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Jacob P. Cappiello
University of Vermont

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Cappiello, Jacob P., "Utilization of POCUS in Family Medicine at CMMC" (2023). *Family Medicine Clerkship Student Projects*. 901.

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Utilization of POCUS in Family Medicine at CMMC

Jacob Cappiello

FM Rotation 1 – 2023



Problem Identification

- Maine has a significant portion of patients who live in a rural area far from doctor's offices and medical centers. Combined with a low SES population where transportation issues are common, POCUS can be an invaluable tool in an FM practice to reduce the number of appointments, and travel needed, for patients in need of healthcare.
- Access to Care was the #2 health priority in the Franklin County community health needs assessment.
- AHEC Focus areas:
 - Social Determinants of Health
 - Medical Practice Transformation

Public Health Cost and Community Considerations



One study found that on average patients in rural areas spend \$856 on transportation and \$674 on accommodations per year for healthcare.¹ Up to 25% of missed patient appointments are due to transportation issues.²



In a single ED study, POCUS use eliminated between \$181 - \$2826 in additional testing costs, which may be transferrable to Family Medicine practice.³



POCUS as a tool in a rural FM office can expand provider abilities, provide real time diagnostic and screening results, and reduce the number of healthcare visits a patient may need

Community Perspective Interviews

“I tend to avoid going to the doctor because of my transportation limitations. I reschedule or put off appointments, even when I’m sick and need to be seen.” –Anonymous Patient 1

“Sometime my MaineCare transportation cancels on me and it can be hard to juggle around. I try to combine appointments whenever I can but sometimes I have to choose between spending money I don’t have and going to the doctors.” – Anonymous Patient 2

Intervention and Methodology



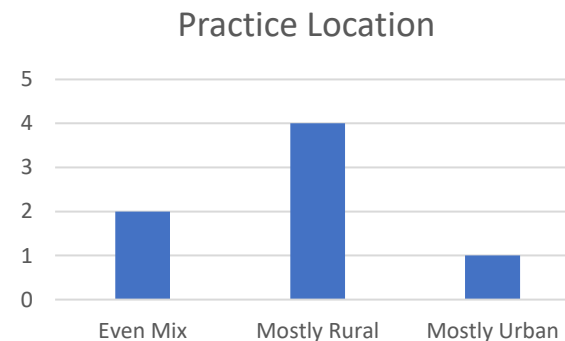
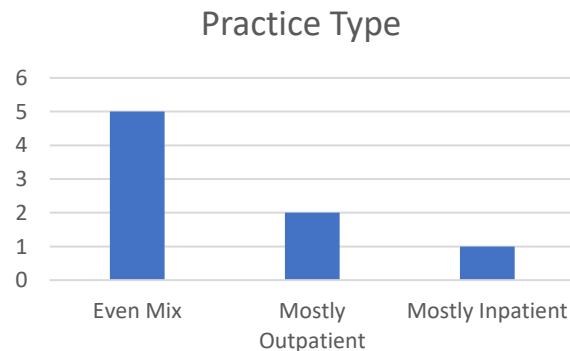
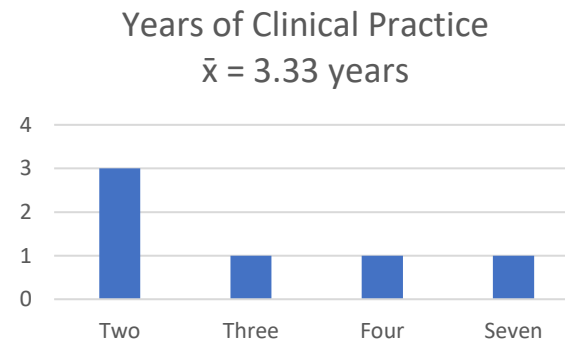
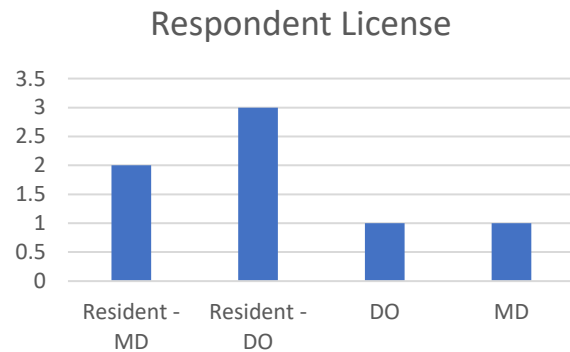
A REDCap survey was sent to FM residents and practitioners at CMMC in Lewiston Maine to determine the extent of current POCUS use in FM practice, the education needs of providers, perceived barriers to further implementation of POCUS, and resources providers felt would be most useful to improve their POCUS knowledge and skills.



