmaceutical industry policies to reflect patient needs.

PMF carries out the following activities to achieve these goals
a) Working in partnership with clinicians, commissioners and a range of associated agencies to create patient-driven initiatives.
b) Acting as a catalyst to facilitate the progression of heart failure care.
c) Providing advocacy services to beneficiaries via a network of regional volunteers.
d) Lobbying MPs and government officers to gain their support to increase awareness of heart failure.
e) Using peer-to-peer coaching and support of patients to promote, self-care, self-education and self-intervention.

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SERVIER LABORATORIES
Servier Laboratories is the UK subsidiary of The Servier Research Group, a French research based pharmaceutical company established in 1954 by Dr Jacques Servier. Created in 1963 with only two people, the UK subsidiary was the first subsidiary outside France. In just over fifty years, The Servier Research Group has developed in stature from a small family-owned, provincial pharmacy employing nine people to a multi-national operation, established in 140 countries. As an independent research foundation, with no shareholders, Servier has the freedom to be guided by clinical and patient need. Profits from the sales of our medicines are reinvested to fund research and the development of tomorrow’s innovative medicines. Servier is focused on research and partnerships in the fields of cardiology, diabetes, rheumatology, neurology and oncology.

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ST. JUDE MEDICAL
St. Jude Medical is a global medical device manufacturer dedicated to transforming the treatment of some of the world’s most expensive epidemic diseases by creating cost-effective medical technologies that save and improve lives of patients globally. Clinical focus areas include cardiac rhythm management, atrial fibrillation, cardiovascular and neuromodulation.

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VIFOR PHARMA
Vifor Pharma, a company of the Galenic Group, is a world leader in the discovery, development, manufacturing and marketing of iron replacement therapy products for the treatment of iron deficiency.
For further information please visit our stand or consult the SPC.

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Queen Elizabeth II Centre, London
Exhibition Area I – Britten Room; Exhibition Area II – Whittle Room


Exhibition Plan

Healthcare professionals and company staff only are allowed inside the exhibition area outlined with a dotted line due to ABPI regulations.
Novartis symposium at the BSH 2016 Annual Meeting

Heart failure election night special: Mapping the uptake of a NICE/SMC approved medicine across the UK

Date: Thursday 24 November 2016
Time: 17:30–18:30
Location: Fleming Room, Queen Elizabeth II Centre, London
Meeting Chair: Professor Martin Cowie, Professor of Cardiology

Marking one year since the introduction of Entresto™ (sacubitril/valsartan) into clinical practice, this interactive meeting will review the story so far. The panel will map implementation of the NICE/SMC guidance and highlight regional variation. Real-world case studies will also be presented to share experience and best practice of introducing Entresto. There will be opportunities for you to contribute to the discussions and vote in the polls. As the heart failure treatment landscape evolves, your vote counts.

Entresto™ is indicated in adult patients with symptomatic chronic heart failure with reduced ejection fraction.

This meeting is organised and funded by Novartis Pharmaceuticals UK Ltd.

Prescribing information

ENTRESTO™ (sacubitril/valsartan)

Important note: Before prescribing, consult Summary of Product Characteristics (SmPC).

Presentation: Film-coated tablets of 24 mg/26 mg, 49 mg/51 mg and 97 mg/103 mg of sacubitril and valsartan respectively (as sacubitril valsartan sodium salt complex).

Indications: In adult patients for treatment of symptomatic chronic heart failure with reduced ejection fraction. Dosage & Administration: The recommended starting dose of Entresto is one tablet of 49 mg/51 mg twice daily, doubled at 2-4 weeks to the target dose of one tablet of 97 mg/103 mg twice daily, as tolerated by the patient. In patients not currently taking an ACE inhibitor or an ARB, or taking low doses of these medicinal products, a starting dose of 24 mg/26 mg twice daily should be considered for patients with SBP ≥100 to 110 mmHg, moderate or severe renal impairment (use with caution in severe renal impairment) and moderate hepatic impairment. Do not co-administer with an ACE inhibitor or an ARB. Do not start treatment for at least 36 hours after discontinuing ACE inhibitor therapy. Entresto may be administered with or without food. The tablets must be swallowed with a glass of water.

