

General Practice direct access echocardiography – together are we achieving best care for patients?



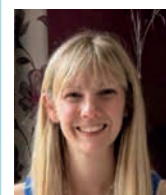
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INTRODUCTION

Background

Recent recommendations from NHS England advocate general practitioners (GPs) have prompt access to natriuretic peptide tests (BNP, NT-proBNP) and echocardiography for patients at a high risk of heart failure. This highlights the importance of GP direct access echocardiography services and the role they play in early diagnosis, limiting mortality and morbidity risk, and lessening the impact on our health economy.¹ It also holds up a mirror, compelling us to ask ourselves ‘are we actually delivering on these recommendations?’ With this in mind, we surveyed GPs with current direct access to echocardiography at a district general NHS Foundation Trust to seek their opinions in five key areas:

- 1) requesting direct access echo;**
- 2) awareness of the BSE triage documentation;**
- 3) GP interpretation of the echo report;**
- 4) departmental communication; and**
- 5) clinical recommendations based on the echo result.**

Summary of service

At Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust (DBTH), Bassetlaw region general practitioners (GPs) have direct access echo for the following conditions; 1) the assessment of a heart murmur; 2) atrial fibrillation to assess for structural abnormality; 3) assessment of possible HF where NT-proBNP is >400ng/L, with a target of within two weeks where >=2000ng/L.² This list of specific inclusion criteria was decided by consensus between the Trust and Bassetlaw Clinical Commissioning Group on commencement of the service. Echo requests are triaged by the echo team, patients are booked and results are directed back to the GP by the echocardiographer. Before directing the result back, the echocardiographer actions any red-flag pathologies (in line with a direct access section of the echo reportable abnormalities SOP) either by discussion with a cardiologist, booking the patient directly into cardiology clinic, and/or writing specific recommendations on the echo report for the GP (e.g. recommend cardiology referral for moderate valve disease). At the time of writing this, new bi-weekly virtual heart failure (HF) multidisciplinary team (MDT) meetings were being implemented and since the survey date, echocardiographers can now add a comment inviting the GP to discuss the patient at this forum.

METHODOLOGY

All GPs within the Bassetlaw Hospital catchment area (part of DBTH) who potentially refer into the direct access echo service were invited by email to take part in a survey. All participants were informed of the intention to publish results in the British

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Society of Echocardiography (BSE) quarterly journal. An online survey platform was used for data collection and all participants were given one month to complete the survey. All participants were required to answer survey questions anonymously.

Survey questions were designed to assess the GPs' opinions relating to the key areas identified for this project; 1) requesting direct access echo; 2) awareness of the BSE echo request triage guidance,³ and more pertinently the guidance specific to primary care;⁴ GP interpretation of the echo report; communication between GPs and the cardio-respiratory department; and 5) clinical recommendations based on the echo result. The survey was kept concise to minimise the time commitment from participants (20 questions) and included both closed and open ended questions. All survey questions were subject to peer review before being disseminated.

RESULTS

Requesting direct access echo

Thirteen GPs from the Bassetlaw catchment of DBTH completed the survey. 85% felt they understood what they were attempting to gain from the echo request and/or how the echo added value to the assessment of the patient (Figure 1). In terms of requesting BNP, 77% understood its importance in the triage of HF.

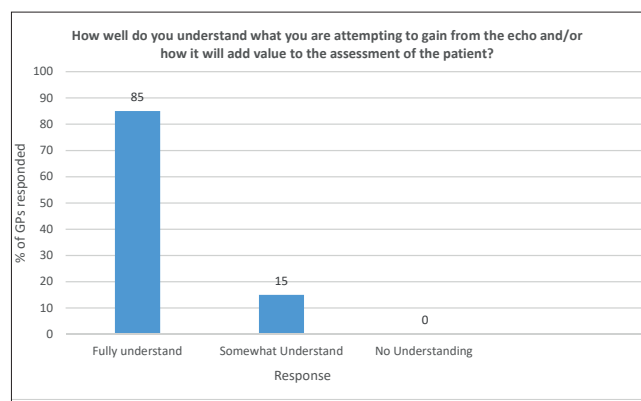


Fig 1. Outcomes in relation to understanding the value of the echo in the assessment of the patient.

Almost half (46%) of GPs felt that the echo request form always allowed them to identify the clinical question they would like the echo to answer. An additional 46% felt the echo request form sometimes allowed for this, and 8% felt the echo request form did not allow for this. Open ended answers provided further insight highlighting; 1) a limitation of direct echo access only being available for set criteria (more specifically, not being available for assessment of pulmonary hypertension / cor pulmonale in patients with severe COPD and leg oedema); 2) inflexibility of the request form when the patient and their need for echo had previously been discussed with and sanctioned by a cardiology consultant - however do not meet any of the direct access criteria.

Awareness of the BSE echo request triage guidance

The large majority of GPs (85%) were unfamiliar with the BSE clinical indication and triage of outpatient requests guidance (Figure 2). GPs were asked specific questions about indications for which the BSE triage guidance suggested echo provides low clinical yield. For these questions almost half of GPs were not familiar with the specific clinical conditions and a further 31% were only aware of some. However, two thirds (62%) of GPs felt comfortable explaining to the patient that the echo was not required following specialist review (Figure 3). Of the remaining third, 23% did not feel comfortable and 15% were unsure.