A quick-reference guide for POCUS resources was then built based on survey data, and distributed to provide at CMMC FM.

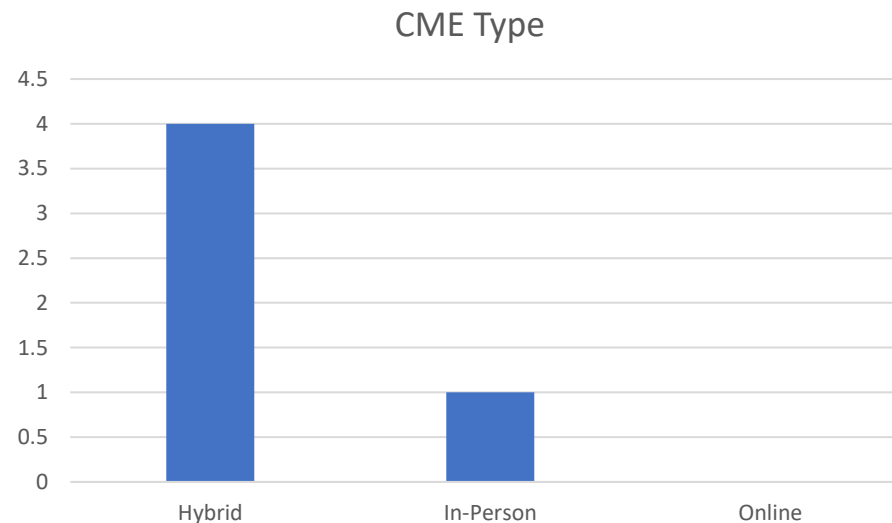
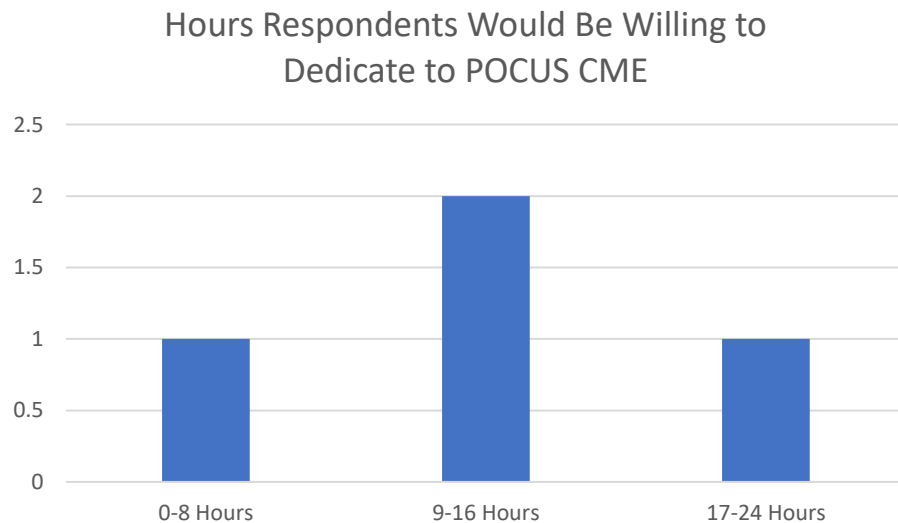
Response Data: Demographics

- 100% of respondents were in the 30-39 year old age range.
- 2/7 respondents currently use POCUS in their practice.