Contraindications: Hyperkalaemia to the active substances or to any of the excipients. Concomitant use with ACE inhibitors. Do not administer until 36 hours after discontinuing ACE inhibitor therapy. Known history of angioedema related to previous ACE inhibitor or ARB therapy. Hereditary or idiopathic angioedema. Concomitant use with aliskiren-containing medicinal products in patients with diabetes mellitus or in patients with renal impairment (eGFR <60 ml/min/1.73 m²). Severe hepatic impairment, biliary cirrhosis and cholestasis. Second and third trimester of pregnancy. Warnings/Precautions: Dual blockade of the renin angiotensin-aldosterone system (RAAS). Combination with an ACE inhibitor is contraindicated due to the increased risk of angioedema. Entresto must not be initiated until 36 hours after taking the last dose of ACE inhibitor therapy. If treatment with Entresto is stopped, ACE inhibitor therapy must not be initiated until 36 hours after the last dose of Entresto. Combination of Entresto with direct renin inhibitors such as aliskiren is not recommended. Entresto should not be co-administered with another ARB containing product. Hypotension, treatment should not be initiated unless SBP ≥100 mmHg. Patients with SBP <100 mmHg were not studied. Cases of symptomatic hypotension have been reported in patients treated with Entresto during clinical studies, especially in patients ≥65 years old, patients with renal disease and patients with low SBP (<112 mmHg). Blood pressure should be monitored routinely when initiating or during dose titration during Entresto. If hypotension occurs, temporary down-titration or discontinuation of Entresto is recommended. Impaired or worsening renal function. Limited clinical experience in patients with severe renal impairment (estimated GFR <30 ml/min/1.73 m²). There is no experience in patients with end-stage renal disease and use of Entresto is not recommended. Use of Entresto may be associated with decreased renal function, and down-titration should be considered in these patients. Hypokalaemia: Entresto should not be initiated if the serum potassium level is >5.4 mmol/l. Monitoring of serum potassium is recommended, especially in patients who have risk factors such as renal impairment, diabetes mellitus or hypothyroidism or who are on a high potassium diet or on mineralocorticoid antagonists. If clinically significant hyperkalaemia occurs, consider adjustment of concomitant medicinal products or temporary down-titration or discontinuation of Entresto. If serum potassium level is >5.4 mmol/l discontinuation should be considered. Angioedema: Angioedema has been reported with Entresto. If angioedema occurs, discontinue Entresto immediately and provide appropriate therapy and monitoring until complete and sustained resolution of signs and symptoms has occurred. Entresto must not be re-administered. Patients with a prior history of angioedema were not studied. As they may be at higher risk for angioedema, caution is recommended if Entresto is used in these patients. Black patients have an increased susceptibility to develop angioedema. Patients with renal artery stenosis: Caution is required and monitoring of renal function is recommended if Entresto is used in these patients. Patients with NYHA functional classification IV: Caution should be exercised due to limited clinical experience in this population. Patients with hepatic impairment: There is limited clinical experience in patients with moderate hepatic impairment (Child Pugh B classification) or with AST/ALT values more than twice the upper limit of the normal range. Caution is therefore recommended in these patients. B-type natriuretic peptide (BNP): BNP is not a suitable biomarker of heart failure in patients treated with Entresto because it is a neprilysin substrate. Interactions: Contraindicated with ACE inhibitors, 36 hours washout is required. Use with aliskiren contraindicated in patients with diabetes mellitus or in patients with renal impairment (eGFR <60 ml/min/1.73 m²). Should not be co-administered with another ARB. Use with caution when co-administering Entresto with statins or PDE5 inhibitors. Monitoring serum potassium is recommended if Entresto is co-administered with potassium-sparing diuretics or substances containing potassium (such as harnham). Monitoring renal function is recommended when initiating or modifying treatment in patients on Entresto who are taking NSAIDs concomitantly. Interactions between Entresto and lithium have not been investigated. Therefore, this combination is not recommended. If the combination proves necessary, careful monitoring of serum lithium levels is recommended. Co-administration of Entresto and furosemide reduced Cmax and AUC of furosemide by 50% and 28%, respectively. Co-administration of nitroglycerin and Entresto was associated with a treatment difference of 5 bpm in heart rate compared to the administration of nitroglycerine alone, no dose adjustment is required. Co-administration of Entresto with inhibitors of OATP1B1, OATP1B3, OAT1 (e.g. rifampicin, closporine), OAT1 (e.g. tenofovir, cidofovir) or MRPS2 (e.g. ritonavir) may increase the systemic exposure of LBQ657 or valsartan. Appropriate care should be exercised. Co-administration of Entresto with metformin reduced both Cmax and AUC of metformin by 23%. When initiating therapy with Entresto in patients receiving metformin, the clinical status of the patient should be evaluated. Fertility, pregnancy and lactation: The use of Entresto is not recommended during the first trimester of pregnancy and is contraindicated during the second and third trimesters of pregnancy. It is not known whether Entresto is excreted in human milk, but components were excreted in the milk of rats. Entresto is not recommended during breastfeeding. A decision should be made whether to abstain from breast feeding or to discontinue Entresto while breast feeding, taking into account the importance of Entresto to the mother. Undesirable effects: Very common (≥1/10): Hypokalaemia, hypotension, renal impairment. Common (≥1/10 to <1/10): Anaemia, hypokalaemia, hypoglycaemia, dizziness, headache, syncope, vertigo, orthostatic hypotension, cough, diarrhoea, nausea, gastritis, renal failure, acute renal failure, fatigue, asthma. Uncommon (≥1/1,000 to <1/100): Hypersensitivity, postural dizziness, pruritus, rash, angioedema. Packs and price: Entresto 24 mg/26 mg £45.78 per 28 tablet pack. Entresto 49 mg/51 mg £45.78 per 28 tablet pack. Entresto 97 mg/103 mg £35.16 per 56 tablet pack. Entresto 97 mg/103 mg £35.16 per 56 tablet pack.

Legal classification: POM. Marketing Authorisation Holder: Novartis Eurolpharm Ltd, Finley Business Park, Camberley, GU16 7SP. Marketing Authorisation Numbers: Entresto 24 mg/26 mg film coated tablets EU/15/1058/001; Entresto 49 mg/51 mg film coated tablets EU/15/1058/002-004. Entresto 97 mg/103 mg film coated tablets EU/15/1058/005-007. Date of last revision of prescribing information: November 2015. Full Prescribing Information available from: Novartis Pharmaceuticals UK Ltd, Finley Business Park, Frimley, Surrey, GU16 7SP. Tel: (01276) 693225 Fax: (01276) 693508.

End of prescribing information

Adverse events should be reported. Reporting forms and information can be found at http://mhra.gov.uk/yellowcard Adverse events should also be reported to Novartis (01276) 693760 medicinfo.uk@novartis.com

ENTRESTO™ C087a | September 2016