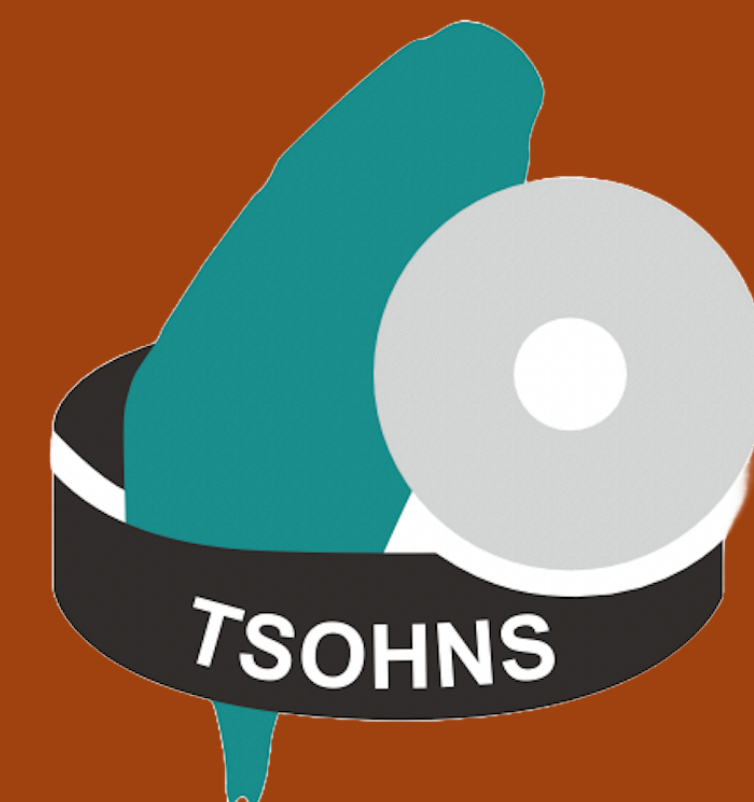




Validating a Framework of Milestones 2.0 Subcompetencies and Entrustable Professional Activities for Otolaryngologic Residency Training



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Abstract

This study validated a competency-based framework for otolaryngologic residency training by aligning ACGME Milestones 2.0 with Entrustable Professional Activities (EPAs). Through expert consensus, “Facial Trauma” was removed and “Foreign Body Management” added, resulting in 23 subcompetencies, 290 milestones, and 12 EPAs. The findings highlight the importance of structured validation in ensuring residency training frameworks are both locally relevant and consistent with international accreditation standards.

Introduction

Competency-based medical education (CBME) aims to align specialist training with societal needs and outcomes. The Taiwan Society of Otorhinolaryngology–Head and Neck Surgery (TSO-HNS) began its CBME reform in 2017 by licensing and translating ACGME milestones, which guided the first otolaryngology-specific milestones. In 2020, TSO-HNS launched a residency framework combining Milestone 1.0 subcompetencies with 11 EPAs, later integrated into the EMYWAY platform for nationwide workplace-based assessments in 2021. With ACGME Milestone 2.0 introduced in 2022, the framework required revision. This study aimed to update and validate subcompetencies and EPAs, ensuring both international alignment and local relevance (“glocalization”).

