Advancing Equity, Representation, and Belonging in Otolaryngology: A Systematic Review of the Literature

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ABSTRACT

Introduction:
Otolaryngology continues to face challenges in achieving equitable representation across race, gender, and other historically excluded identities. Gaps in leadership, mentorship, and recruitment may hinder professional advancement and perpetuate healthcare disparities. This systematic review aims to evaluate published efforts to improve equity, inclusion, and belonging within the field, highlighting evidence-based strategies and opportunities for meaningful progress.

Methods:
A PRISMA-guided systematic review was conducted across PubMed, Embase, CINAHL, and Web of Science. Eligible studies addressed diversity, equity, and inclusion within otolaryngology. Two reviewers independently screened articles, performed data extraction, conducted risk of bias assessment, and analyzed studies for thematic focus, evidence quality, and actionable recommendations.

Results:
Of 2,535 articles screened, 87 met inclusion criteria. Studies addressed race (60%), gender (76%), LGBTQ+ populations (5%), general (4%), socioeconomic status (1%), and ableism (1%). Most studies were observational (69%) and level 3 OCEBM evidence. Main evidence supports structured mentorship, sponsorship, allyship initiatives, leveraging virtual tools, and bias-reduction techniques to improve recruitment, retention, and leadership. Successful interventions (5%) included DEI committees, a mentorship program, and equitable recruitment changes.

Conclusion:
While efforts to enhance representation and foster inclusion in otolaryngology are increasing, they remain fragmented and lack consistent evaluation. Future initiatives should focus on measurable, sustainable strategies that address the needs of individuals with underrepresented identities. Broad adoption of evidence-informed strategies can build belonging, diversify leadership, and advance health equity.

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INTRODUCTION

- Otolaryngology continues to face persistent challenges in achieving equitable representation across race, gender, sexual orientation, socioeconomic background, and disability status.
- These disparities limit access to mentorship, hinder career advancement, and contribute to a lack of diversity in leadership and academic recognition.
- Such gaps not only affect the professional development and well-being of trainees and faculty from historically excluded groups but may also perpetuate disparities in patient care and outcomes.
- Addressing these inequities requires intentional strategies that promote inclusion, representation, and allyship at all levels of training and practice.
- This systematic review synthesizes the existing literature on efforts within otolaryngology to advance workforce equity and inclusion. By evaluating the scope, quality, and impact of published interventions, this work aims to identify effective approaches and highlight opportunities for meaningful, evidence-based progress across the specialty.

METHODS AND MATERIALS

- A PRISMA-guided systematic review was conducted across PubMed, Embase, CINAHL, and Web of Science.
- Eligible studies addressed diversity, equity, inclusion within otolaryngology.
- Two reviewers independently screened articles, performed data extraction, conducted risk of bias assessment, and analyzed studies for thematic focus, evidence quality, and actionable recommendations.

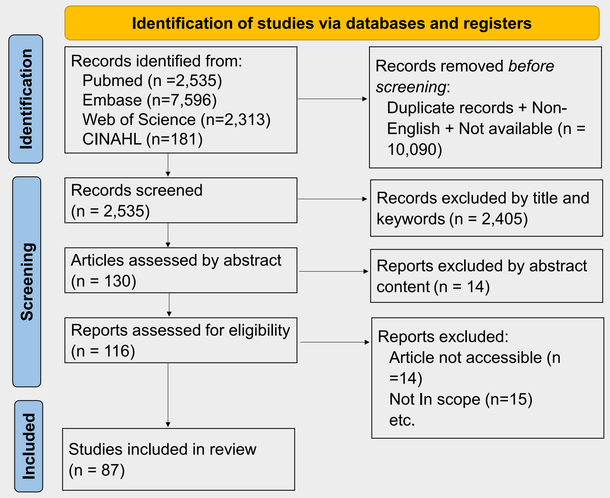

Figure 1. PRISM Systematic Review

RESULTS

- Most studies in Otolaryngology focus on race (60%) and gender (76%)
- There is a paucity of literature on LGBTQ+ (5%), socioeconomic concerns (1%) and ableism (1%)

