DRAUP that chest xray: effectiveness and acceptance of implementation strategies towards ultrasound-guided central venous catheter confirmation

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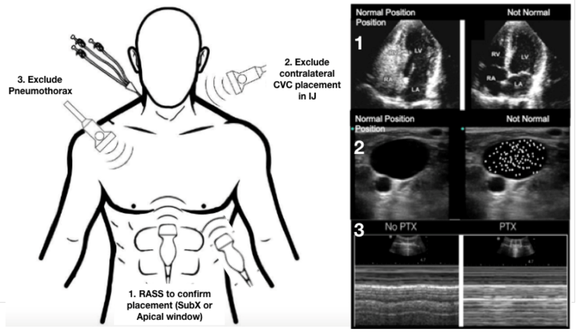
RESEARCH OBJECTIVE

Despite evidence that chest radiography (CXR) is no longer needed after central venous catheter (CVC) confirmation by point of care ultrasound (POCUS), POCUS-guided CVC position confirmation and exclusion of pneumothorax in lieu of CXR has had slow rate of adoption. Our Emergency Department instituted strategies to facilitate this evidence-based innovation through a program called DRAUP (**D**e-Implementation Of Routine Chest **R**adiographs After **A**doption of **U**ltrasound Guided Insertion and Confirmation of CVC **P**rotocol).

POPULATION STUDIED

Emergency Medicine (EM) physicians (N=84/88).
15 physicians in training; 69 faculty physicians



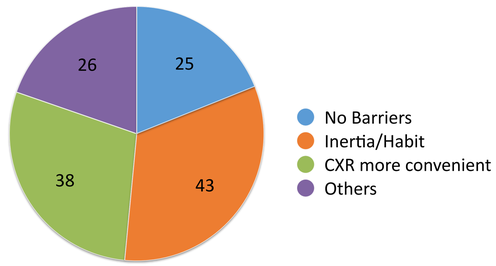
STUDY DESIGN

Six multifaceted implementation strategies were executed towards DRAUP in a single, large, tertiary, academic medical center. We used a modified Dillman technique to conduct a brief web-based survey of Emergency Medicine (EM) physicians, using a 6-point Likert scale, to evaluate the current acceptance of DRAUP, the multifaceted strategies, and to identify perceived barriers toward widespread utilization of DRAUP.

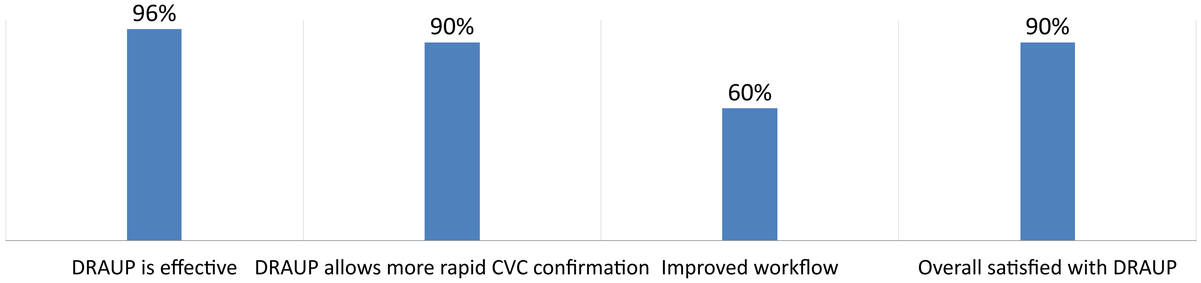
PRINCIPAL FINDINGS

- Response rate was 95% (84/88).
- Fifty-one (61%) of respondents reported using DRAUP at least once since implementation 4 months prior.
- 13% used DRAUP 4-10 times.
- 90% reported satisfaction with DRAUP as a change in clinical practice (27% strongly agree; 42% agree; 19% slightly agree).

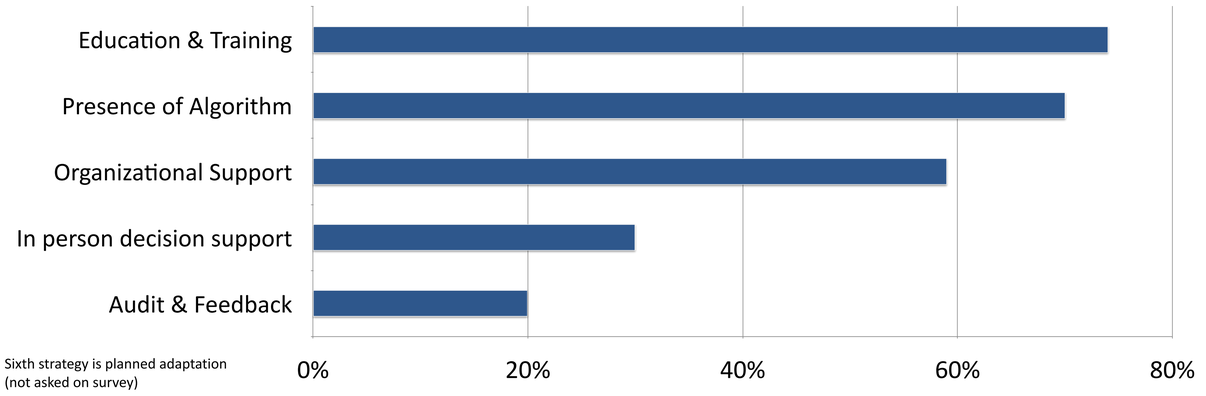
Percentage reporting barriers to DRAUP?



DRAUP Acceptance



Implementation Strategies facilitating use of DRAUP



Sixth strategy is planned adaptation (not asked on survey)

IMPLICATIONS FOR POLICY AND PRACTICE

DRAUP will be used as a test case to develop and evaluate a de-implementation approach/framework for low value care in the acute care hospitalized setting and will provide a generalizable blueprint for "choosing wisely" or optimizing care in other broad applications in the management of critically ill patients.

Barriers	Intervention Strategies
• Inertia	• Audit and Feedback • Planned Adaptation
• Provider lack of confidence	• Algorithm development
• Hospital policy	• Organizational Support (policy/procedures)
• Provider lack of comfort	• Decision Support from DRAUP team
• Provider lack of knowledge/ practice	• Education and Training

CONCLUSION

DRAUP was implemented with 6 multifaceted strategies. After 4 months, the implementation of DRAUP in our ED is well utilized and accepted but barriers such as lack of clinical inertia to change, lack of clinical workflow improvement, and ease of obtaining a CXR were noted. Larger studies are needed to modify and test these strategies based on the barriers reported.

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