

University of Vermont

UVM ScholarWorks

Larner College of Medicine Faculty Publications

Larner College of Medicine

Spring 5-21-2019

Barriers and Facilitators to Use of a Clinical Evidence Technology for Management of Skin Problems in Primary Care: Insights from Mixed Methods

Marianne Burke PhD

University of Vermont Dana Medical Library, mburke@uvm.edu

Alan Rubin MD

University of Vermont

Liliane Savard DPT

University of Vermont

Benjamin Littenberg MD

Follow this and additional works at: <https://scholarworks.uvm.edu/comfac>



Part of the [Analytical, Diagnostic and Therapeutic Techniques and Equipment Commons](#), [Collection Development and Management Commons](#), [Health Information Technology Commons](#), [Health Sciences and Medical Librarianship Commons](#), [Medical Education Commons](#), and the [Primary Care Commons](#)

Recommended Citation

Burke, Marianne PhD; Rubin, Alan MD; Savard, Liliane DPT; and Littenberg, Benjamin MD, "Barriers and Facilitators to Use of a Clinical Evidence Technology for Management of Skin Problems in Primary Care: Insights from Mixed Methods" (2019). *Larner College of Medicine Faculty Publications*. 8. <https://scholarworks.uvm.edu/comfac/8>

This Poster is brought to you for free and open access by the Larner College of Medicine at UVM ScholarWorks. It has been accepted for inclusion in Larner College of Medicine Faculty Publications by an authorized administrator of UVM ScholarWorks. For more information, please contact scholarworks@uvm.edu.

Marianne Burke PhD; Alan Rubin MD; Liliane Savard DPT; Benjamin Littenberg MD, Ctr. for Clinical and Translational Science

Background

Primary care providers (PCPs) must diagnose and treat a wide variety of acute and chronic conditions including skin problems. Skin problems represent a significant proportion of diseases presented in primary care.

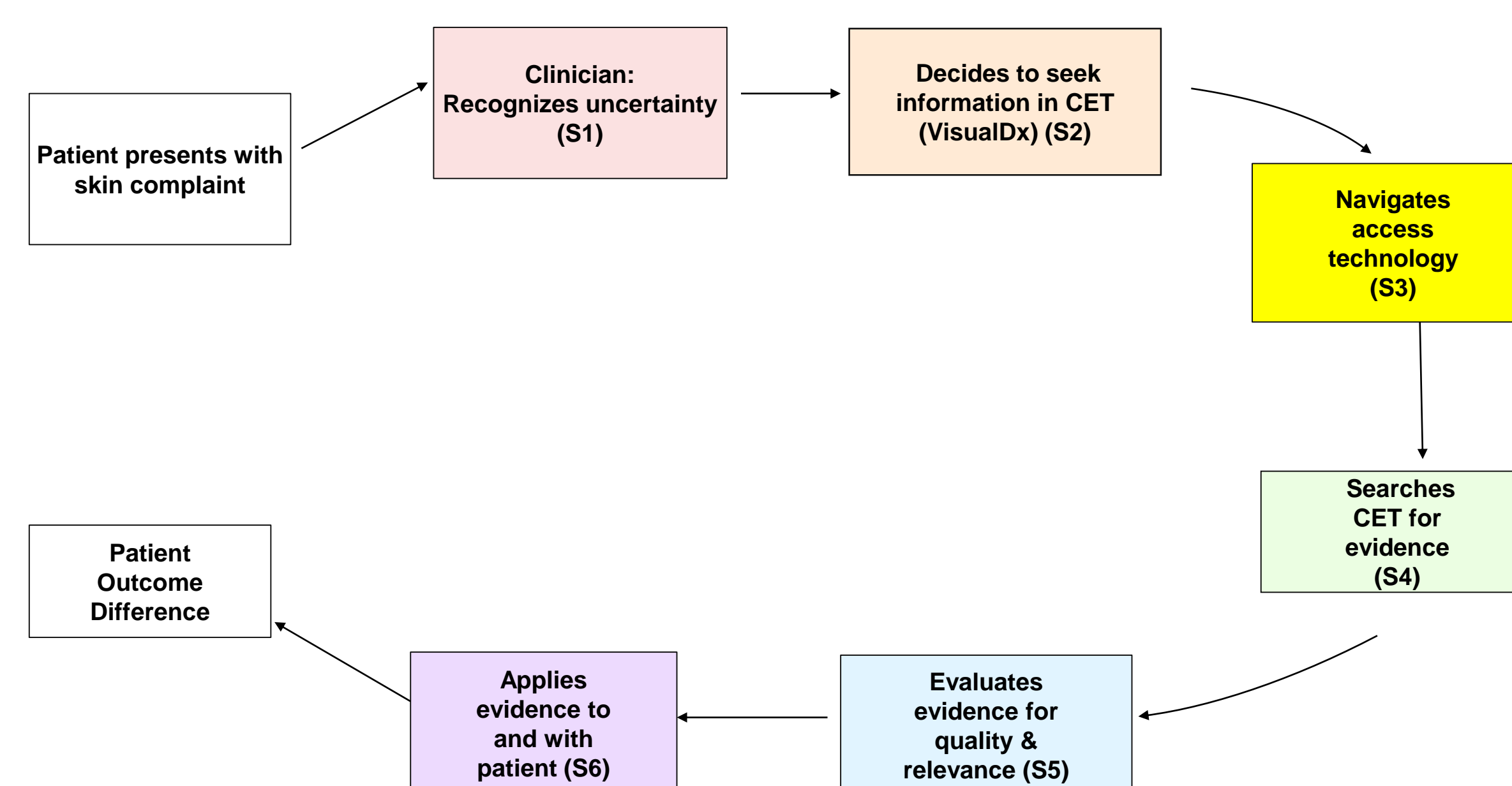
A 2016 cluster-randomized trial tested the effectiveness of a clinical evidence technology (CET), VisualDx, to improve the resolution of patient skin problems and reduce the number of return appointments [1]. There was no difference between groups in the outcomes measured in that trial.

