Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
Virtual scribing within otolaryngology during the COVID-19 pandemic and beyond

Renee Noordzij, Michal J. Plocienniczak, Christopher Brook

ARTICLE INFO

Keywords:
Otolaryngology
Telehealth
Scribe
Virtual
Clinic

ABSTRACT

Within otolaryngology, scribes have been utilized as a means of increasing clinic efficiency and easing workload on physicians. During the COVID-19 pandemic, a majority of otolaryngology clinic appointments at academic institutions have been moved to telemedicine in order to limit interpersonal contacts. At the height of the pandemic, our institution has protocolized scribe participation from in-person to remote. Scribes have virtually participated in telemedicine appointments in an effort to facilitate documentation and enhance the patient-physician relationship. Beyond the pandemic, as patients start being evaluated in-person, the risk of contamination and spread through aerosol generating procedures has limited the number of ancillary support staff that can be present in the examination rooms. As such, virtual scribing from a separate location within the clinic has been deemed warranted. This paper documents the protocols on virtual scribing for both telemedicine and a hybrid approach for in-clinic appointments where high-risk procedures are being performed.

1. Discussion

The effects of the COVID-19 pandemic on the field of otolaryngology have been substantial, affecting all areas of patient care including ancillary support. Prior to the pandemic, in 2014, there were approximately 10,000 scribes nationwide represented in all surgical and medical fields [1]. These numbers speak to the usefulness of scribes in a clinical setting. In a study done in a safety net hospital in Minnesota, scribes were implemented throughout the institution and scribe support was well received in multiple clinical settings. Benefits for providers were seen in documentation time and ability to listen to patients [2]. At our institution within the field of otolaryngology, scribes have been used for years, and have been demonstrated to improve the clinic workflow without impairing patient satisfaction [3]. However, during the COVID-19 pandemic clinical volume has decreased dramatically, and practicing otolaryngologists have embraced alternative virtual methods to continue providing for their patients. There has been a shift in clinical practice into telemedicine whenever possible, and thus in-person scribe involvement, and the benefits they provide, in many clinical scenarios has ceased [4].

In our institution, a method of incorporating virtual scribe participation into outpatient telemedicine clinics was implemented. Through trial and error, we created an effective protocol to allow for scribe participation in telehealth allowing otolaryngologists more time focused on conversing with patients, all while enhancing efficiency. This protocol for scribe participation in telemedicine appointments is described in Fig. 1.

However, at the time of this writing as the number of COVID-19 cases decrease, there has been a ramp-up in in-person clinic appointments which poses certain challenges. Multiple studies have been published evaluating the risks of generating contaminating aerosols by manipulating sinonasal mucosa in the setting of the COVID-19 [5,6]. As such, it is in the best interest of otolaryngologists to reduce the number of professionals, including scribes, in the room during aerosol generating procedures. In order to continue to benefit from the efforts of scribes in the otolaryngology clinic during the pandemic, we have devised a protocol for virtual scribing, in which the scribe is in a separate location of clinic for the appointments that would involve aerosol generating procedures. This protocol is described in Fig. 2. We suggest this hybrid approach of virtual scribing, in which scribes are present in a different area of clinic, and scribe remotely for these types of appointments. During all other non-aerosol-generating patient interactions, the scribe can attend in-person.

Scribes have been involved in clinical activities within the field of...
otolaryngology for a number of years at our institution. At the height of the COVID-19 pandemic, because of these protocols, scribes have been able to provide valuable services to our clinics remotely, assisting in providing effective clinical care for practicing otolaryngologists during telemedicine appointments. However more recently, as the clinical ramp-up continues, the number of classical in-person clinic appointments will start to rise. Given the risks of aerosol-generating procedures, otolaryngologist and scribes have found the hybrid approach to virtual scribing an effective experience for safe patient care while continuing to improve clinic efficiency. While prior studies have supported the value of virtual scribing, this is the first publication providing logistical details on how to implement virtual scribing in the field of otolaryngology [7]. With these guidelines and recommendations, scribes within otolaryngology can continue to engage with practicing otolaryngologists in various clinical scenarios and provide documentation support in a safe and effective manner.

2. Conclusion

Scribes have had a positive impact in the field of medicine and otolaryngology by improving clinic efficiency and enhancing physician-patient relationships. However, during the COVID-19 Pandemic, many otolaryngology clinics turned to virtual methods to continue seeing their patients. Beyond the COVID-19 pandemic, the risk of aerosol generating procedures will undoubtedly limit the presence of ancillary staff in the examination rooms for the near future. Here we present protocols for scribes to engage with otolaryngologists via telehealth, as well as virtually during in-clinic appointments when high-risk procedures are being performed.

Funding disclosures

None.

Author contributions

Renee Noordzij: Conceptualization, Methodology, Roles/Writing - original draft; Writing - review & editing.
Michal J. Plocienniczak M.D. M.S.: Roles/Writing - original draft; Writing - review & editing
Christopher Brook, M.D.: Roles/Writing - original draft; Writing - review & editing.

Declaration of competing interest

All authors declare they have no financial, consultant, institutional, or other relationships that may lead to a bias or conflict of interest.
Fig. 2. Virtual scribing during otolaryngology in-person clinic appointments involving aerosol-generating procedures.

References

[1] Alan J. Bank: in praise of medical scribes - WSJ n.d. https://www.wsj.com/articles/alan-j-bank-in-praise-of-medical-scribes-1396821119.
[2] Martel ML, Imdieke BH, Holm KM, Puplava S, Heegaard WG, Pyyrkö J, et al. Developing a medical scribe program at an academic hospital: the Hennepin County Medical Center experience. Jt Comm J Qual Patient Saf 2018;44:238–49. https://doi.org/10.1016/j.jcjq.2018.01.001.
[3] Rohlfing ML, Keeffe KR, Komshian SR, Valentine AD, Noordzij JP, Levi JR, et al. Clinical scribes and their association with patient experience in the otolaryngology clinic. Laryngoscope 2020;130:E134–9. https://doi.org/10.1002/lary.28075.
[4] Pollock K, Setzen M, Svider PF. Embracing telemedicine into your otolaryngology practice amid the COVID-19 crisis: an invited commentary. Am J Otolaryngol 2020:102490. https://doi.org/10.1016/j.amjoto.2020.102490.
[5] Tran K, Cimon K, Severn M, Pessoa-Silva CL, Conly J. Aerosol generating procedures and risk of transmission of acute respiratory infections to healthcare workers: a systematic review. PloS One 2012;7:e35797 https://doi.org/10.1371/journal.pone.0035797.
[6] Workman AD, Jafari A, Welling DB, Varvares MA, Gray ST, Holbrook EH, et al. Airborne aerosol generation during endonasal procedures in the era of COVID-19: risks and recommendations. Otolaryngol Head Neck Surg Off J Am Acad Otolaryngol-Head Neck Surg 2020. https://doi.org/10.1177/0194599820931805, 194599829931805.
[7] Benko S, Idarraga A, Bohl DD, Hamid KS. Virtual scribe services decrease documentation burden without affecting patient satisfaction: a randomized controlled trial. Foot Ankle Orthop 2019. https://doi.org/10.1177/2473011419500105.