



# Community Health Screening Events in Otolaryngology: A Review of the Literature

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## BACKGROUND

Healthcare disparities exist across all subspecialties of otolaryngology<sup>1</sup>. Community outreach events that offer free preventive services and health education are one approach to reaching patients who may not otherwise have access. Close to two million Americans attend health fairs each year to access preventive medical services and health information<sup>2</sup>. While traditionally, community-based screening events have focused on chronic diseases that disproportionally affect marginalized populations, more recently, there has been an expansion into specialty fields that address unique areas of health disparities such as mental health, dermatology, ophthalmology, and oncology<sup>3,4</sup>. We seek to evaluate otolaryngology specific screening events.

## OBJECTIVES

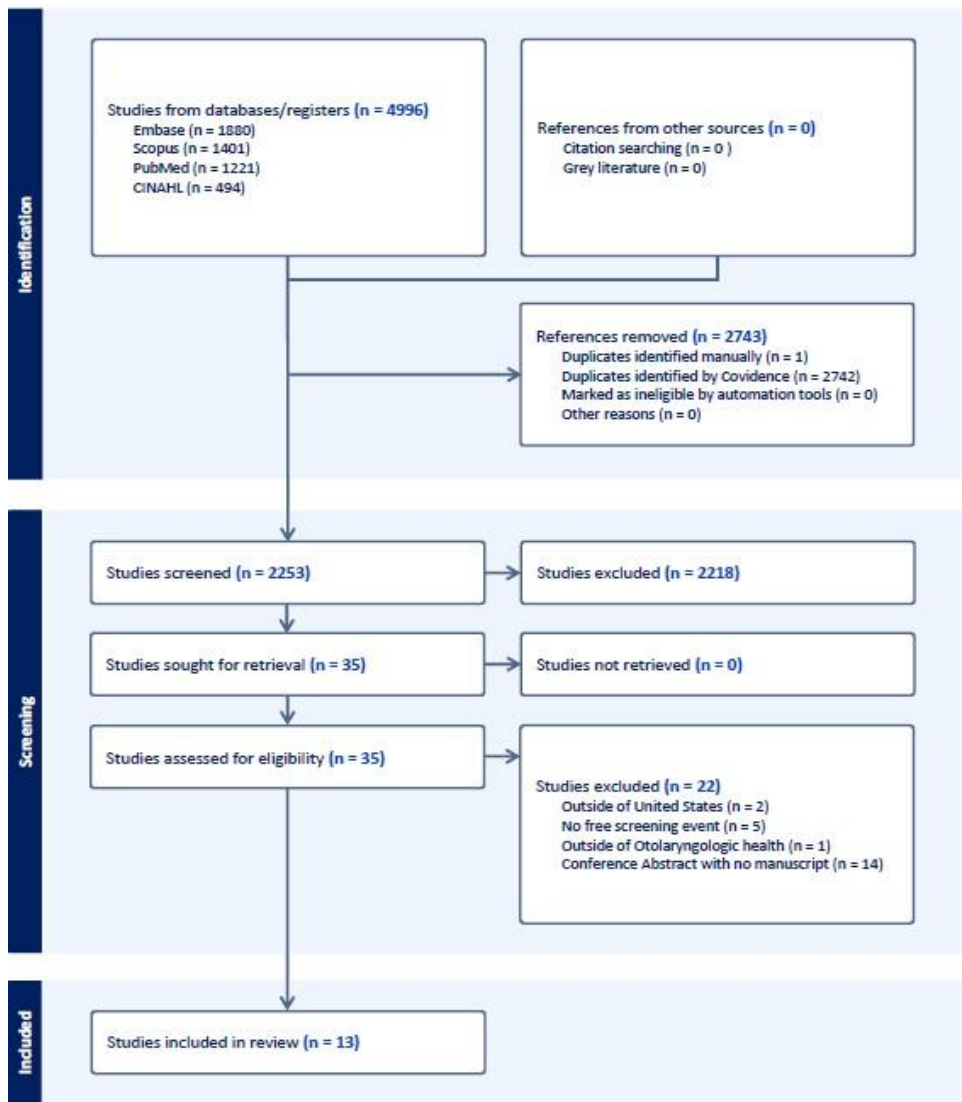
The scope and characteristics of otolaryngology-specific community health screening events within the United States (US) remain poorly defined. To date, no comprehensive review has synthesized their focus, implementation, or outcomes to inform future outreach efforts. This systematic review aims to (i) characterize the current landscape of otolaryngology-related health screenings conducted in the United States and (ii) provide guidance for future initiatives by identifying key outcomes and effective community engagement strategies reported in the literature.

## METHODS

A systematic literature search was conducted in accordance with PRISMA guidelines using the PubMed, Scopus, EMBASE, and CINAHL electronic databases.

Studies were included if they met the following criteria: (1) reported at least one original community health screening event relevant to otolaryngology, (2) specified the type of screening service provided, (3) offered the screening services at no cost to participants, and (4) conducted the screening event within the United States. Systematic reviews, conference abstracts, and unpublished literature were excluded. Commentaries were eligible only if they described an original screening event meeting all inclusion criteria. Manuscripts addressing broader health topics were included if the screening event encompassed services within the scope of otolaryngologic practice and satisfied all other criteria.

