



Canadian Society of
Echocardiography

19TH ANNUAL CANADIAN ECHO WEEKEND
APRIL 20-22, 2017
TORONTO, ON

Session Title:

Presenter/Author:

OBJECTIVES: What questions or points will participants learn or discuss?

1. **Understand the variation in the use of cardiac imaging including evidence for overuse and underuse**

2. **Consider the benefits and limitations of AUC as it applies to echocardiography use**

3. **Consider how the “value proposition” can be applied to echo**

DISCUSSION: Please provide a summary of the discussion and/or include 3 to 6 key presentation slides.

Echocardiography is a relatively inexpensive imaging modality with few risks compared to other modalities. However, it is the fastest growing cardiac imaging modality, leading to significant expense for the health industry.

Attempts to limit the number of echoes have included use of “Appropriate Use Criteria”, Utilization Management requiring pre-authorization, physician and patient education (Choosing Wisely campaign) and denial of payments.

There is evidence however, of the underuse of echocardiography in certain settings where its use is essential to patient care.

There is little data on the value of a “quality” echo vs one performed by a non-certified lab or sonographer or interpreted by a non-certified physician. The role of value and quality are intertwined and largely defined by the cardiology professional societies.

Point of Care Cardiac Ultrasound (POC) is increasing performed in patient care settings, often by non-cardiologists. The use of POCUS will change the imaging paradigm and requires more study to determine optimal use in some settings.

CONCLUSIONS:

1. **AUC are a blunt tool to determine the value of cardiac imaging in individual patient presentation**

2. **The value of echocardiography is well proven and there is evidence that it is underutilized in certain situations**

3. **The echocardiography community should embrace the use of POCUS and collaborate with other groups to achieve best practice pathways for imaging.**

REFERENCES: (journals, websites, etc.)

1. **Sistrom, CL et al. Images of Imaging: How to Process and Display Imaging Utilization for Large Populations. AJR 2015; 204: W405-20**

2. **Papalos, A et al. US Hospital Use of Echocardiography JACC 2016; 67: 502-11**

3. **Agiro, A et al. Examining the Association between Utilization Management and Downstream Cardiovascular Imaging. Health Services Research 2014; 49:(5) 1616-37.**

Quality Measures in Echocardiography: Can IAC, AUC and POC help?