Response Data: POCUS CME for non-users

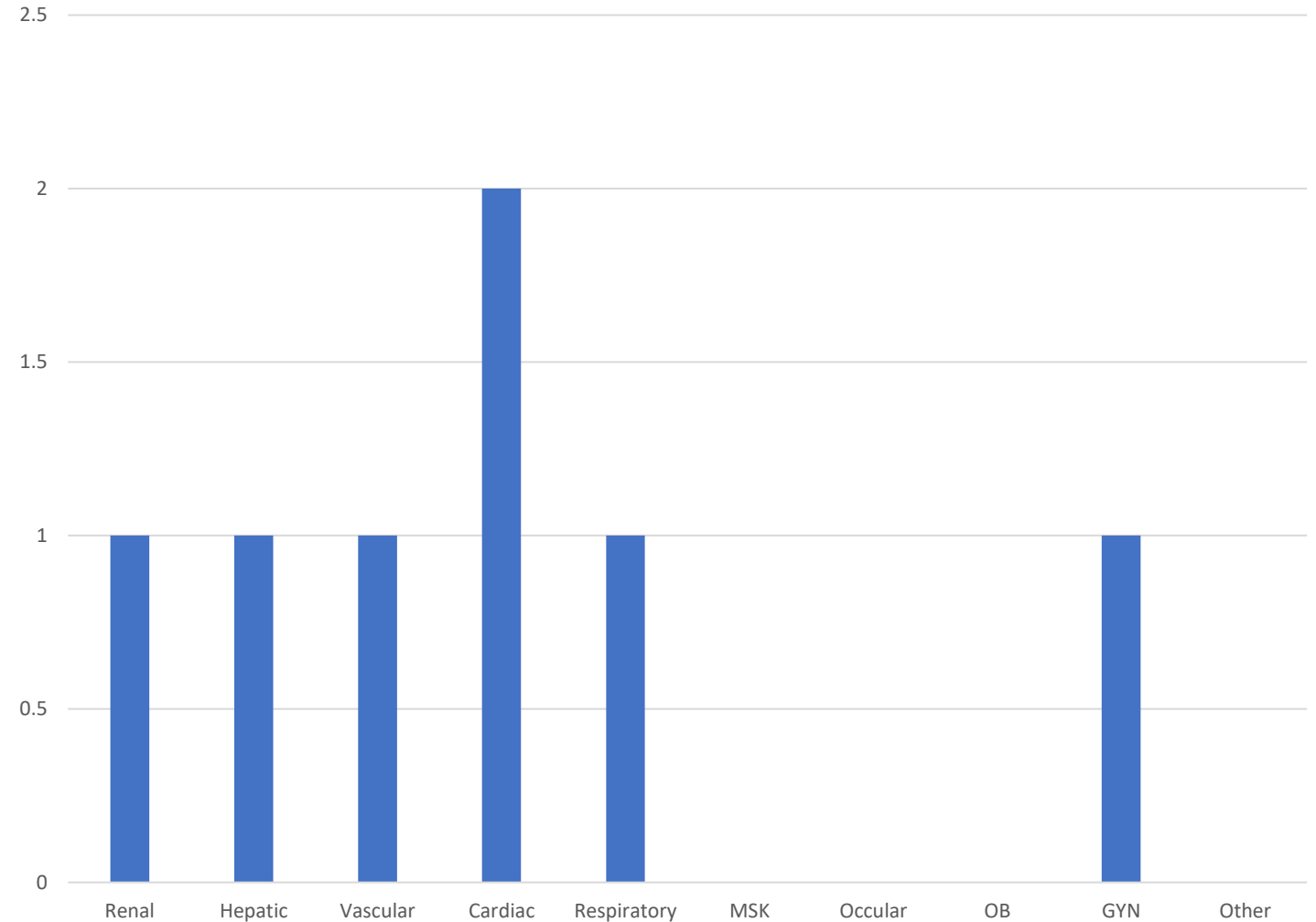
- 4 of 5 respondents who don't use POCUS stated they were willing to take additional CME to add it to their practice.



Response Data: POCUS Users

- 1 of 2 respondent who stated they currently use POCUS in their practice are credentialed.
- One POCUS user stated they use POCUS predominately to rule-in diagnoses, the other stated they use it predominately for US guided procedures.

