

Implementation of a Point-of-Care Lung Ultrasound Curriculum for Pediatric Hospitalists

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Background

- Point-of-Care Lung Ultrasound (LUS) is particularly useful in pediatrics given the frequency of respiratory illnesses and evidence demonstrating its ability to diagnose pneumonia (PNA)
- CHCO Pediatric Emergency Medicine (PEM) faculty are training to use LUS to evaluate patients for PNA
- CHCO Pediatric Hospital Medicine (PHM) providers do not routinely employ POCUS and cannot interpret or acquire images
- If PHM providers are not comfortable using PEM LUS results to inform decisions, they may be more likely to:
 - Order additional imaging
 - Communicate poorly with PEM providers and patients regarding the clinical importance of LUS results

Curriculum

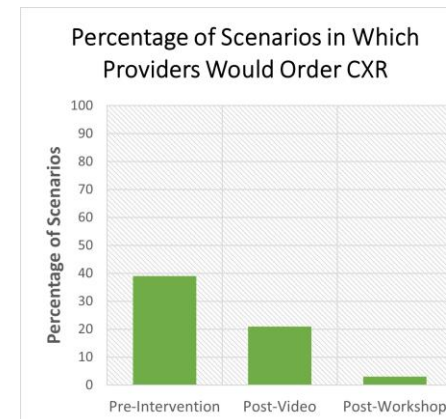
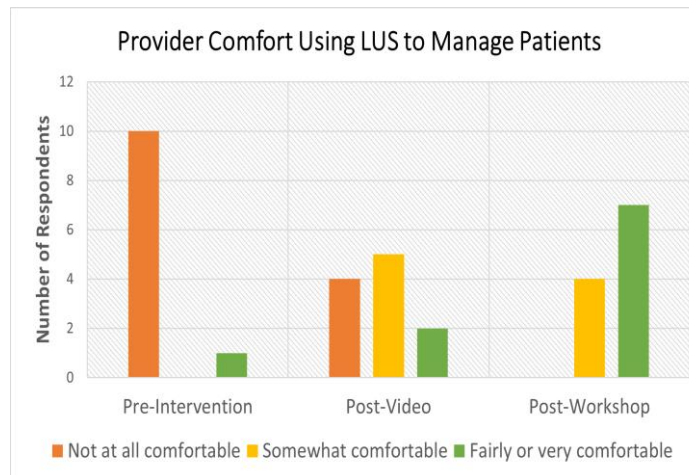
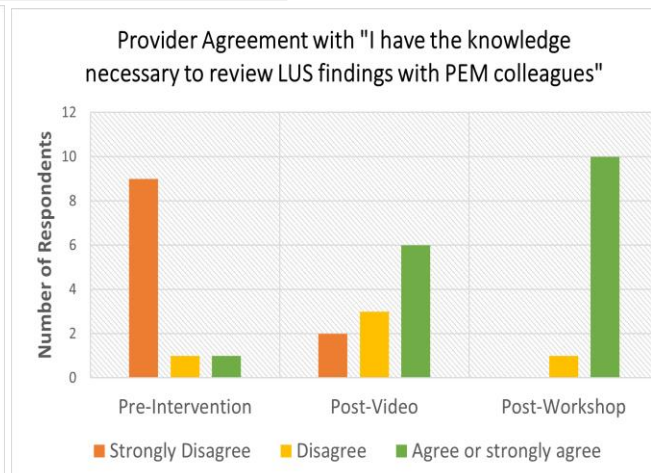
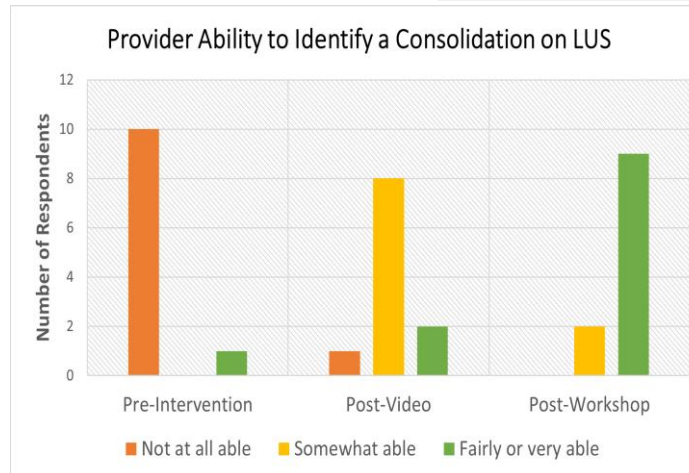
- 1st intervention: 11 PHM hospitalists watched a 40-minute online video teaching interpretation of LUS images
- 2nd intervention: The same 11 hospitalists participated in a 4-hour hands-on LUS training workshop teaching LUS performance
 - Utilized priming and retrieval practice
 - Skills practiced on standardized patients
- Hospitalists were surveyed prior to the video intervention, prior to the hands-on training intervention, and after the hands-on training intervention

Global Aim: To improve the care of children hospitalized with a lower respiratory tract infection by training PHM providers to interpret LUS images and understand their clinical significance

Approach: Implemented a multi-modal educational QI project consisting of two different interventions in the pilot phase

Educational Goal: To provide PHM hospitalists with the knowledge and skills necessary to use previously acquired LUS images to manage a pediatric patient presenting with suspected PNA

Results



Providers were given three hypothetical clinical scenarios in which a PEM provider used LUS to evaluate for PNA, and were asked if they would order additional imaging

DISCUSSION

- Virtual education increased self-reported ability to:
 - Identify consolidations on LUS
 - Communicate LUS results with PEM colleagues and families
 - Use LUS results to manage patients
- Providers were able to demonstrate high proficiency on testing of LUS principles and image identification (87% average score)
- Hands-on training provided an additional benefit
- Virtual education is likely to reduce the number of CXRs providers order on patients who have LUS performed by a PEM provider
- When added to virtual training, hands-on training is likely to further reduce CXR use

Next Steps

- Compare the frequency of CXRs ordered by LUS-trained vs non-LUS-trained PHM providers on pediatric patients at CHCO who receive a LUS in the CHCO ED
- Expand hands-on training to the entire PMH section