Figure 1: PRISMA Flowchart



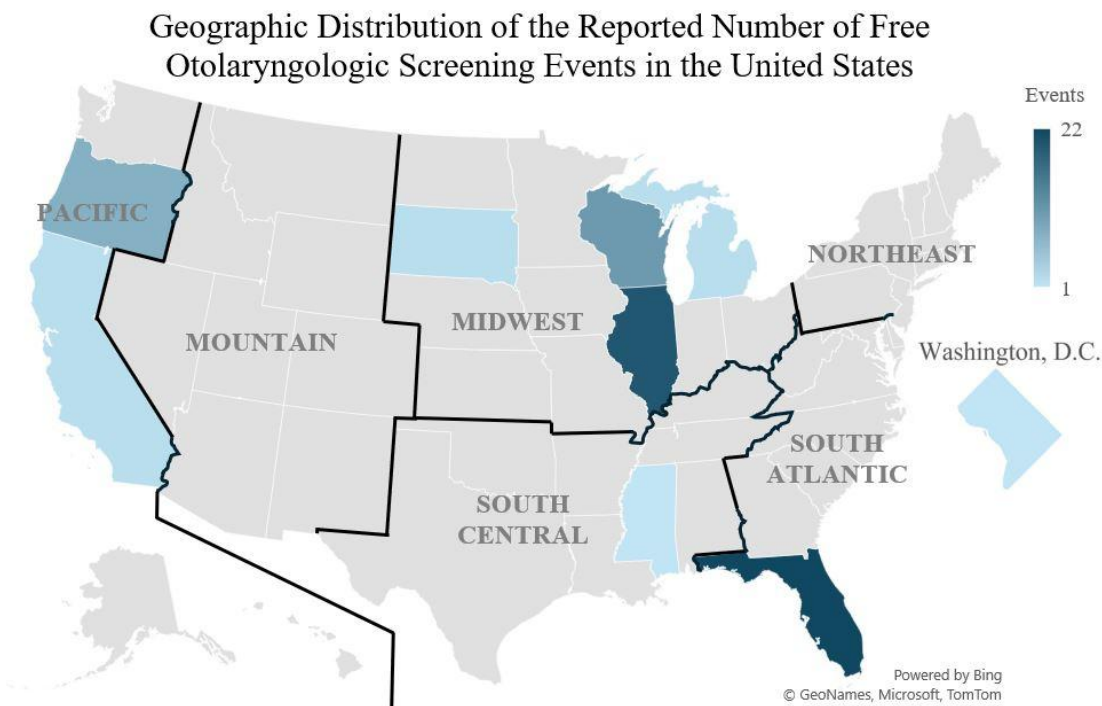
## RESULTS

A total of 13 manuscripts were included in the final review. The three areas of otolaryngologic health reported in the literature included head and neck cancer (HNC) (n=11), vocal health (n=1), and audiology (n=1). Across the 13 included manuscripts, a total of 260 individual free screening events were reported: 67 focused on HNC, 2 on vocal health, and 191 on hearing loss.

### A: Geographic Distribution of Screening events

Region- and state-specific data were available for 69 screening events. All events besides 1 were held in a metro area with a population between 250,000 and 2 million.

Figure 2: Screening Event Geographic Distribution



### B: Advertisement Methods

Social media (n=5) and printed flyers (n=8) were the most reported advertisement methods used to recruit participants. Flyers were reported most successful in recruiting participants from underserved communities.

### C: Screening Event Locations

Academic medical campuses were the most frequently used venues for hosting screening events (n=7). Urdang et al., who exclusively held screenings at academic medical centers, reported the lowest participant diversity (76% Caucasian) and the highest insurance coverage rate (84%) among attendees. Community gathering sites—such as health fairs, festivals, and sporting events—were the next most common locations (n=6), followed by non-academic medical clinics (n=3).

Table 1: Number of participants screened at various community locations during community-based hearing loss screening events (Saunders et al.)

Community Location	Number of Participants (%)
Senior Center	249 (14.8%)
Church/Place of Worship	624 (31.9%)
Retirement Center	151 (7.7%)
Grocery Store	48 (2.5%)
Library	195 (10%)
Health Fair	285 (14.6%)
Medical Clinic	99 (5.1%)
Golf Course	25 (1.3%)

### D: Screening Findings

- Hearing loss screenings: 59.3% of 1,954 screened participants failed pure-tone assessment and required further evaluation.
- Vocal health screenings: exact findings were not reported, but 55% of participants with acting background and 33% of participants without an acting background reported vocal health concerns.
- Eight of the eleven manuscripts that conducted HNC screenings reported data on positive findings requiring further evaluation. Across these studies, a total of 3,319 participants were screened, with 535 individuals (16.1%) presenting with abnormal findings. The reported rates of positive screenings ranged from 4.9% to 29%. Six manuscripts included follow-up data on cancer diagnoses, and five confirmed at least one malignancy. Cancer detection rates ranged from 0% to 2.4%, with an overall diagnostic rate of 0.69%

### E: Patient Follow Up

While 5 studies reported referring patients with abnormal screenings, only 2 studies aided in scheduling follow-up appointments. Two manuscripts contacted patients regarding completion of follow-up with follow-up rates of 17.3% and 22.3% respectively.

## CONCLUSIONS

- Community health screening events within Otolaryngology predominantly focus on HNC cancer screening. Thus, future screening events should consider covering health topics outside of HNC, such as hearing loss and vocal health.
- Healthcare professionals in the Mountain and Northeast regions of the United States should consider reporting on Otolaryngologic health screening events for their communities.
- Healthcare professionals should consider conducting screenings at locations outside of academic medical campuses if their target audience includes underserved communities.
- Flyer distribution in underserved communities should be prioritized over social media advertisement methods.
- Future screening events should carefully consider implementing patient follow-up strategies as well as providing on-site staff for scheduling appointments in the case of positive findings.

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