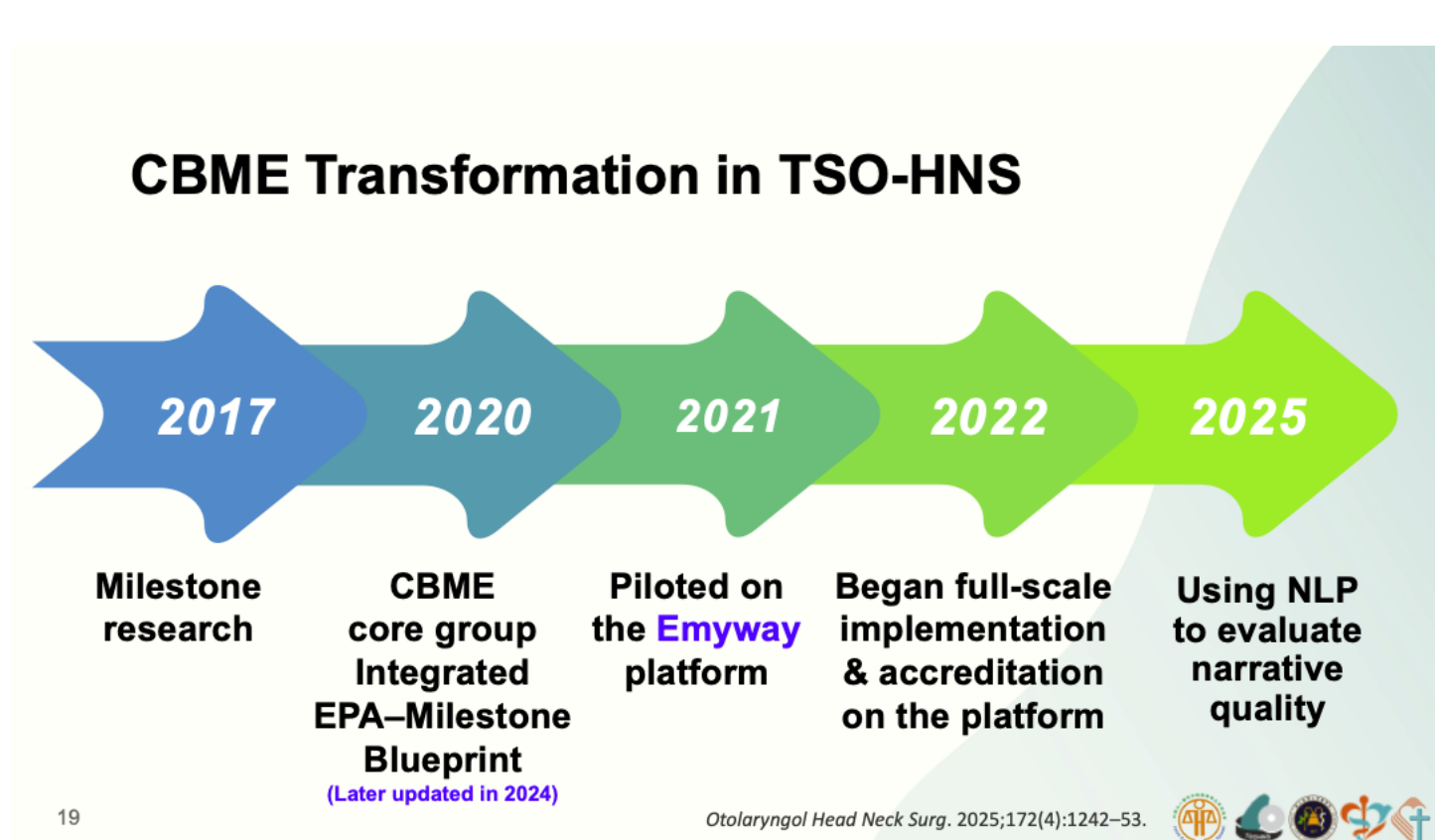


Figure 1. CBME Transformation in TSO-HNS



Figure 2. EMYWAY platform Intro



Figure 3. Entrance to the EMYWAY platform

Figure 6. TSO-HNS's Integrated EPA-Milestone Blueprint

Methods and Materials

This study used an expert validity process to update the TSO-HNS residency framework in line with ACGME Milestone 2.0. Milestones were first translated into Traditional Chinese, then rated by 11 experts on the importance of 23 subcompetencies using a 5-point Likert scale, with qualitative feedback collected. A focus group proposed adding an EPA for “foreign body management,” addressing local training needs. Three clinical educators reviewed clarity and validity ratings, and final revisions were achieved through expert consensus. This iterative process—translation, expert rating, feedback, focus group, and consensus—ensured rigor and relevance. The framework is integrated into the EMYWAY platform, currently supporting 35 programs, 410+ teachers, 290+ residents, and over 37,000 formative EPA assessments (2021–2025).

