

Improving Competency of Skin Cancer Screening Through Use of Dermoscopy by 10% at St. Joe's Downtown FM Residency Clinic

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BACKGROUND & AIMS

- Skin Cancer survival rates increase with early detection¹. Dermoscopy is the most sensitive tool to evaluate skin cancer without biopsy in Primary Care.²
- Aim to address inconsistent recognition and documentation of skin lesions in primary care using dermoscopy.
- Quality issue: non-standardized skin lesion evaluation leading to delayed diagnosis and inconsistent referral and biopsy practices.

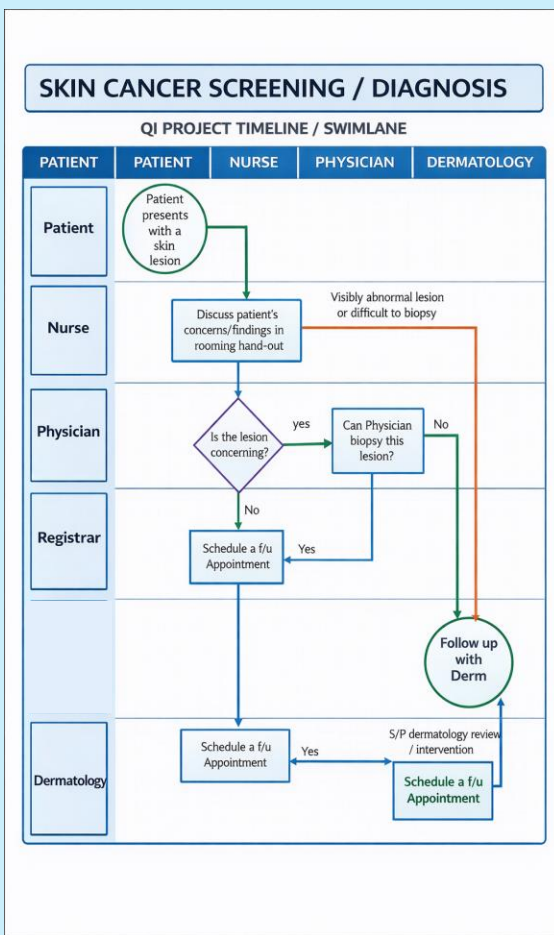


Figure 1. Skin Cancer Screening and Diagnosis Workflow in Clinic

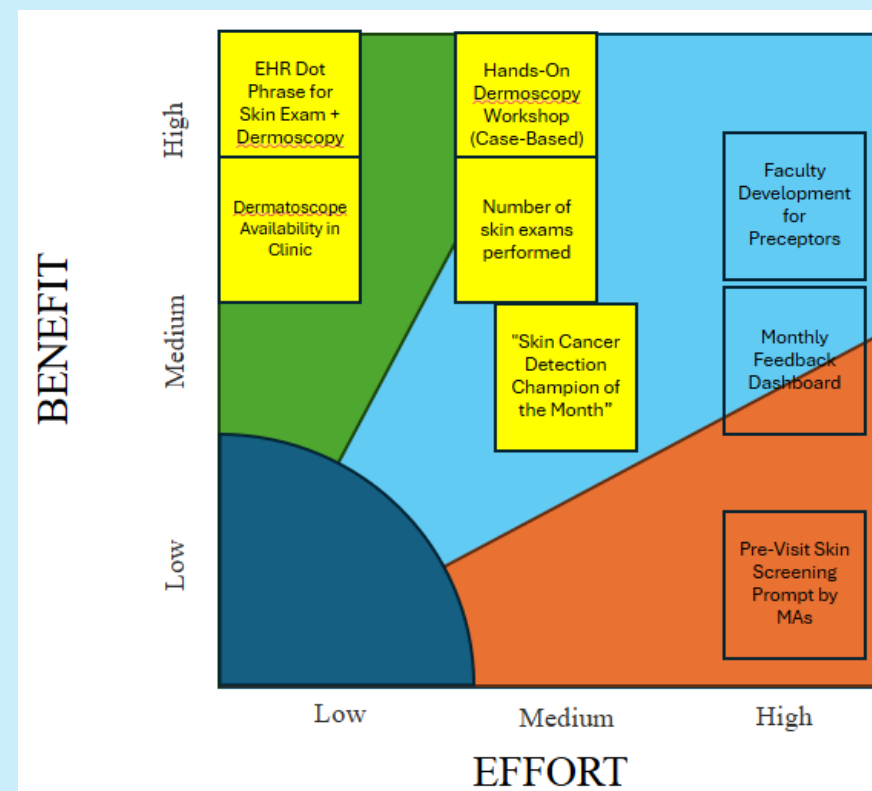


Figure 2. Effort vs Benefit Chart for interventions to increase Skin Cancer Screening Rates in DT Residency Clinic