GP interpretation of the echo request

Just over one third (38%) of GPs felt confident they fully understood the terminology, language and phrasing used in an echo report (Figure 4). The remaining two thirds (62%) 'somewhat understood' this. Half of the GPs (54%) felt the echo always answered the clinical question they wanted answered, with a further 46% stating only sometimes did the echo answer the clinical question. No responders felt the echo did not answer the clinical question.

Communication between GPs and the echo team

Responses showed that 54% of GPs felt confident they understood when the echo findings warranted a routine cardiology referral with 24% reporting they did not feel confident. The remaining 23% of responders were equivocal.

From this cohort of responders, 23% felt that communication between the GP practice and the echo service was based on an open, two-way, effective communication model, with 77% highlighting some communication but that improvements were needed. When asked about the value of an 'echo report guide', 85% of GPs felt this would be useful. They specifically outlined pulmonary hypertension and diastolic dysfunction as areas where the guide may be the most useful.

Clinical recommendations based on the echo result

When asked about the impact of additional clinical recommendations within the echo report, 85% of GPs said they would find this useful, with 15% highlighting no additional clinical recommendations were offered in the echo report (Figure 5). Open ended comments supported the inclusion of supportive recommendations both in the context of normal and abnormal findings.

Discussion

The results of the survey were based on a modest number of respondents (13 GPs) from one catchment area. With this in mind, we are conscious that the discussion points and lessons learned may not be transferrable across all centres. Yet, we are hopeful that other centres will be able to use this information to retrieve their own data and/or improve patient services.

GPs reported having a good understanding of how the echo added value to the assessment of the patient. However, about half felt that the echo request form only sometimes allowed

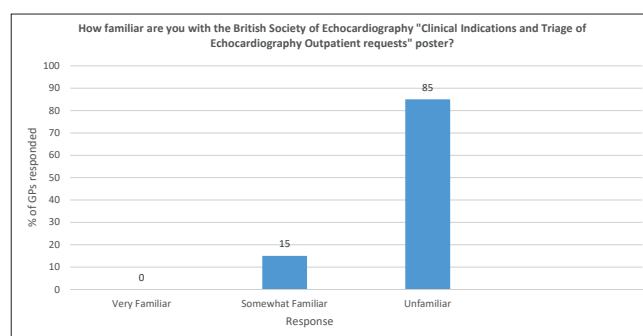


Fig 2. Outcomes demonstrating that 85% of GPs were unfamiliar with the 'BSE clinical indication and triage of echocardiography outpatient requests' guidance.

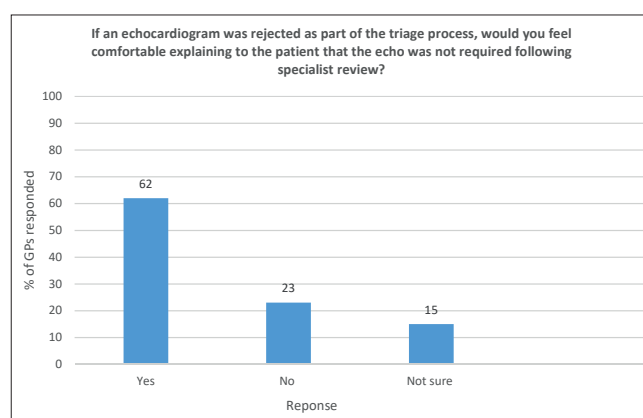


Fig 3. Outcomes demonstrating that 62% of GPs felt comfortable explaining to the patient that the echo was not required following specialist review.

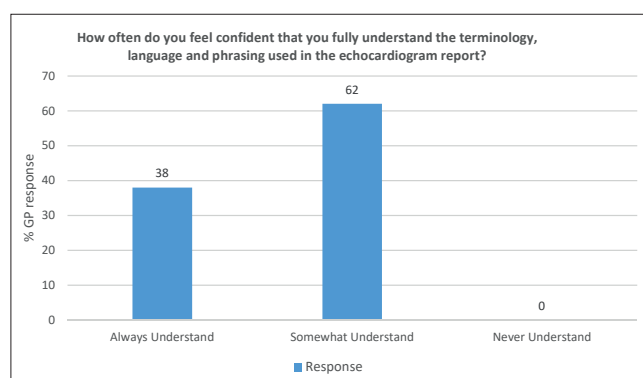


Fig 4. Outcomes demonstrating that 38% of GPs felt confident they fully understood the echo report.

