

Echos of Excellence



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Maureen Gardner has worked in Cardiology for almost 40 years, with extensive experience in Cardiac Physiology. Specialising in Echocardiography and Nuclear Cardiology, Maureen recognised the natural extension of the Cardiac Physiologist role in analysis and reporting of diagnostic procedures.

As Cardiology Clinical Lead at Change Healthcare, Maureen was responsible for the redesign and implementation of the Change Healthcare echo reporting solution. Ensuring a high standard of product, echo reporting adheres to BSE and EACVI dataset standards for reporting and provides the busy Echo Department with a robust Solution to support physiologist-led workflows such as the Echo Valve Clinic and Pulmonary Hypertension Clinics.

Maureen Gardner explains how cardiac physiologists and nurses could help relieve the pressure on cardiology services — but only if they're given the right tools to join up care

The management of cardiovascular disease (CVD) continues to present a major challenge to the NHS. Although morbidity has fallen by more than three quarters since 1961, CVD is still responsible for over a quarter of all deaths in the UK whilst treating it costs the health service an estimated £9 billion each year.¹ Pressure on cardiology services is escalating. In England, outpatient appointments increased by almost 40% between 2010/11² and 2015/16³ — with around 2.7 million now carried out every year. As a result, the demands on consultant cardiologists have intensified. Though the number of cardiologists in England has risen in the past few years — increasing by 26%⁴ since 2014⁵ — services are struggling to cope with the demand. It's unsustainable. If the NHS is to achieve the CVD gains outlined in the 2017/18 NHS Outcomes Framework⁶, trusts need to explore new ways of working that optimise resources and respond to patient needs. The most progressive are redesigning pathways to free up consultant time and improve patient flow — but they're also recognising that success depends on giving clinicians the tools and real-time information to drive effective, joined-up care.

One developing trend is the emergence of physiology and/or nurse-led Echo Valve clinics. Proactive trusts are remodelling their cardiology services to create new clinics for valve disease patients. The rationale is based on an accepted wisdom: patients with valve disease often remain asymptomatic for long periods, but whilst they regularly need echocardiography, they don't necessarily need to see a cardiologist. As such, new valve clinics focus on patients who are not presently showing symptoms. In them, cardiac physiologists or nurses carry out the usual echocardiograms to monitor disease status, but then — in a break from the norm — follow them up with immediate consultation to share the results and discuss patients' recent experiences.

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Crucially, a patient will only be escalated to see a cardiologist if a change in disease status is detected. In most cases, those cardiologist consultations will take place that same day.

Historically, valve clinics have required patients to go through a two-stage process; first visiting hospital for an echocardiogram and then returning some weeks later for a follow-up review with a consultant. It's a process that's a hostage to common disruptions such as cancellations or emergencies — and from end-to-end can sometimes span several months. On occasions, such is the gap between the ultrasound and the follow-up that the original echocardiogram is considered too old and a new one is required. The process begins all over again.

Inefficiencies in this widely-used model can have major implications. Primarily, the patient experience is poor, with patients required to attend hospital twice for what is often a routine check-up. Moreover, for some patients, the time-lapse and inherent uncertainty between appointments can create anxiety. Conversely, patients whose echocardiograms reveal disease progression can suffer delays in care. For the NHS, the conventional model forces hospitals to schedule unnecessary follow-up appointments for patients where echocardiography has revealed no change in disease status. It's entirely avoidable. Cardiac physiologists and/or nurses are often sufficiently qualified and skilled to interpret and communicate this information to patients, post-echocardiogram, and spare them a return journey.

Avoidable follow-up appointments create additional demand on cardiology clinics, increasing the pressure on cardiologists by committing them to routine consultations that do not maximise their specialist expertise. The increased demand naturally prevents them from seeing patients with more urgent needs. It's a sub-optimal use of NHS resources. In parts

of the country, such inefficiencies are making it hard for trusts to comply with BCS guidance on the appropriate workload for consultant cardiologists.⁷ In the process, administrative resources are further stretched, creating a domino-effect where clinics are congested, appointments are limited and urgent patient care is compromised.