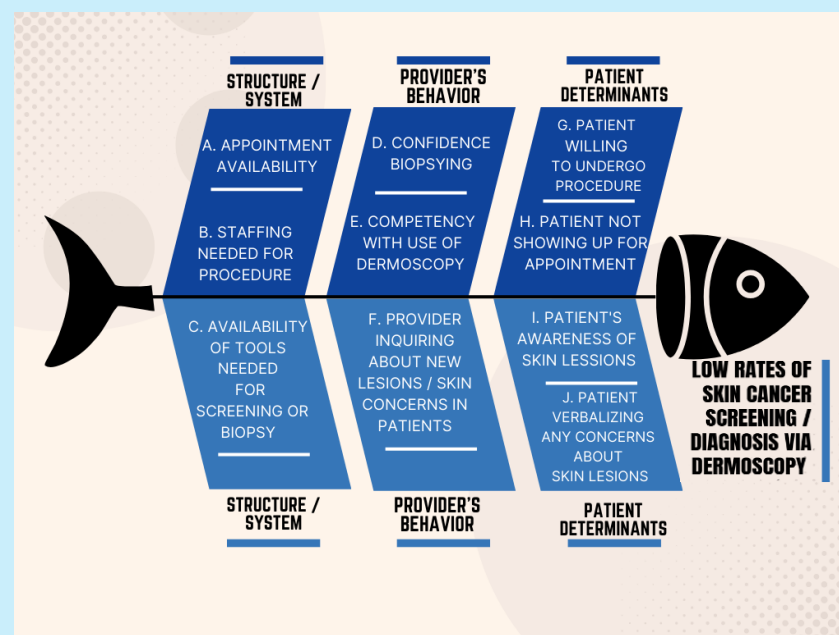


Figure 3. Fishbone Diagram for Contributing Factors to Low Rates for Skin Cancer Screening/ Diagnosis by Dermoscopy

METHODS

- SMART: $\geq 10\%$ increase in Skin Cancer Screening and Diagnosis through use of dermoscopy in skin lesion examination in PSH-SJMC DT Residency Clinic over 3 months
- Metrics:
 - Primary: Rate of Dermoscopy use for Skin Exams
 - Secondary: Biopsy / Dermatology referral rates
- Prioritized EHR Dot Phrase for PE findings creation, use available dermoscopes in clinic, Hands-On Dermoscopy Workshops for Residents, "Skin Cancer Detection Champion of the Month"
- Pre and Post implementation periods: 3 months
- Measured dermoscopy use rates, skin exam findings documentation, and associated biopsy and/or dermatology referral patterns through E-HR evaluation.

