Iterative Data-Driven Education for Evolving Strategies of Care in cSCC

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MEDICAL EDUCATION FOR BETTER OUTCOMES

BACKGROUND

The incidence of cutaneous squamous cell carcinoma (cSCC) is growing in the United States and epidemiologic data are likely to have underestimated the burden of the disease. New therapies are emerging for the management of advanced/unresectable cSCC that have the potential to alter outcomes. Clinicians need to be made aware of these new options and how they can be integrated into clinical practice. Dermatologists and Mohs surgeons will need to identify patients who are not surgical candidates and engage a multidisciplinary team to discuss systemic options, such as immunotherapy and optimal management approaches.

INTRODUCTION

To address the challenges facing clinicians in the appropriate alignment of treatment to patient, a 3-activity curriculum was developed. This curriculum was hosted online for one year, and findings from this education will be used to develop future content.

METHODS

All activities utilized a matched Pre-Test and Post-Test design that included questions assessing fact-based and procedural information, as well as asking learners to rate their confidence and intent to perform. Educational content was matched (where possible) between conditions.

Data was analyzed to understand changes in learner proficiency from Pre-Test to Post-Test, as well as the underlying drivers impacting poor performance in identified areas of ongoing educational need via linear regression modeling. This analysis will be used to develop content for subsequent education that addresses the area of demonstrated need, as well as those variables influencing poor performance.

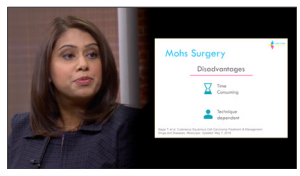
CURRICULUM OVERVIEW

The 3 activities in this curriculum were designed for dermatologists, medical oncologists, and Mohs surgeons who manage patients with advanced cutaneous squamous cell carcinoma (cSCC).

- **Activity 1 (Launched 3/1/19):** Addresses the safety and efficacy of new systemic options for managing advanced cSCC not otherwise amenable to curative surgical strategies.
- **Activity 2 (Launched 4/18/19):** Addresses how to optimally select patients with cSCC for treatment with immunotherapy.
- **Activity 3 (Launched 5/6/19):** Reinforces information delivered in the previous activities and illustrates, via case-based scenarios, how to incorporate new management approaches into clinical practice.

The first 2 activities, utilizing a video panel format, included a Mohs surgeon, oncologist, dermatologist, patient, and caregiver, for the purpose of highlighting the efficacy of incorporating all members of the care team in treatment decisions.

The third activity, in a discussion-based slide/audio format, challenges the learner's decision-making skills by presenting patient scenarios representing different clinical presentations.



FINDINGS

Participation

17,811 Started	17,232 Engaged	1,951 Completed

Profession
- 42% Physician
- 21% NP/APN/Nurse
- 24% PA

Specialty
- 33% Dermatology *non-surgical*
- 46% Oncology
- 4% Dermatology *(Mohs)*

Years in Practice
- 60% >11 years
- 40% 1 to 10 years

*Patient Reach**

Curriculum Content May Impact Up To

1,952,587

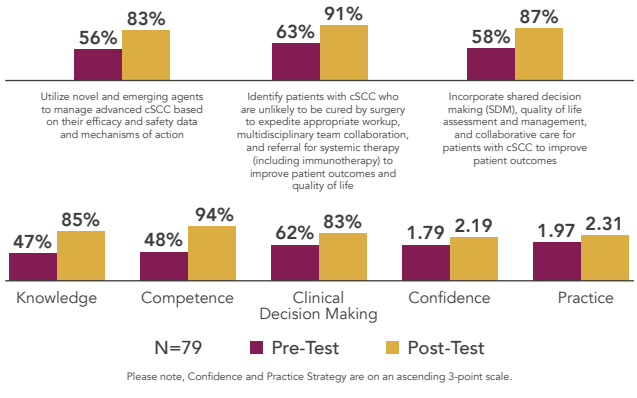
Total Patient Encounters

Approx. 97,629 encounters for inoperable disease

In the Target Population Annually

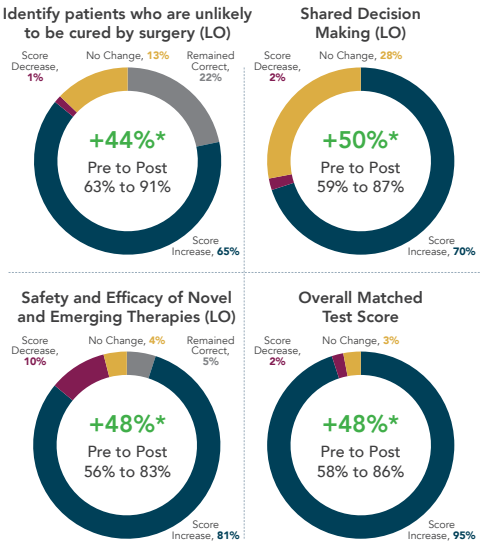
**Assumes 100% of patients will be seen > once annually*

Curriculum Metrics

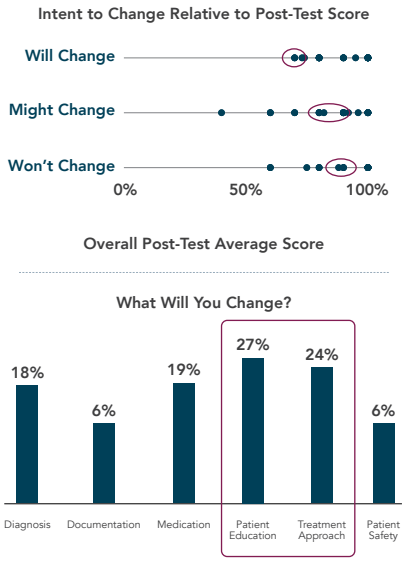


Please note, Confidence and Practice Strategy are on an ascending 3-point scale.