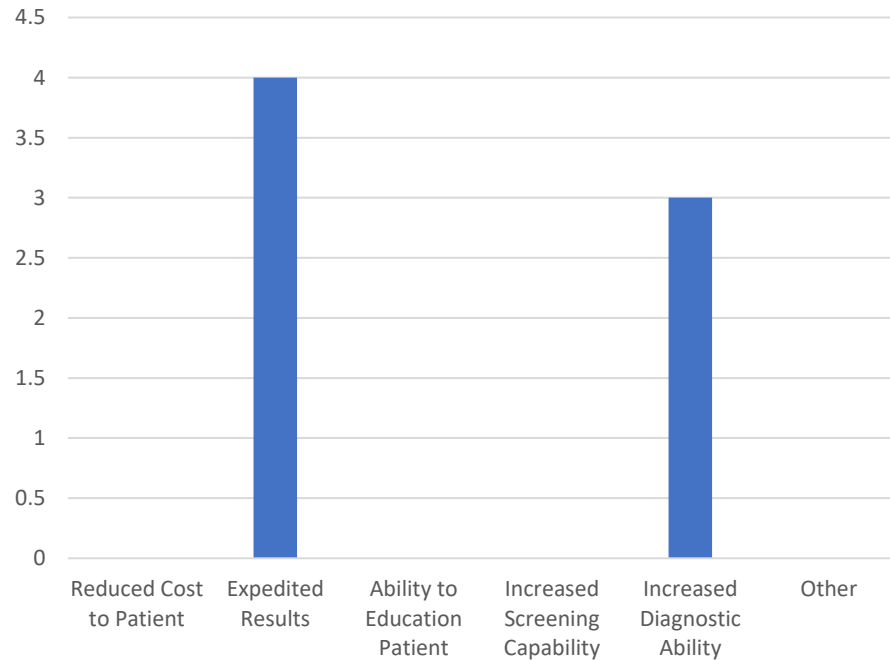
Systems Respondents Said They Needed a Refresher On



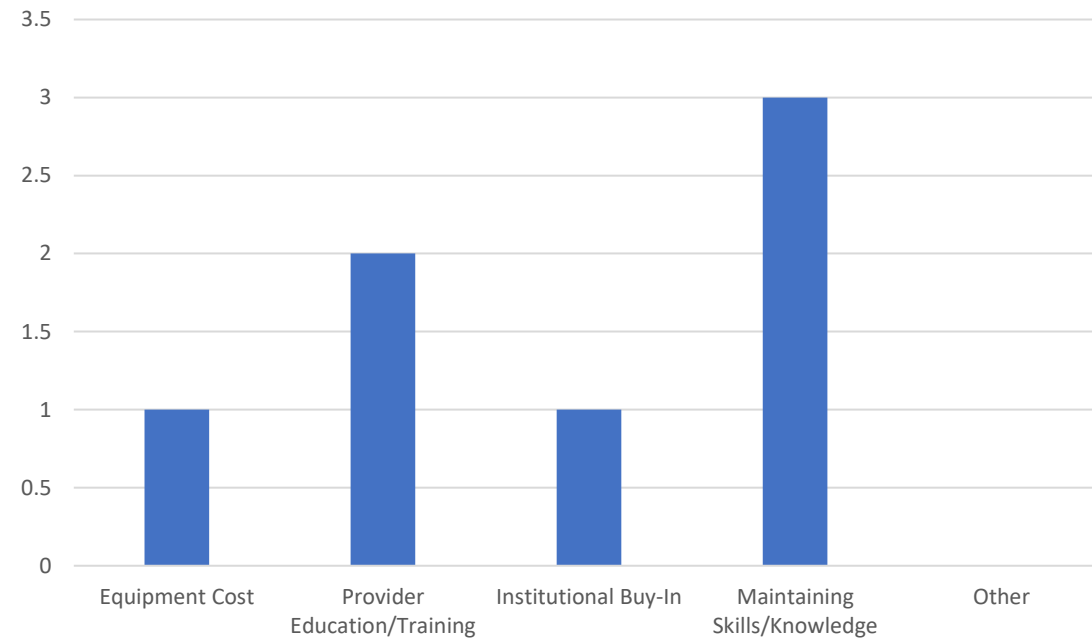
Response Data: POCUS Perceptions

- 6 of 7 respondents have used POCUS for at least one body system.