The evidence for multi-disciplinary valve clinics with devolved surveillance is compelling. A two-year audit at Guy's & St Thomas' Hospital (GSST)⁸ indicated that such clinics are 'feasible, safe and generalisable as part of a specialist valve service'. They certainly have the potential to be highly effective in the current pressurised environment. Physiology or nurse-led Echo Valve clinics can help optimise precious cardiology resources, enabling trusts to leverage existing skills and capabilities among other HCPs that often go to waste. The model frees cardiologists to spend time with patients that require clinical decisions, and creates greater capacity in clinics. The downstream impact on administrative resources is also significant, yielding a reduction in clinical correspondence and associated tasks. Fundamentally, the impact on patient care is substantial.

However, redesigning pathways is about much more than redeploying and optimising resources, it requires information tools to support clinicians. NHS cardiology services have long been underpinned by cardiovascular information systems (CVIS) that help teams store, access, share and report echocardiogram imaging and other diagnostics such as vascular ultrasound, nuclear cardiology and ECGs. These systems are typically used by cardiologists at the point of care to empower real-time clinical decision-making. However, if trusts are to remodel pathways to optimise specialist resources elsewhere within the MDT, use of these tools needs to extend to physiologists and/or nurses. And they must be customised to support their new requirements.

The most effective solutions will be those that are built upon a distinct template to support the reporting of heart valve abnormality and surveillance. The GSST study adopted common database fields to identify the most effective format of a valve clinic report, highlighting the questioning required to inform the need for referral. The study provides a framework for physiologist and nurse-led valve clinics. The smartest systems guide clinicians through patient consultations — prompting specific questions (based on the GSST framework) to determine whether a patient needs an immediate referral to a cardiologist. In addition, clinicians need full visibility of vital elements such as patient history, valve pathology, valve history and a patient's medications — as well as a view of sequential echoes to examine changes in valve structure. They must also note any symptoms or changes in outlook that emerges through discussion with a patient. Effective CVIS can capture and evaluate this holistic information and intuitively escalate a referral when guiding criteria has been met.

Cardiology reporting tools are widely used across the NHS, giving cardiologists access to all the information a hospital may have on a patient. The best allow multimodality image viewing and reporting from a single patient file — enabling clinical decisions to be made in real time. These powerful tools can have a transformative impact on healthcare services; accelerating care, optimising resources and improving patient outcomes. However, on its own, access to information is not enough; data is only effective if it's used to drive processes and inform decisions. To enable this, systems need to be tailored to reflect the nuances of individual clinicians' needs.

The customised application of CVIS for physiologists and nurses is therefore essential if trusts are to develop more effective models of cardiology care. Physiology and nurse-led echo valve clinics present a fantastic opportunity to relieve the burden on cardiology services and enhance the patient experience. But the echoes of excellence will only reverberate around the NHS if cardiology teams are empowered by real-time information that drives timely, responsive decision-making.

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Change Healthcare, please visit
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¹<https://www.bhf.org.uk/-/media/files/research/heart-statistics/bhf-cvd-statistics---uk-factsheet.pdf?la=en>

²<http://www.content.digital.nhs.uk/catalogue/PUB03032/hosp-outp-acti-10-11-main-spec-tab.xls>

³<http://www.content.digital.nhs.uk/catalogue/PUB22596/hosp-epis-stat-outp-main-spec-2015-16-tab.xlsx>

⁴<http://www.content.digital.nhs.uk/article/2021/Website-Search?productid=25273&q=NHS+workforce+statistics&sort=Relevance&size=10&page=1&area=both#top>

⁵<https://www.rcplondon.ac.uk/projects/outputs/2014-15-census-uk-consultants-and-higher-specialty-trainees>

⁶<http://www.content.digital.nhs.uk/catalogue/PUB23992/nhs-out-fram-indi-may-17-dash.pdf>

⁷https://www.bcs.com/documents/BCS_guidance_on_workload_for_cardiologists_-_final_March_2010.pdf

⁸<https://bjcardio.co.uk/2011/10/multi-disciplinary-valve-clinics-with-devolved-surveillance-a-two-year-audit/>

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Change Healthcare is inspiring a better healthcare system. Working alongside our customers and partners, we leverage our software and analytics, network solutions and technology-enabled services to help them improve efficiency, reduce costs, increase cash flow, and more effectively manage complex workflows. Together, we are accelerating the journey toward improved lives and healthier communities.