**19th Annual Canadian ECHO Weekend
April 22, 2017**

Susan E Wiegers, MD, FASE, FACC

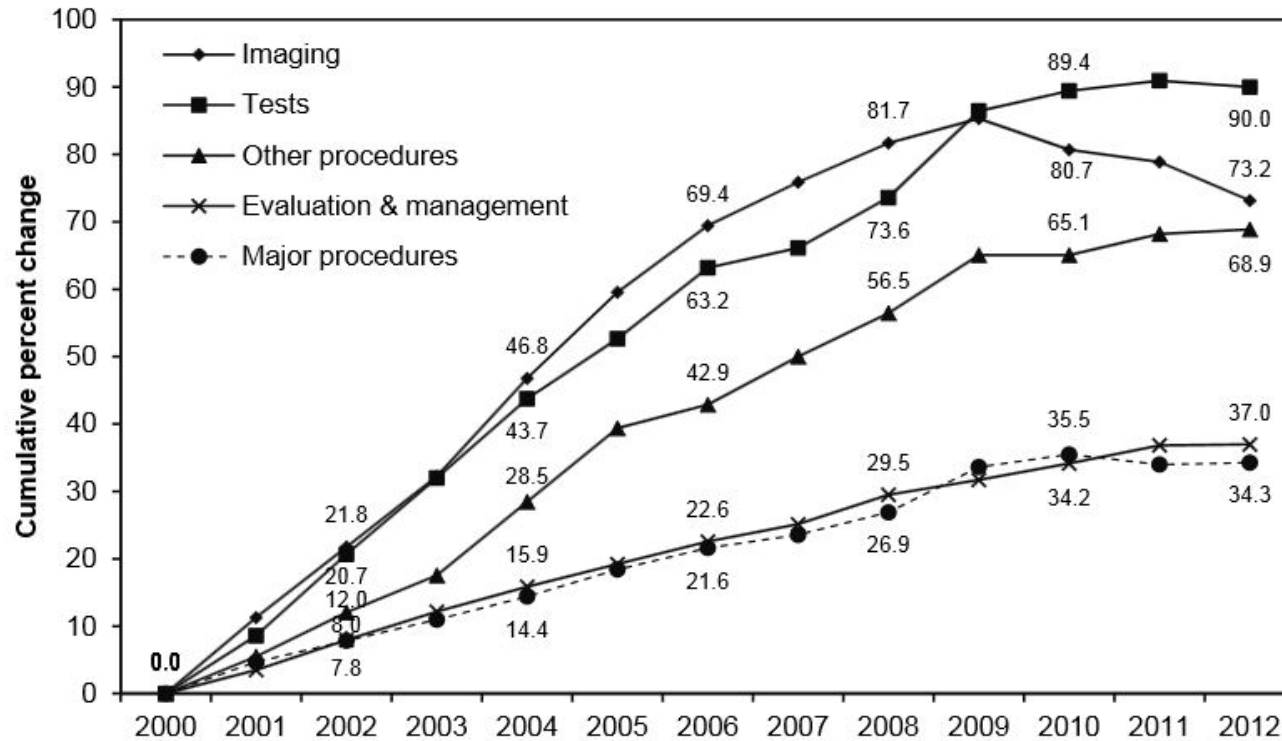
Professor of Medicine

Senior Associate Dean of Faculty Affairs and Graduate
Medical Education

Lewis Katz School of Medicine at Temple University

The Problem

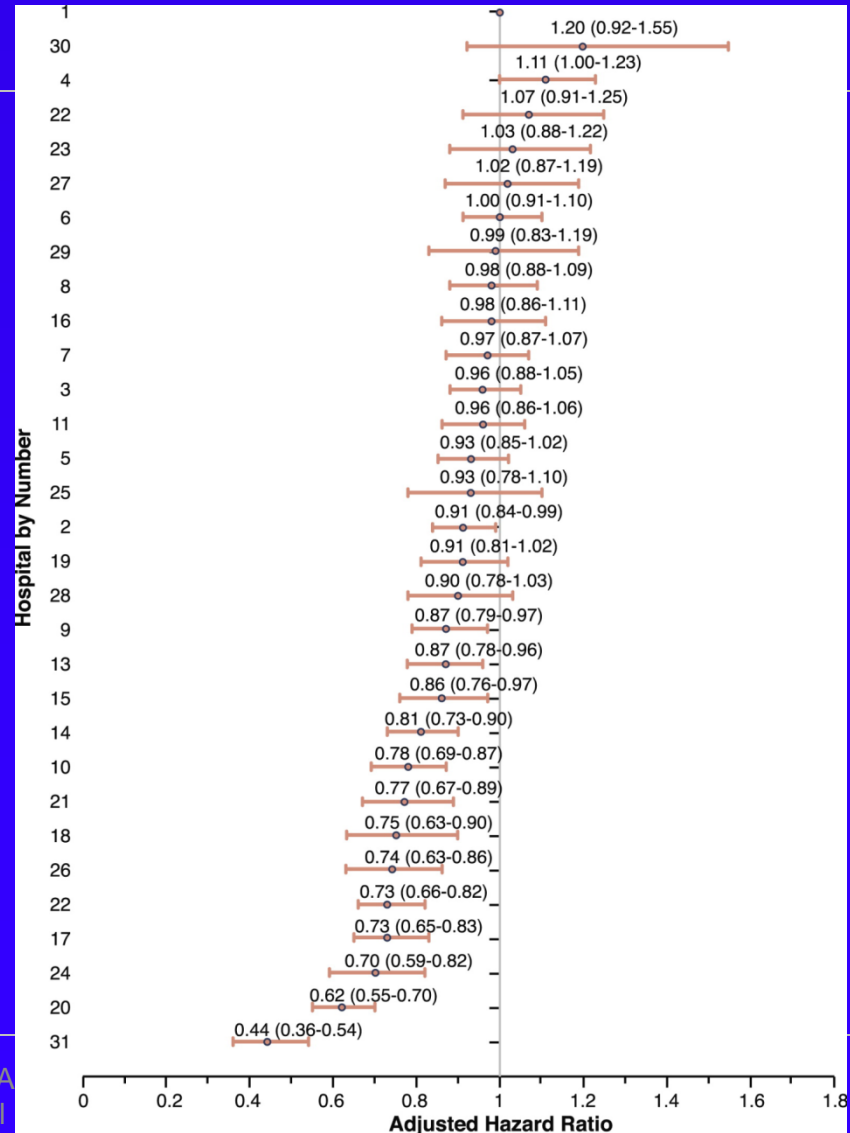
Chart 7-8. Growth in volume per beneficiary of physician and other qualified health professional services, 2000–2012