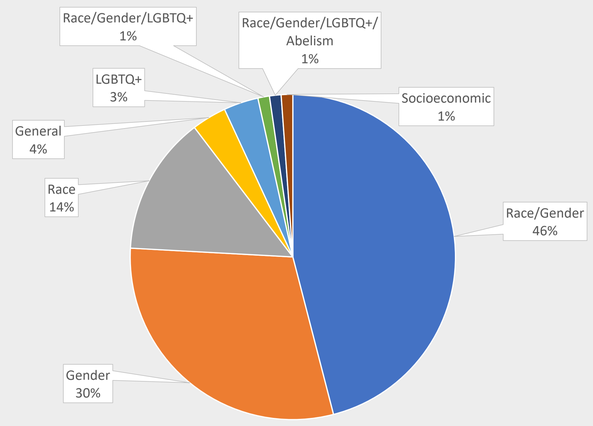

Figure 2. DEI Focus

- Almost all the studies were observational (69%)
- Most studies did not include an intervention (5%)
- Interventions Included:
  - A Geographic Distribution Algorithm (GDA) for resident selection
  - Development of Faculty Diversity and Inclusion Program
  - Professional Society DEI Work Group
  - URM Mentored Student Clerkship
  - Distance Traveled Question Implementation

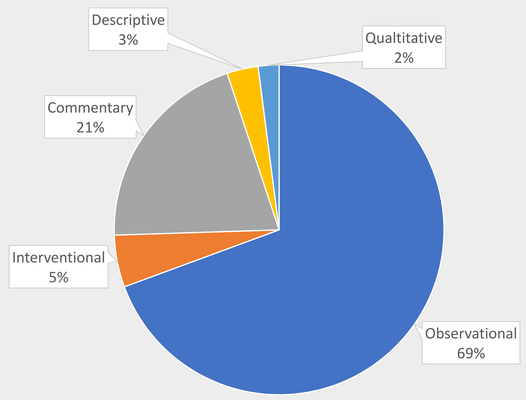

Figure 3. Study Type

- There is primarily level 3 evidence (47%)
- Level 2 evidence (8%) includes:
  - Systematic Reviews: Burks CA[1], Pershad[2]
  - Pre-Post Cohort Study: Moody-Antonio[3]
  - Cohort Study: Lin SY[4], Van Osch[5], Lau[6]
  - Prospective Case-Control: Suurna[7]

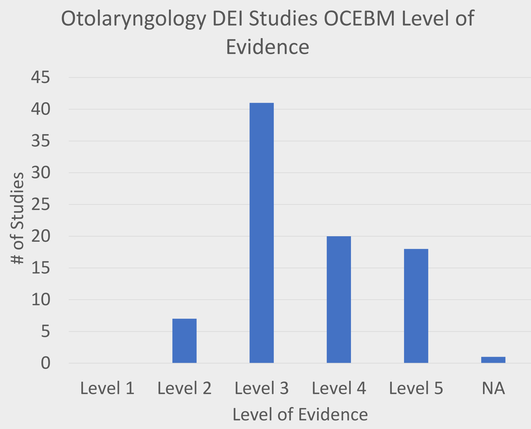

Figure 4. OCEBM Level of Evidence

CONCLUSIONS

- Efforts to promote representation and inclusion in otolaryngology are increasing but remain fragmented and under-evaluated.
- The current literature supports mentorship, sponsorship, allyship training, bias mitigation, and structural recruitment reforms. However, only a small fraction of studies report measurable outcomes.
- Future initiatives should prioritize evidence-driven, sustainable interventions, particularly those supporting intersectional identities. A field-wide commitment to evaluating and expanding such efforts can foster belonging, diversify leadership, and help advance equitable patient care.