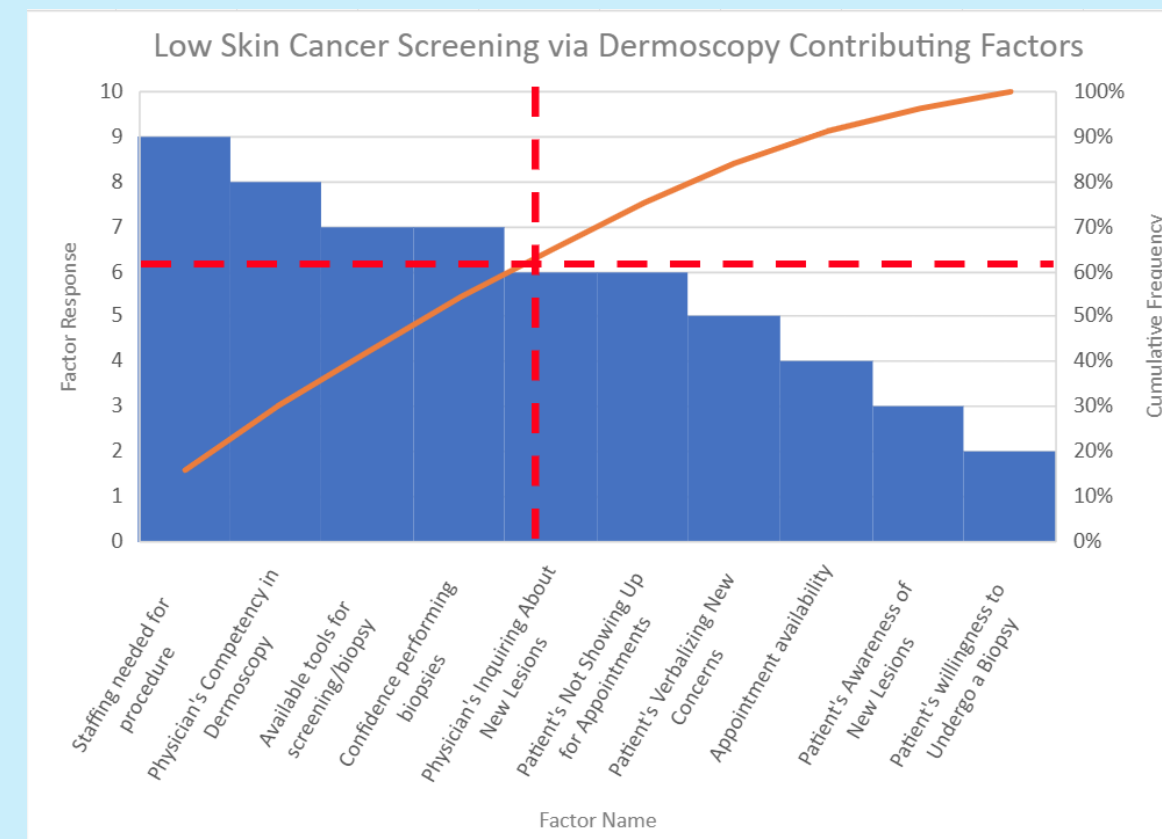


Figure 4. Pareto Chart used to quantify factors by frequency and to find proper interventions for the project.

- **Compliance:** Attendance to first workshop was 12/18 residents.
- **Barriers** to attendance and compliance included PTO, House Coverage, and lack of confidence using dermoscopes as a tool for skin lesions evaluation.
- **Solutions** included: Making slides available online for review, Repeat workshop later to capture residents who did not attend, and provide with online resources and material for practice
- IRB determined not human subject Research

