**Vscan**

Pocket-sized imaging device (PSID) effectiveness for ward-based transthoracic studies\(^1\) (TTE); a clinical and economic study

**STUDY BACKGROUND**

**Objectives:**
- Clinical: Assess the usefulness of a PSID in evaluating focused clinical questions including: left ventricular function, presence of regional wall motion abnormalities, evidence of pericardial effusion, or exclusion of significant valve pathology
- Economic: Calculate cost effectiveness of PSID use in limited cardiac assessments conducted by experienced sonographers

**Patient population:** 92 inpatients where bedside ultrasound was ordered and performed

**Equipment:** Vscan was compared to Philips CX50 and Vivid i units

**Duration:** Enrollment over 3 months

**Statistics:** Kappa statistics were used to estimate the level of agreement and reproducibility

**CLINICAL: PSID AND TTE IMAGE QUALITY FOR FOCUSED CLINICAL QUESTIONS**

Assessment of chambers, valves and presence of effusion were compared between devices.

**PSID:** Qualitative assessments performed on the device

**TTE:** Quantitative measurements performed offline

**Image quality**

![Image quality graph]

**Results**

In 90% (83 of 92) of patients the PSID provided the desired clinical information

PSID is useful to exclude major valve pathology, but TTE including Doppler required to assess severity of lesions

Study involved experienced sonographers and echocardiography fellows

Results indicate PSID as a valuable alternative to standard approaches for focused clinical questions in ward-based echocardiography when performed and interpreted by experienced clinicians
The use of PSID in limited patients referred for bedside TTE resulted in:

- 66% reduction in mean scanning and reporting times**
- 76% reduction in mean cost per scan***

** Scanning time was calculated as time from beginning to end of exam. Vscan scan times were based on focused assessment while TTE utilized imaging modes including m-mode, pulsed and continuous wave Doppler modes.

*** Overall costs for both modalities were calculated in a UK health system using the combination of staff, equipment and hospital costs, in addition to travel and mean scanning and reporting times.

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