Main Study Findings

• URMs and women remain underrepresented across all stages. • Structural issues, systemic bias, limited mentorship, and traditional selection methods hinder equity.	1. Persistent Underrepresentation and Structural Barriers
• Women earn only 0.77 compared to male peers and occupy fewer leadership roles. • Barriers include lack of mentorship/sponsorship, flexible scheduling needs, microaggressions, and limited negotiation power.	2. Women Face Compounded Challenges
• 55% of residency programs did not include any diversity criteria on their websites. • Top-ranked programs were significantly more likely to share DEI content on website.	3. Limited Visibility and Transparency
• Programs with DEI statements, URM encouragement, DEI committees, and public-facing DEI content had more diversity. • Leadership diversity correlates with increased faculty diversity.	4. Effective DEI Measures Are Known
• Mentorship aids guidance and development; sponsorship directly impacts advancement. • URM and female applicants prioritize race- or gender-concordant mentors and environments of acceptance.	5. Mentorship and Sponsorship Are Crucial
• Overreliance on USMLE and AOA scores filters out URM and female candidates. • Numerical scoring systems carry geographic, inter-rater, and implicit bias.	6. Traditional Metrics Hinder Equity
• URM investigators are only 2.8% of NIH-funded researchers. • Most research funding is concentrated in a few elite institutions. • URM and female faculty face more barriers to publication and advancement (minority tax).	7. Research Inequity and the Minority Tax
• Diverse teams drive better innovation, health outcomes, and patient satisfaction. • Increasing workforce diversity helps reduce healthcare disparities and promotes equity.	8. Diversity Improves Outcomes
• True inclusion requires psychological safety, visible allyship, transparent goals, and ongoing institutional commitment. • Performative allyship and Boys Club culture limit progress and trust.	9. Allyship, Culture, and Psychological Safety Matter
• Female and URM representation has improved in some areas but gaps remain stark. • Equity in salary was achieved in some subgroups by 2014, but leadership and publication disparities persist.	10. Progress Is Real but Incomplete

Evidence Based Interventions

1. Enhance Recruitment Transparency and Equity	• Update residency websites with DEI commitments. • Holistic review processes and algorithm-based bias reduction in application screening. • Incorporate virtual interviews and blinded application elements to minimize bias.
2. Strengthen Mentorship, Sponsorship, and Early Exposure	• Develop structured mentorship and sponsorship programs, especially for URM and women. • Emphasize early research and clinical exposure for underrepresented students. • Support race/gender-concordant mentorship and reverse mentoring.
3. Institutionalize DEI in Mission and Leadership	• Create diversity mission statements and ensure leadership commitment. • Integrate DEI into institutional culture, policies, and strategic plans. • Develop and fund DEI-specific leadership roles and committees.
4. Reform Training and Evaluation Practices	• Reduce reliance on traditional metrics (e.g., USMLE scores). • Expand training on cultural competency, humility, and bias mitigation. • Embed DEI in clinical, academic, and leadership development curricula.
5. Provide Financial and Structural Support	• Offer scholarships, stipends, and application fee waivers. • Ensure transparent and equitable compensation structures. • Fund DEI research and infrastructure.
6. Promote Inclusive Culture and Safety	• Address microaggressions, gender-based bias, and inequities in workplace culture. • Foster psychological safety through allyship and visible support systems. • Encourage inclusive practices at all levels, including conferences and leadership selection.
7. Expand and Monitor DEI Efforts Systematically	• Improve demographic tracking and publish DEI metrics. • Commit to ongoing monitoring, evaluation, and adaptation of DEI programs. • Institutionalize success tracking and quality improvement processes.
8. Leverage Technology and Virtual Tools	• Use virtual mentorship platforms and social media to increase access. • Host DEI-focused webinars and networking events. • Implement tools like geographic distribution algorithms (GDA) to diversify applicant pools.
9. Increase Representation and Visibility	• Target recruitment of URM and women faculty. • Promote women and URMs into visible leadership and speaking roles. • Highlight role models and ensure representation in public-facing efforts.
10. Embed Accountability and Policy Reform	• Enforce equal pay and transparent resource distribution. • Reform grant review, conference selection, and leadership nomination policies. • Mandate bias training and inclusive evaluation in institutional policy.