

2019

An exploration of the benefits and challenges associated with introducing point-of-care ultrasound to a rural primary care setting

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Bak, Daniel, "An exploration of the benefits and challenges associated with introducing point-of-care ultrasound to a rural primary care setting" (2019). *Family Medicine Clerkship Student Projects*. 463.
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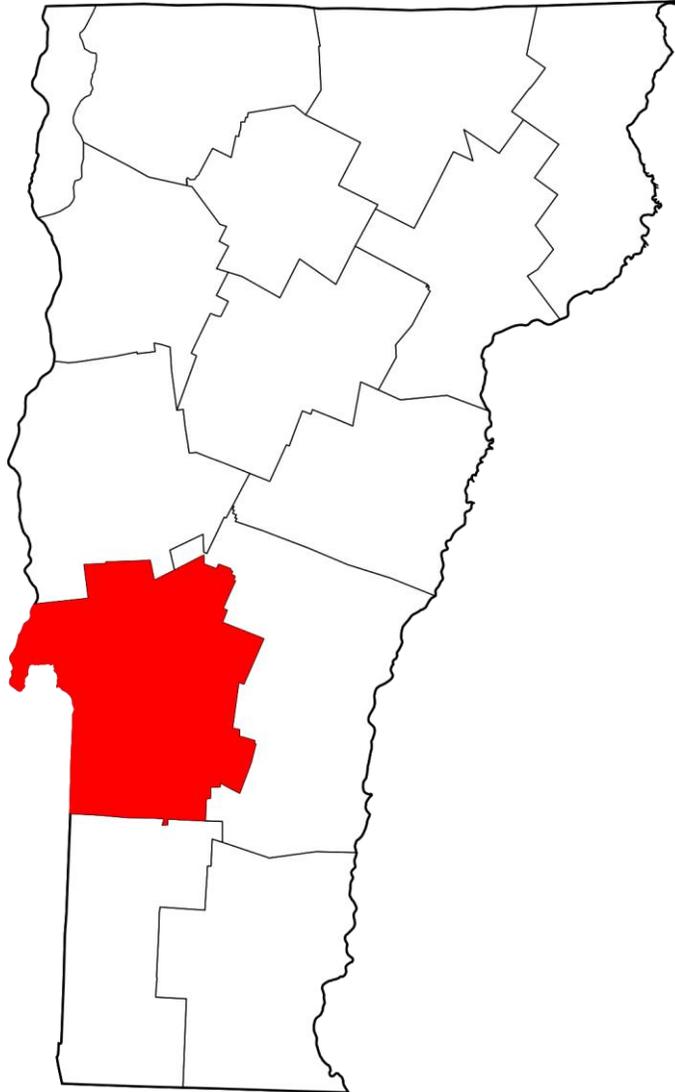
An exploration of the benefits and challenges associated with introducing point-of-care ultrasound to a rural primary care setting

DANIEL BAK

MARCH-APRIL, 2019

PROJECT MENTOR: DR. BRAD BERRYHILL





Problem Identification

Castleton Family Health Center (CFHC) serves the western portion of Rutland County, which is designated as both **rural** and **medically underserved** by the Health Resources & Services Administration.

The 2018-2020 Rutland regional Community Health Needs Assessment set goals to **increase primary care visits, decrease inappropriate utilization of the emergency department**, and work towards **seamless care transitions** without loss of information or gaps in care.

Additionally, the Vermont Department of Health (Rutland region) identified both **transportation limitations** and a **shortage of medical specialists** as significant barriers to accessing care in the region.

Point-of-care ultrasound (**POCUS**) may serve to **improve the quality and continuity of care** provided by primary care physicians.

Cost Considerations

While point-of-care ultrasound (POCUS) has the potential to be of great benefit to CFHC, it comes at a significant cost.



CFHC is a Federally Qualified Health Center which receives an annual budget and bills a flat rate for each patient encounter



Ultrasound machines range in price from \$2,000-\$45,000



POCUS intensive training courses may cost \$1,495 per provider to attend



POCUS may lead to fewer out-of-office referrals, resulting in fewer patient visits and decreased cost-to-patient



An FQHC can reimburse at a higher rate if it meets certain quality metrics

Community Perspective and Support for Project

Renee Bousquet

Rutland Regional Director of the Vermont Department of Health

- Renee explained that both transportation and a shortage of medical specialists in the Rutland area represented significant barriers to care. She also expressed that improving continuity of care was an ongoing goal.