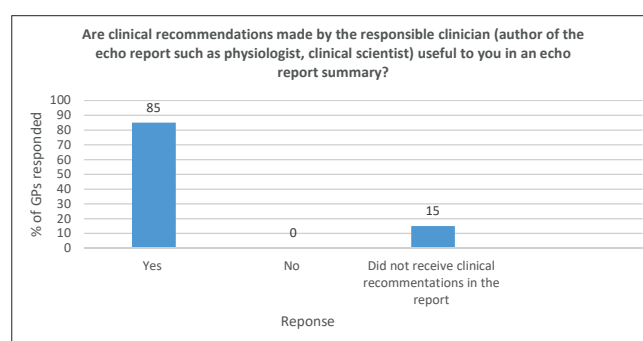


Fig 5. Outcomes demonstrating that 85% of GPs prefer receiving clinical recommendations as part of the echo report.

them to identify the clinical question that was being asked. At DBTH the echo request form is designed to limit direct access echo to a selection of conditions (detailed in the 'summary of service' on p7). With the availability of the most recent triage documents, it seems sensible to review the current echo referral format so that the full complement of appropriate indications is included subject to relevant funding approval.

It was disappointing that only 15% of GPs were familiar with the BSE echo request triage guidance. In addition to this, most of the GPs were not aware of the clinical conditions in which requesting an echo provides little diagnostic yield. The BSE triage guidance comes in two forms; Clinical indications and triage of echocardiography outpatient requests (excluding the follow-up of established valve disease)³ and Conditions in which an echo has low clinical yield from primary care.² At the time of publication, the latter document was distributed to all UK GPs. The documents were designed to support appropriate referral ensuring timely scanning of those patients most in need and raise awareness of where echo is of low yield specifically in a primary care setting. This result raises questions on how to best signpost these essential resources. Short term thinking suggests that re-distribution may be useful. Long term, electronic referral systems should focus on integrated systems and algorithms so that 'data in' determines the appropriateness of referral. In the future, it may be that artificial intelligence (AI) can then assist GPs to better understand when echo is not the best diagnostic test for the patient, simultaneously providing reassurance and reducing pressure on echo systems.⁵

Two thirds of GPs felt comfortable explaining to a patient that the echo was not required based on advice from the echocardiographer. But one third were not convinced. Providing GPs with an explanation as to why the echo is not indicated may help provide support to GPs, and justification to patients. It would be interesting to know if an AI-driven, electronic adaption to the referral process (as outlined above) would change this perspective.

In terms of communication, only 38% of GPs felt confident they fully understood the echo report. The last 20 years has seen extensive expansion in how we assess the heart using echo. New and advanced technologies have led to much more sophisticated echo outcomes which translate to niche and highly developed echo reports. As an echo community it would be wise to consider the language we use to ensure useful, meaningful, and directed messaging reaches the ears of the GPs and the hearts of the patients.

Separate to this, this cohort of GPs also expressed a desire to have more developed two-way effective communication with their echo team, with 77% highlighting that some communication was good, but improvement was needed. Proposals targeted at improving communication may include; 1) informing GPs why an echo is not indicated, with suggestions as to what might help; 2) setting up opportunities to interact (e.g. joint HF MDT meetings which has now been implemented at DBTH, education and Q&A sessions); 3) developing an echo report guide so that GPs and echocardiographers are speaking the same language. From this cohort, 85% of GPs were in favour of an echo report guide.

There was a clear desire from the GPs for both recommendations on pathologies detected on the echo and future management of the patient. Dovetailing nicely with improvements in language and communication, providing cardiology based clinical recommendations to GPs ensures clinical acuity and further enhances echo referral appropriateness. Advice in relation to follow up means that GPs are clear when no follow up is required as well as understanding the best practice follow up intervals when follow up is required. Recommendations such as 'consider cardiology review by a HF consultant' or 'consider computed

tomography coronary angiogram (CTCA)' reduces uncertainty and improves efficiency when the GP has only minutes to follow up diagnostic outcomes for patients whilst ensuring that care is patient centred. More developed models of service between centres may have in-house agreement (as in the DBTH SOP) whereby if cardiology review is required, this can be arranged by the echocardiographer and their cardiology specialists. The provision of clinical recommendations also aligns with extended and advanced clinical practice for expert echocardiographers. This avenue avails opportunities five-fold; 1) improved patient safety, patient pathways and speed of escalation; 2) reduced unnecessary burden on GPs and cardiologists; 3) enhanced professional satisfaction and retention for echocardiographers; 4) improved efficiency of echocardiography services; 5) new ways of working considering imminent advances in AI. We do however acknowledge that the ability to make clinical recommendations based on the echo findings would be subject to the training and experience of the echocardiographer / clinical scientist authoring the report, and provided under the auspicious supervision of a cardiology consultant.

LEARNING POINTS

- GPs have minimal awareness of BSE documentation designed to help facilitate improved outpatient echo referral and triage.
- An open line of communication between GPs and the echocardiography team is deemed important to GPs and this relationship should be nurtured.
- GPs want guidance in echo report interpretation and clinical recommendations based on the echo findings.
- Clinical recommendations would be useful from the perspective of the GP but also the echocardiographer, cardiologist and patient.

The reportable abnormalities SOP and full GP direct access survey can be accessed via the membership resource hub on the BSE website.

With special thanks to Helen Bird, PG Dip Ed, Training and Education Lead Physiologist, Doncaster and Bassetlaw Teaching Hospitals.

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This article was first published in issue 130 of the ECHO Journal, June 2025. BSE members can access past issues of ECHO [here](#)