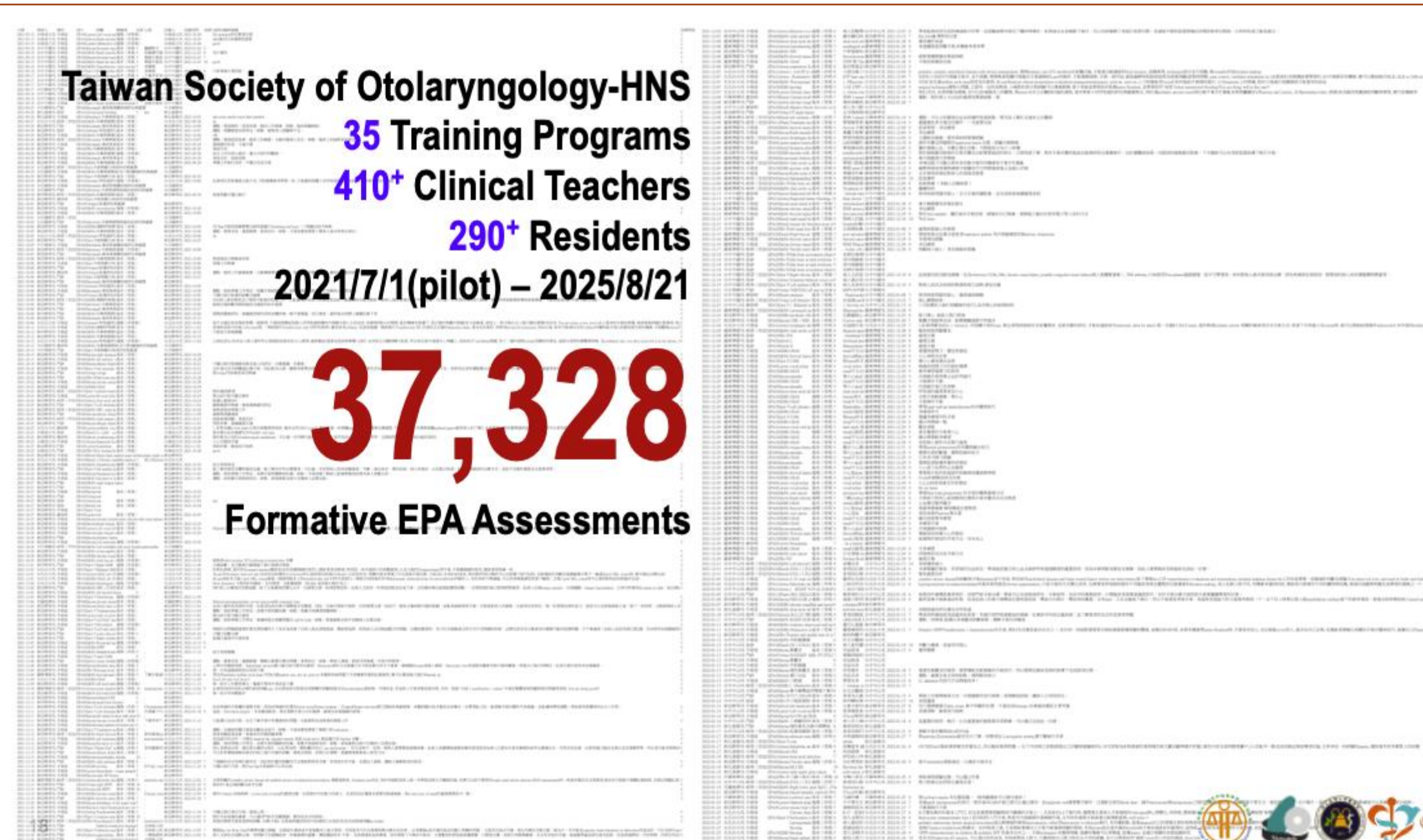


Figure 4. Formative EPA Assessments (2021-2025)



Figure 5. Multiple EPA Datapoints Supporting Summative Entrustment Decision

Results

Validation of the updated otolaryngologic residency framework showed that most of the 23 subcompetencies were highly rated, except “PC2: Facial Trauma” and “PC8: Facial Plastic and Reconstructive Surgery,” which scored below 4. Expert feedback highlighted the importance of “Foreign Body Management,” leading to unanimous support (11:0) for its inclusion and replacement of “PC2.” “PC8” was retained despite lower scores, with majority agreement (8:3). Non-PC/MK milestones scored significantly lower for clarity and validity ($P < .0001$), indicating areas needing refinement. The finalized framework incorporates 23 subcompetencies, 290 milestones, and 12 EPAs. The EPAs cover core clinical scenarios, with “Head and Neck,” “Sleep-Disordered Breathing,” and “Facial Plastic and Reconstructive Surgery” designated as delayed EPAs, expected at later training stages. Entrustment levels were also defined across residency years (R1–R5).

Table 1. Expected Entrustment Levels for the 12 EPAs in Respective Resident Seniority

EPA Titles	Expected Entrustment Levels for Respective Resident Seniority				
	R1	R2	R3	R4	R5
EPA1 (Airway) Assessing and managing patients with airway presentations	2	3	3	4	5
EPA2 (Foreign Body) Assessing and managing patients with suspicious foreign body presentations	2	3	3	4	5
EPA3 (Bleeding) Assessing and managing patients with upper aerodigestive tract bleeding presentations	2	3	3	4	5
EPA4 (Vertigo) Assessing and managing patients with vertigo	2	3	3	4	5
EPA5 (Infection) Assessing and managing patients with head and neck infections	2	3	3	4	5
EPA6* (Head and Neck) Assessing and managing patients with head and neck masses	2	2	3	4	5
EPA7 (Ear) Assessing and managing patients with ear and hearing diseases	2	3	3	4	5
EPA8 (Sinonasal) Assessing and managing patients with sinonasal diseases	2	3	3	4	5
EPA9 (Larynx) Assessing and managing patients with laryngopharyngeal diseases	2	3	3	4	5
EPA10* (Sleep Disordered Breathing) Assessing and managing patients with sleep-disordered breathing	2	2	3	4	5
EPA11* (Plasty) Assessing and managing patients with facial plastic and reconstructive surgery	2	2	3	3	4
EPA12 (Presentation) Oral presentation	2	3	3	4	5

Conclusions

This study validated a new framework for otolaryngologic residency training in Taiwan, integrating 23 subcompetencies, 290 milestones, and 12 EPAs. Through translation, expert consensus, and local adaptation, “Foreign Body Management” replaced “Facial Trauma,” and “Oral Presentation” was added. Embedded in the EMYWAY platform, the framework enables nationwide, traceable workplace-based assessments and clear entrustment benchmarks. This “glocalization” model aligns with ACGME Milestone 2.0 while addressing Taiwan’s clinical needs, advancing CBME implementation, and strengthening faculty development. It provides a robust foundation for improving residency training quality and patient care, with future work focusing on refinement and broader applicability.

References

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