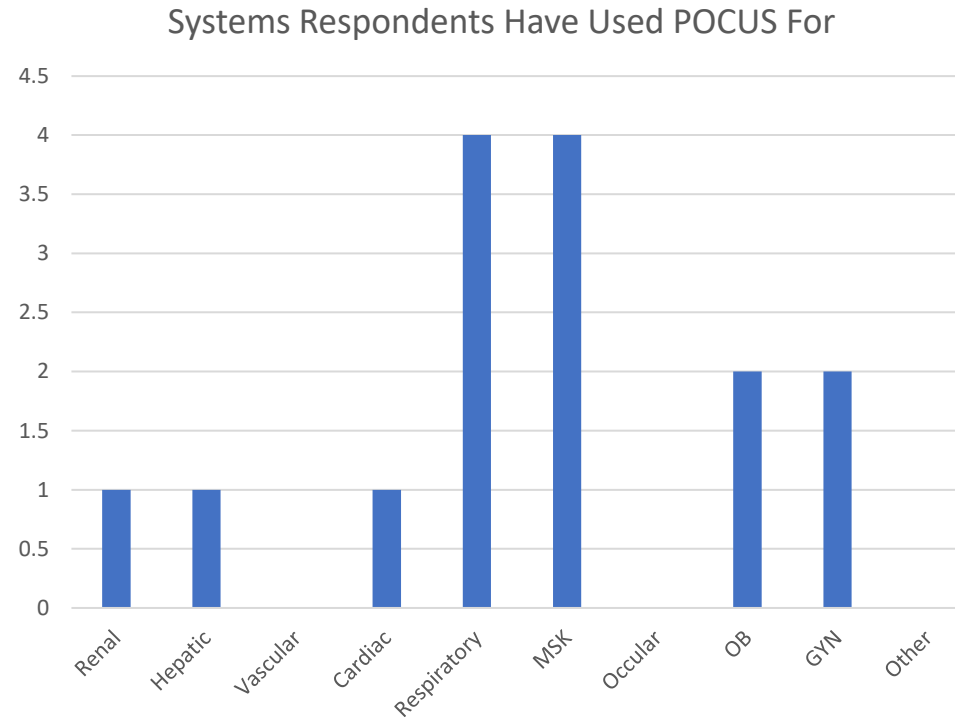
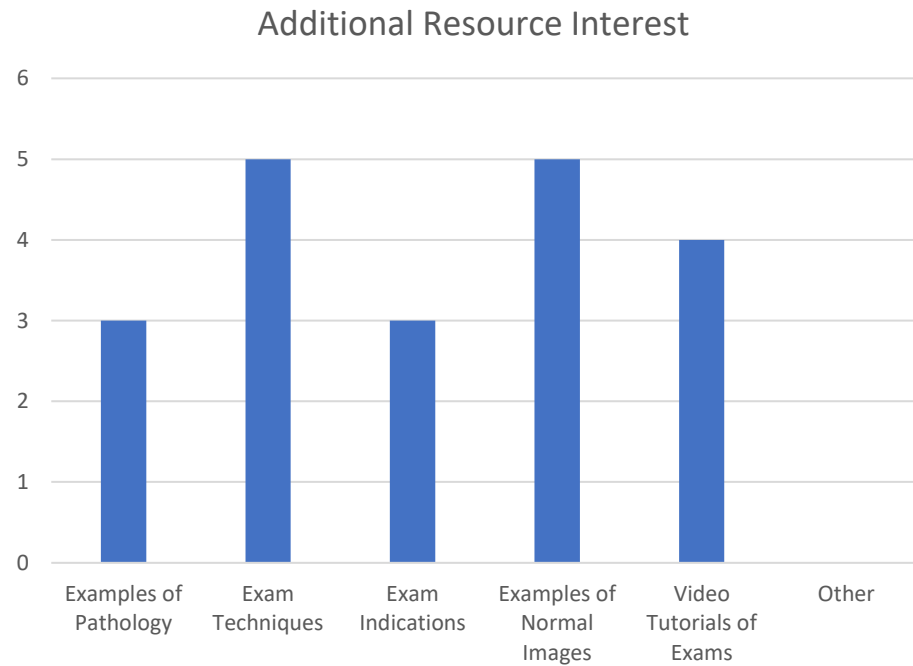
Most Important Aspect of POCUS in Clinical Practice