Hospital-Level Variation in Use of Cardiovascular Testing for Adults With Incident Heart Failure: Findings From the Cardiovascular Research Network Heart Failure Study. Farmer SA et al JACCi 2014

Adjusted Hazard Ratio and 95% Confidence Interval of Any Cardiovascular Test Use Among 5,878 Adults With Incident Heart Failure by Hospital (2005 to 2008)

Adjusted hazard ratio of cardiovascular testing relative to the hospital with the highest rate of echocardiography.





U.S. Hospital Use of Echocardiography: Insights From the Nationwide Inpatient Sample

Papalos A, et al. J Am Coll Cardiol. 2016;67(5):502-511. doi:10.1016/j.jacc.2015.10.090

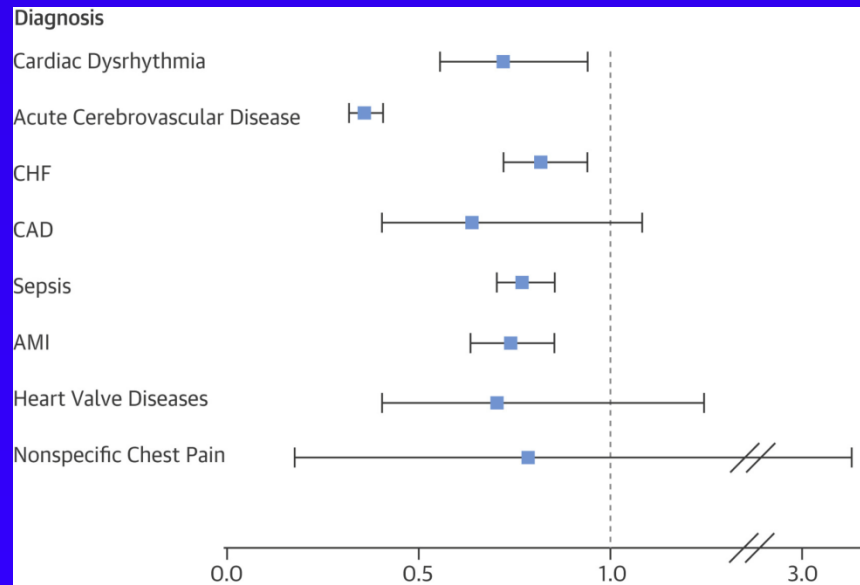


Figure Legend:

Adjusted Odds Ratio (95% CI) of In-Hospital Death in Patients Who Underwent Echo by CCS Admission Diagnosis

Results control for age, sex, race, insurance, income quartile by zip code, number of chronic diseases, All Patient Refined–Diagnosis Related Group (APR-DRG) severity index, administration of cardiac catheterization and/or cardiac stress test, and admission day. Cath = coronary catheterization; CCS = Clinical Classification Software (codes); CI = confidence interval; other abbreviations as in Figure 2.



The difference between “Limited study” and Focused Cardiac US

- Limited study is done with standard machine
- Answers specific question
- Includes necessary hemodynamic assessment
- Done by sonographer or trained imager
- ASE definition of FCU
 - Uses handheld device
 - “Identifies the presence or absence of one or several specific findings by using a defined, pre-established image acquisition protocol”