Demonstrated Change



Subjective Change

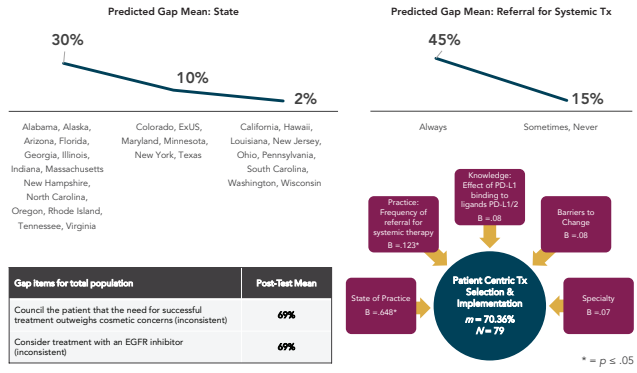


Model

A gap related to **Patient Centric Treatment Selection and Implementation**—specifically clinical decision making regarding the eligibility for systemic therapy and acceptable level of surgical morbidity—was identified at Post-Test.

All Knowledge, Competence, Confidence, Practice, Demographic, and Evaluation questions across the 3 activities included in this curriculum were analyzed to identify positive and/or negative predictors of learners' target (or gap).

Five drivers were identified (2 of which were statistically significant) accounted for 40% of the variance in the gap mean, $R^2 = .397$, $p = .018$.



Gap Items for total population	Post-Test Mean
Council the patient that the need for successful treatment outweighs cosmetic concerns (inconsistent)	69%
Consider treatment with an EGFR inhibitor (inconsistent)	69%

* = $p \leq .05$

RESULTS

63% of learners (primarily oncology physicians) stated either an intent-to-change their practice, or to seek additional information based on engagement in this curriculum.

- Two primary areas of intended change:
  1. Treatment approach
  2. Patient education strategy
- These areas are aligned with 2 areas of clinical focus (Shared Decision Making, Safety/Efficacy Data) which had the lowest averages at Pre-Test and improved substantially by Post-Test, reflecting the educational impact of this curriculum.

Primary reason stated by those who would not change their practice:

- *Their current practice reflects what was presented in the curriculum.*

The high degree of intent-to-change was further reflected in learner performance across all activities included in this curriculum. When performance and demonstrated change across curriculum Learning Objectives was measured, substantial significant improvement was observed in all areas. Specifically, 65% to 95% of learners increased their average score from Pre-Test to Post-Test on the 3 curriculum Learning Objectives, with the greatest improvement observed in the demonstrated change in learner's overall test score (95%).

Further, this population of primarily dermatology and oncology physicians attained average Post-Test scores in excess of 80% on all curriculum metrics.

Despite the above reported substantial increases in knowledge, competence, and clinical decision-making, learners remained conservative in their self-reported confidence and practice strategy ratings.

This juxtaposition reflects the novelty of the treatment and, also, suggests an awareness of need for educational reinforcement to maintain the substantial improvements achieved by learners.

When evaluating performance by specialty cohort, all target specialties (dermatology non-surgical, medical oncology, Mohs surgery) performed comparably across all objectives and domains. However, variation was present in areas that may result from differences in the clinician's role of care.

Mohs surgeons and PAs were relatively less proficient regarding shared decision making in the context of treatment selection.

All other professional and specialty target groups incorrectly over-endorsed use of unapproved systemic agents (EGFR inhibitors) for a patient expressing concerns over disfigurement due to multiple cSCC foci on her face in the setting of recurrent disease.

When considering proficiency differences between target cohorts at the domain level:

Mohs: relatively less proficient in knowledge, Med Oncs: slightly depressed scores in competence and clinical decision-making.

The above identified differences may be attributed to relatively small sample sizes of the specialty cohorts. As such, findings should be interpreted with caution.

CONCLUSIONS

Considering the utility of these findings in developing subsequent education, average post-test score was measured relative to learner's stated intent to change. Findings revealed that the highest performing learners reported that they would not change their practice, the lowest performing learners reported that they would change their practice, and learners who reported that they would consider changing had average scores between the will change and will not change groups. This suggests that the population has an accurate understanding of their proficiency.

Learners who reported an intent to change, primarily indicated that they would change their behavior around patient education and treatment approach. These remain the areas where learners remained most challenged.

A model was developed to better understand the factors that underly learner's ongoing issue with patient centric treatment selection and implementation. Findings of the model revealed that the strongest drivers of performance were state of practice and intent to refer patients for systemic therapy.

These findings taken together suggest that this specialized and motivated population are highly engaged in education and would be open to additional future programming. Specifically programming which addresses methods of centering patient's quality of life in the implementation of aggressive/systemic treatments.

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