Biggest Hurdle for Further POCUS Implementation in FM

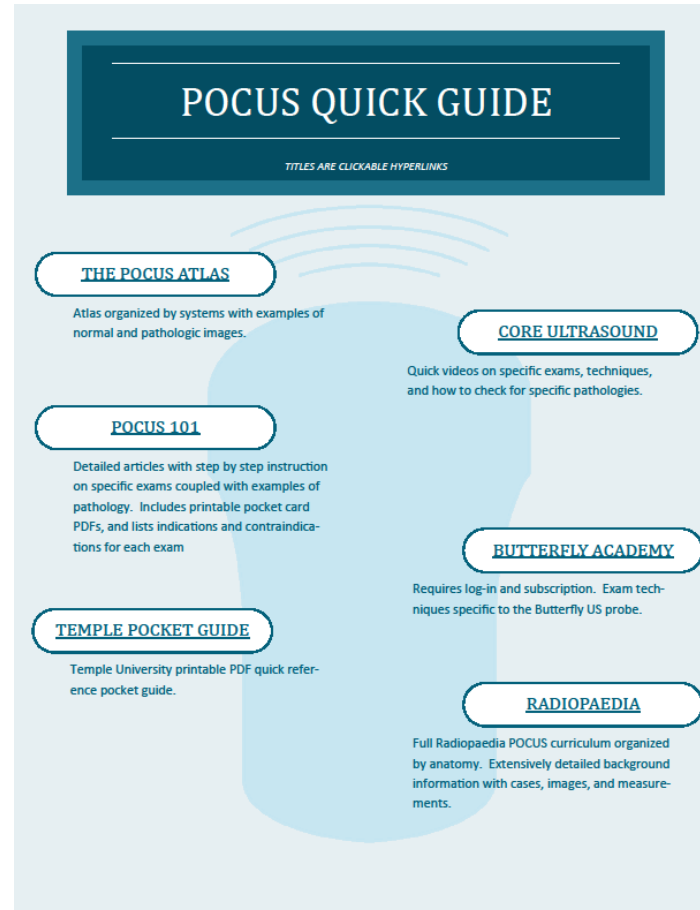


Response Data: POCUS Perceptions



POCUS Quick Guide

A quick reference guide was built based off of respondent answers regarding what they would like for external tools to help with their use of POCUS in their FM practice



Evaluation of Effectiveness of Current POCUS Practices

- The study was limited by a poor survey response rate, n =7.
- Without a more representative response rate, it is difficult to draw conclusions as to how to further implement POCUS in the CMMC FM practice.
- The data that was collected suggests that providers have some POCUS familiarity, but lack the confidence, and experience to effectively use POCUS as a tool.

Recommendations for Future Research

- A physical survey to be completed by residents at a didactics session may be more effective in capturing data at a higher rate, although would limit exploration to the residents.
- A didactics workshop on a specific POCUS exam to include indications, technique, and interpretation, with pre and post surveying could explore ways of improving provider experience with specific POCUS exams for common FM uses.
- Assessing having a butterfly available at the Family Medicine Residency Clinic with a brief intro to use to the residents could help determine how much POCUS may actually be used in their practice.

References

1. Kornelsen J, Khowaja AR, Av-Gay G, Sullivan E, Parajulee A, Dunnebacke M, Egan D, Balas M, Williamson P. The rural tax: comprehensive out-of-pocket costs associated with patient travel in British Columbia. BMC Health Serv Res. 2021 Aug 21;21(1):854. doi: 10.1186/s12913-021-06833-2. PMID: 34419025; PMCID: PMC8380105.
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3. Van Schaik, G.W.W., Van Schaik, K.D. and Murphy, M.C. (2019), Point-of-Care Ultrasonography (POCUS) in a Community Emergency Department: An Analysis of Decision Making and Cost Savings Associated With POCUS. J Ultrasound Med, 38: 2133-2140. <https://doi.org/10.1002/jum.14910>