Jennifer Hanson, MD

Third year family medicine resident training in rural medicine, originally from the Castleton area and returning to CFHC after residency

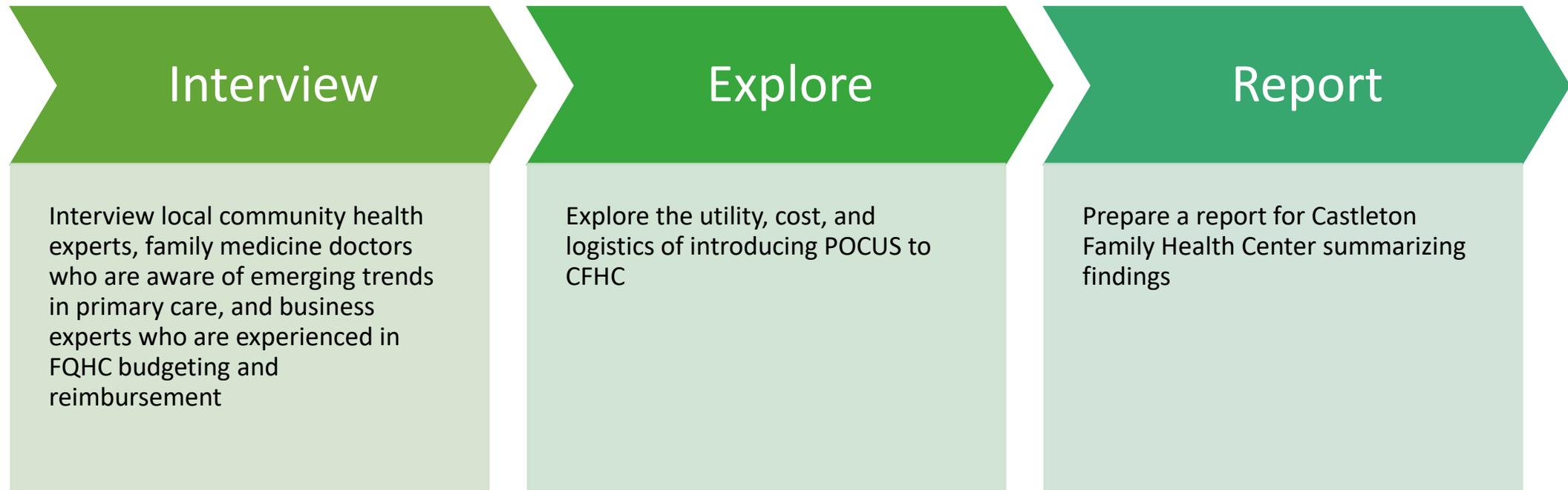
- Dr. Hanson explained that POCUS is an emerging trend in primary care that makes providers more confident in their clinical decisions. She explained how it is particularly useful in triage, and why this is important at CFHC given its many high acuity patients. Dr. Hanson hopes ultrasound will be part of her practice.

Cat Cota

Castleton Family Health Center Practice Manager

- As an expert on the FQHC healthcare model, Cat explained the “determination of need” process, existing incentives and budgetary constraints. She also outlined the structure of the Community Health Centers of the Rutland Region.

Intervention and Methodology



Response Data

POCUS has the potential to:

- Streamline care by decreasing time to diagnosis
- Refine clinical decision making
- Increase provider confidence and patient satisfaction

As POCUS grows in popularity, provider training is becoming more readily available and machines are becoming more affordable. However, there is significant cost associated with the implementation of POCUS which is uniquely challenging in an FQHC setting.

The utility of POCUS continues to expand, suggesting that it may represent the future of diagnostic medicine. Continued quality improvements at CFHC would ensure that the greater Castleton area continues to receive exceptional medical care.

Evaluation of Effectiveness and Limitations

This project seeks to inform Castleton Family Health Center of the benefits and challenges associated with POCUS. If CFHC implements POCUS, then a study assessing efficacy would be appropriate.

A two pronged study comparing relevant quality of care measures (time to diagnosis of new problems, number of out-of-office referrals, provider confidence in triage, patient satisfaction, cost to patient, etc.) before and after introduction of POCUS would assess the effect of the technology.

Future Work

If POCUS is successfully implemented in Castleton, and shown to benefit the practice, POCUS could then be introduced to other practices within the Community Health Centers of Rutland Region.

Piloting POCUS at CFHC would allow CHCRR to explore the functionality of the technology, identify challenges, and develop solutions before expanding the technology to the remainder of its seven practices.

A small scale introduction would address the real-world utility and cost of ultrasound, while mitigating financial risk.

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Thank you for agreeing to be interviewed. This project is a requirement for the Family Medicine clerkship. It will be stored on the Dana Library ScholarWorks website. Your name will be attached to your interview and you may be cited directly or indirectly in subsequent unpublished or published work. The interviewer affirms that he/she has explained the nature and purpose of this project. The interviewee affirms that he/she has consented to this interview.

Consented Name: Jenifer Hanson, MD

Did NOT Consent Name: _____

Consented Name: Cat Cota

Did NOT Consent Name: _____

Consented Name: Renee Bousquet

Did NOT Consent Name: _____