RESULTS AND DISCUSSION

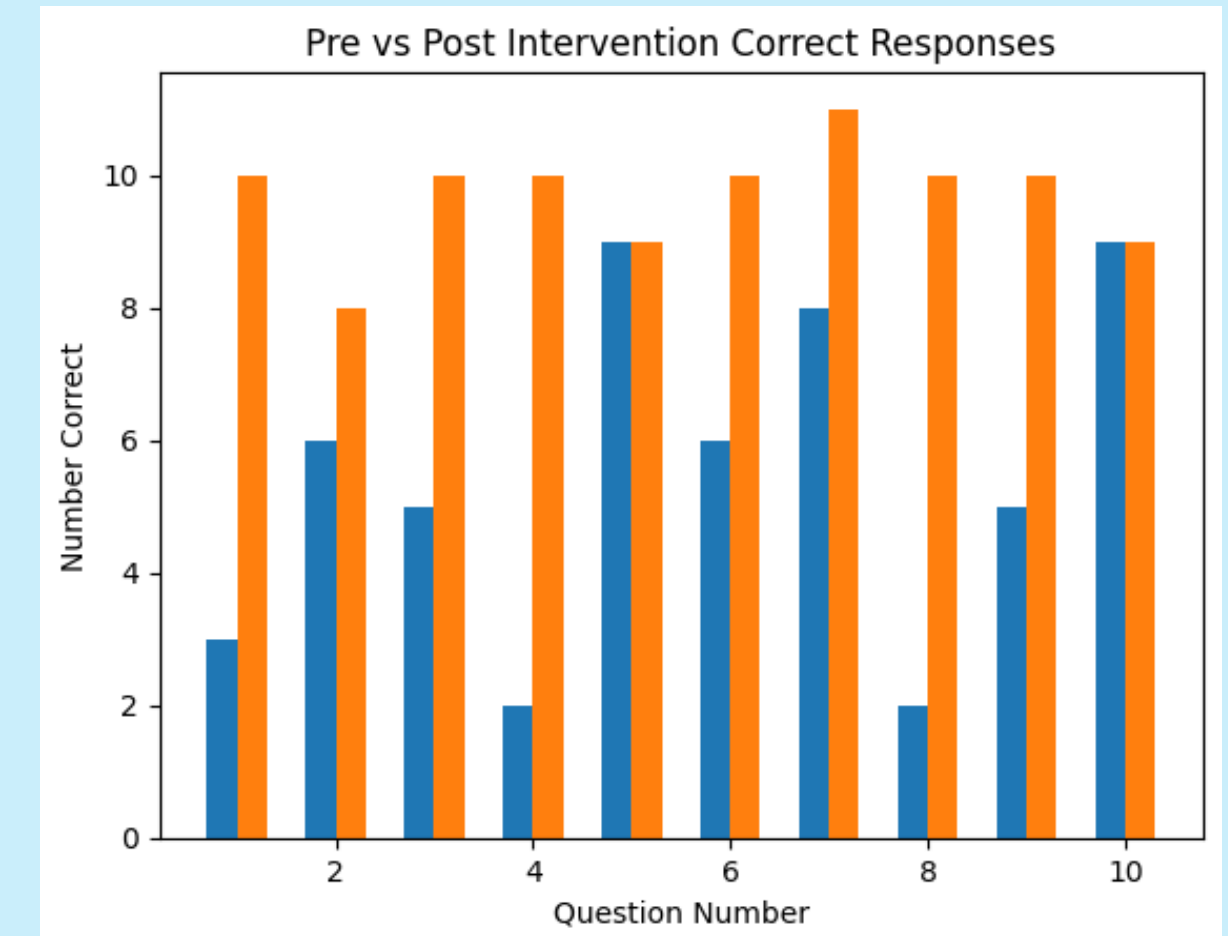


Figure 5. Pre-intervention and Post-intervention performance improved across all questions, with marked gains in previously low-performing items. improved across all questions, with marked gains in previously low-performing items.

Test	Mean Correct	Standard Deviation
Pre-Intervention	5.5	2.64
Post-Intervention	9.7	0.82

Table 1. Interpretation of Pre and Post Tests scores. Mean correct responses increased from 5.5 to 9.7 per question. Variability decreased, showing Consistent performance after the intervention.

- **Participants:** Twelve learners completed pre- and post-intervention assessments (10 questions).
- **Performance:** Mean correct responses increased from **5.5 (SD 2.64)** pre-intervention to **9.7 (SD 0.82)** post-intervention.
- **Item-Level Gains:** Greatest improvements occurred in questions with lower baseline performance.
- **Consistency:** Post-intervention scores showed reduced variability.
- **Regression:** Pre-test performance weakly predicted post-test scores ($\beta = -0.09$, $R^2 = 0.08$).

References

- ReBlundo A, Cignoni A, Banfi T, Ciuti G. Comparative Analysis of Diagnostic Techniques for Melanoma Detection: A Systematic Review of Diagnostic Test Accuracy Studies and Meta-Analysis. *Front Med (Lausanne)*. 2021 Apr 21;8:637069. doi: 10.3389/fmed.2021.637069. PMID: 33968951; PMCID: PMC8103840.
- Vestergaard ME, Macaskill P, Holt PE, Menzies SW. Dermoscopy compared with naked eye examination for the diagnosis of primary melanoma: a meta-analysis of studies performed in a clinical setting. *Br J Dermatol*. 2008 Sep;159(3):669-76. doi: 10.1111/j.1365-2133.2008.08713.x. Epub 2008 Jul 4. PMID: 18616769.