ence, or irrelevant.3 Useful videos were assessed using the Global Quality Scale (GQS) as a validated measure of quality. The GQS is a subjective measure of overall quality of information, graded on a 5-point Likert scale, with 1 representing poor quality (most information missing, not all useful for patients) and 5 representing excellent quality (very useful for patients). The modified DISCERN tool was used as a measure of reliability.4,5 When there was discordance, a third independent reviewer (nose job videos: O.O.; rhinoplasty videos: B.O.) assessed the video and was the decider. Video characteristics including duration of video, video popularity (defined as the ratio of total views by number of days since upload), and number of likes and dislikes were noted for all relevant videos.

Effect sizes with 95% CIs were calculated using Microsoft Excel for Mac, version 16.10 (Microsoft Corp) and ESCI statistical software version 3 (Free Software Foundation, Inc).6

Results | Of the 100 videos retrieved using the search term rhinoplasty, 37 were categorized as useful, 61 as personal experience, and 2 as irrelevant. Of the 100 videos retrieved using the search term nose job, 16 were categorized as useful, 33 as personal experience, and 51 as irrelevant. The United States was the most popular upload location overall, accounting for 74 of the 100 videos evaluated (74%), with patient personal experiences constituting the majority of relevant videos retrieved (rhinoplasty, 61 of 98 [62%]; nose job, 33 of 49 [67%]). Independent users (vloggers) uploaded 70 videos (70%) under the search for nose job and 34 (34%) of rhinoplasty videos. Nose job searches were more likely to retrieve irrelevant videos (51 [51%] vs 2 [2%] for rhinoplasty searches; difference between proportions, 0.49; 95% CI, 0.38–0.59). Neither search retrieved any misleading videos.

The Table highlights the video characteristics and the effect sizes when comparing search terms. Global Quality Scale scores for useful rhinoplasty and nose job videos were similar (mean difference, −0.3; 95% CI, −1.16 to 0.55), a pattern repeated with personal experience videos (mean difference, 0.12; 95% CI, −0.14 to 0.39) and their reliability scores (mean difference for DISCERN score for useful videos, −0.35; 95% CI, −0.81 to 0.11).

Discussion | To our knowledge, this was the first in-depth study to objectively assess the quality and reliability of information pertaining to rhinoplasty on YouTube. There were approximately 1.2 million views across the 200 videos included in this study, highlighting the importance of the internet and YouTube as sources of health information for patients. This study has found that information on YouTube pertaining to rhinoplasty is of average quality and reliability.

A key finding is that personal experience videos accessed using the term nose job had more views and engagements (likes, dislikes, and comments) and were more popular than videos accessed using rhinoplasty despite having been uploaded for less time and being significantly more likely to retrieve results categorized as irrelevant by reviewers. However, searching rhinoplasty rather than nose job did not alter the quality or reliability of information retrieved. The main limitations of this study are the lack of a standardized tool to assess health information and limitation of search results to English language videos, which will affect the generalizability of our findings.

To aid patients in benefiting from YouTube as a health information resource, specialists should consider referring their patients to validated online sources of information and uploading their own educational and promotional material to improve on the paucity of reliable, good-quality information on YouTube.

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Acquisition, analysis, or interpretation of data: All authors.

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Quantification of Hearing Loss Research on Children Compared With Older Adults

Hearing loss is an often underestimated public health concern with implications for individual patient health and the operation of health care systems. In children, hearing loss can lead to delayed speech and language development and impede educational outcomes.1 In older adults, hearing loss may be a modifiable risk factor for dementia.2 Untreated hearing loss was associated with more than $22 000 additional health care costs
per patient during a 10-year period. Understanding the current research landscape is important for informing policy in a quickly evolving legislative domain. This study aimed to quantify hearing loss research areas in children and older adults.

**Methods** | To quantify research on hearing loss in children and older adults, we used an advanced search in the PubMed databases. To specify literature on children, we used the terms *children*, *pediatrics*, and *adolescents*. To specify literature on older adults, we used the terms *older adults*, *geriatrics*, and *elderly* in addition to each categorical term specified. For example, to search hearing loss in children, we used the following query: hearing loss AND children AND policy OR hearing loss AND pediatric OR hearing loss AND policy OR hearing loss AND adolescents AND policy.

**Results** | A total of 11,623 publications on hearing loss were identified from 1946 to 2017, with the number of publications remaining constant from 1946 to 1975 and increasing after 1975, most notably after 1996. Approximately 137 articles were published on children and 26 articles on older adults per year during the 71-year period, but the number of publications increased throughout the study period, with 16 published in 1987 and 147 in 2017 (Figure).

During the study period, publications were 5 times more likely to address hearing loss in children (n = 9743) than older adults (n = 1880), an absolute difference of 7863 (Table). Overall, publications primarily focused on topics related to hearing loss treatment, including cochlear implants (n = 3233) and hearing aids (n = 2445), as well as language (n = 1957), with the smallest number of publications being related to policy (n = 123). The greatest discrepancy in publications by age was for articles related to cochlear implants and language, which were 22 times more likely in children than older adults and 15 times more likely in children compared with older adults, respectively (absolute differences, 2957 for cochlear implants and 1713 for language).

**Discussion** | Our study indicates that the volume of hearing loss literature on older adults lags behind that of children despite hearing loss being more than 3 times as prevalent in older adults. The detriments to this lack of research are recognized in the challenges faced by addressing hearing loss at patient, practitioner, and systems levels.

Although hearing screening in newborns and children is routinely recommended, the US Preventive Services Task Force concluded insufficient evidence to assess the benefits and harms of hearing loss screening in asymptomatic older adults. However, recent research has demonstrated associations with worse health outcomes (increased hospitalizations, decreased cognitive function, and poorer communication with health care professionals), which could indicate potential benefits of preventive screening in older adults.

A limitation of our study is the reliance on the PubMed databases alone and the scope of the search terms used. However, inclusion of research from additional databases would likely not alter the main findings given the large magnitude of difference in items on children and older adults in the medical literature, and our search does attempt to generate a comprehensive quantitative representation of all published literature.

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In describing these disparities, our hope is not to disparage hearing loss research in children but to call attention to areas in which significant progress can be made in older adults. Topics on hearing loss in children could have significant implications and should be investigated. Recognizing the significant gaps in the medical literature on hearing loss in older adults is important to focus future research efforts. Additional studies on hearing loss have potentially far-reaching implications on patients, health care professionals, and health care systems. This study suggests areas with a critical need for additional research in older adults using the model of progress that has been made in children as an indicator of success.

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Assessment of Application-Driven Postoperative Care in the Pediatric Tonsillectomy Population: A Survey-Based Pilot Study

Smart device-based applications (apps) are enjoying an exponential increase in productivity and usability.1,2 Health care has fallen behind in incorporating smartphone technology in communication and education with patients. At our institution, we have developed a new tonsillectomy care plan (TONSIL-E) that incorporates an app to provide education and prompt follow-up care. This pilot study aims to assess whether the app facilitates postoperative care.

**Figure 1. Representative Application Screenshots**