Question: Why did the CET fail to make a difference in the outcomes tested?

Objectives

- 1) Learn why use of VisualDx did not make a difference in skin problem resolution or return appointments from the perspective of participating PCPs.
- 2) Identify facilitators and barriers at each behavioral step as experienced by the PCPs.

Model: Steps to Acquire, Appraise and Apply Evidence



Methods

Mixed Methods study design
Survey of 21 PCPs – 13 Active, 8 Control
Interviews of 11 Active arm PCPs

Qualitative Interview Results: Steps 1–4

Step 1: Recognize Uncertainty

Barrier	Confidence	“There were a lot of patients where I felt comfortable with what the problem was.” PCP11 (24 yrs.)
Facilitator	Uncertainty	“[Dermatology] is way harder because we just don’t have the exposure, and so much of it is how it looks rather than a description of symptoms, so something like VisualDx helps. PCP07 (3 yrs.)

Step 2: Seek Evidence in CET (VisualDx)

Barrier	Time	“When you are already 45 minutes behind schedule and someone comes in with an [odd] rash, it’s easy to say, “Try this. If it doesn’t work call me back”. PCP10 (22 yrs.)
Facilitator	Intention	“ I used it close to every time I saw a skin problem, unless it was super obvious...but even then, I would use it to get treatment recommendations. PCP08 (3 yrs.)
Barrier	Other sources (instead)	“I was next to a skilled older practitioner so my first recourse might be to go to him. So that may have decreased my use” PCP09 (4 yrs.)

Step 3: Navigate Access Technology

Facilitator	EHR access	“If I’m seeing patients, I’m already in the EHR, and VisualDx is there. It’s easy to find. 99% of the time that’s what I’d do.” PCP11 (24yrs.)
Barrier	Access failure	“[It was] moderately useful in the beginning but then, I couldn’t access it...and I didn’t use it again.” PCP05 (40 yrs.)

Step 4: Search/Acquire Evidence Using CET

Facilitator	Ease of use	“Once I knew what I was doing, it wasn’t hard to use.” PCP06 (4 yrs.)
Barrier	CET interface	“I remember staring at it saying, “Where do I put the information in?” So it wasn’t as user friendly for data input” PCP10 (22yrs.)

Quantitative Survey Results

Protocol adherence Active Group (100%)
Control PCPs (88%)

Active group use

PCPs \leq 5 years in practice (Med.) 15 times
PCPs \geq 6 yrs. in practice (Med.) 10 times

VisualDx was “Somewhat easy” (Med.3,scale 1-4)
VisualDx was “Occasionally useful”(Med.2,scale1-4)

Other evidence sources used:

UpToDate (11), textbooks (6), Google (4)

Qualitative Interview Results: Steps 5-6

Step 5: Evaluate evidence for quality and relevance

Facilitator	Useful-Diagnosis	“I did, on a few occasions have no idea what I was looking at in a patient, and used [VisualDx]...to figure it out” PCP08 (3 yrs.)
Facilitator	Useful-Confidence	“I can definitely say it helped me feel more confident about a diagnosis.” PCP02 (32 yrs.)
Facilitator	Useful- Treatment	“[For] a fungal nail infection ...there was a new topical treatment that had recently been FDA-approved and I hadn’t used it before.” PCP02 (32 yrs.)
Barrier	Irrelevant information	“If you put basal cell carcinoma in VisualDx, it’s a thousand pictures of every ... way it can show up. It’s not showing the typical ones” PCP03 (34 yrs.)
Barrier	Other sources	“I have a favorite dermatology book I use like I would use VisualDx.” PCP10 (22 yrs.)

Step 6: Apply To and With Patient

Facilitator	Patient communication	“I used it with patients, especially if they had something that went away; then they could say,” Oh, it did look like that”. Helpful for patient communication? Absolutely.” PCP04 (17 yrs.)
Facilitator	Shared decision-making	“I would open it up in the patient room oftentimes, and go through it [all] with them.” PCP06 (4yrs.)
Barrier	No Difference	I can’t think of a particular instance where it clinched it for me or made a clinical decision distinction or difference.” PCP09 (4 yrs.)

Mixed Methods Results Summary

Facilitators:

1. Easy to access
2. Benefit to diagnosis and treatment
3. Patient communication.

Barriers:

1. Irrelevant search results
2. Other sources preferred
3. Limited application to patients.

Conclusions

PCPs **did not** use VisualDx frequently or exclusively enough to make a difference in patient level outcomes.

VisualDx may support trainee **education** and **PCP life-long learning** in management of skin disease

[1] Burke M., Littenberg B. (2019). Effect of a Clinical Evidence Technology on Patient Skin Disease Outcomes in Primary Care: A Cluster-randomized Controlled Trial. Journal of the Medical Library Association. 107 (2), 137-148.