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Author manuscript

Acad Med. Author manuscript; available in PMC 2013 March 07.

Published in final edited form as:

Acad Med. 2013 February ; 88(2): 158–161. doi:10.1097/ACM.0b013e31827c0aef.

Commentary: What Are the Benefits of Training Deaf and Hard-of-Hearing Doctors?

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Abstract

Deaf and hard-of-hearing (DHoH) individuals are underrepresented among physicians and physicians-in-training, yet this group is frequently overlooked in the diversity efforts of many medical training programs. The inclusion of DHoH individuals, with their diverse backgrounds, experiences, and struggles contributes to medical education and health care systems in a variety of ways, including: (1) a richer medical education experience for students and faculty resulting in greater disability awareness and knowledge about how to interact with and care for DHoH individuals and their families; (2) the provision of empathetic care desired by many patients and their families, including individuals who have a disability or chronic condition; and (3) the promotion of a more supportive and accessible professional environment for physicians, including older physicians in practice and as educators, who are experiencing age-associated decreased hearing acuity or other acquired disabilities.

Today, many qualified DHoH individuals face barriers to pursuing medical careers even while physicians who become DHoH can continue to practice medicine. These barriers still exist two decades after the implementation of the Americans with Disabilities Act of 1990 and despite technological advancements and changing attitudes. In light of the findings by Moreland and colleagues, the authors of this commentary discuss reasons to include DHoH individuals in the physician workforce, explain why this group remains underrepresented

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Other disclosures: None.

Ethical approval: Not applicable.

Disclaimer: The content of this commentary is solely the responsibility of the authors and do not necessarily represent the official views of the sponsoring agencies.

among physicians, and suggest ways that medical schools and training programs can ensure fair application processes and inclusive educational opportunities for work with DHoH students who are interested in health care careers.

A diverse physician workforce is best equipped to care for the aging and heterogeneous U.S. population. Deaf and hard-of-hearing (DHoH) people comprise a significant subgroup (10%-20%) in the U.S. patient population,¹ yet this group continues to be underrepresented among medical students, residents, and licensed physicians.² The implementation of the Americans with Disabilities Act (ADA) of 1990³ expanded opportunities for qualified DHoH individuals to become physicians by mandating that employers and institutes of higher education provide accommodations and accessibility. This access was supported in part by technological advances applied to the tools of medicine, such as amplified stethoscopes and text-based rather than voice-based paging systems.

The article by Moreland and colleagues⁴ in this issue of *Academic Medicine* reports findings from a survey of a sample of DHoH medical students, residents, and physicians, providing a first look at this never-before studied population of physicians and physicians-in-training. In this commentary, we list reasons that medical schools and training programs should include DHoH individuals, explain why DHoH individuals remain underrepresented in physician training programs and the health workforce, and recommend ways to effectively include DHoH individuals in educational programs and prepare them for successful careers as physicians (List 1). Our commentary is informed by our experience as deaf physicians (M.M. and S.S.) and as medical school faculty (all four authors) working with DHoH individuals who are physicians or working to become physicians. We also draw on the recent findings and recommendations of the national Task Force on Healthcare Careers for the Deaf and Hard-of-Hearing Community (M.M. a member and T.A.P. a convener).²

Why Train DHoH Physicians?

Availability of American Sign Language-fluent doctors

Of the approximately 10%-20% of the U.S. population with hearing loss,¹ an estimated 500,000 to 1 million are American Sign Language (ASL) users.⁵ The community of deaf ASL users shares many characteristics with other language and cultural minority populations,⁶ including risk for chronic disease and poor health outcomes.⁷ To mitigate this, deaf patients who use ASL should have access to ASL-fluent doctors. Research with deaf ASL users indicates that language concordance and cultural competence of physicians are associated with positive health care experiences, adherence with preventive services recommendations, and appropriate health care use.^{6,8,9} In addition, it is likely that hard-of-hearing patients and their family members will appreciate having a hard-of-hearing physician, someone with similar experiences including frustrations.

Access to health care careers

Access to medical education for qualified DHoH individuals is required by the ADA as well as by basic principles of social justice⁷. DHoH students and physicians add diversity that benefits all learners. Like all physicians-in-training, DHoH people who become physicians draw on a unique set of personal experiences as they develop a sense of empathy, which

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plays a powerful yet under-recognized role in patient care. The addition of DHoH students to a medical school class offers an experiential way to educate other medical students and faculty members on how best to communicate with and care for DHoH individuals, including patients. It also creates the opportunity to see a DHoH person not as a patient, but as a colleague and physician. This broader perspective can inform physicians' relationships with all patients with chronic conditions.

Benefits for younger and older generations

Current DHoH medical students and physicians act as role models and mentors for DHoH people who aspire to careers in medicine or other fields previously thought to be out of reach. Encouraging DHoH people to pursue careers in medicine will enhance physician workforce diversity as well as access to care for DHoH individuals. DHoH physicians can provide linguistically accessible and culturally appropriate health care to a group of DHoH patients who have historically been marginalized in the health care system. In addition, DHoH physicians can be an important resource for some older physicians who begin to lose hearing acuity and struggle with how to adjust their practice of medicine. Many DHoH people who become medical students and physicians have had a lifetime of experiences being DHoH prior to entering medicine. These DHoH medical students and physicians can share their knowledge and experiences with communication strategies, assistive devices, and other accommodations (List 1), effectively "mentoring" an older generation of physicians who have recently become DHoH. Supporting these physicians to continue patient care and medical education will help to mitigate the physician shortage.

Why DHoH Individuals Remain Underrepresented in Medicine

Limited educational opportunities to prepare for careers in health care

Only 5.8% of DHoH persons (170,000) work in health care occupations compared to 9.7% of hearing persons.² Approximately 69% of DHoH health workers have less than a baccalaureate degree, compared with 59% for hearing health workers. Within the health care industry, DHoH persons are less likely to have "higher level" positions, such as physicians and nurses, and more likely to be aides, counselors, etc. Physicians comprised 6.2% of hearing persons employed in health care industry in 2010, but only 4.0% of DHoH health care workers were physicians;² many of them likely became DHoH after their medical training.

Discrimination against DHoH applicants

We are concerned that some medical schools still view DHoH applicants in a discriminatory light,² focusing on their "deficiencies" rather than their positive attributes. Technical standards in medical education present the opportunity for clear and fair assessment of educational outcomes, thus reducing potential bias, yet a number of publicly available technical standards specifically require physical attributes (not an outcome or skill), including the ability to hear. For example, "A candidate should be able to speak, to hear and to observe patients in order to elicit both verbal and non-verbal information, and must be able to communicate effectively and sensitively with and about patients."¹⁰ To the best of our knowledge, however, no U.S. medical licensing body requires audiometric testing for

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new or renewal license applications. It appears that the ability to hear is required in the technical standards of some medical schools, but not for the ongoing practice of medicine. These medical school “technical standards” violate the principles of the ADA, discourage applications from otherwise qualified DHoH individuals, and reduce the diversity of the medical school class. In response to these “technical standards” and other experiences of bias, some otherwise qualified DHoH applicants minimize or avoid openly declaring their hearing acuity and the need for certain accommodations. This makes it difficult for both the school and the student to prepare for the rigors of medical training, and increases the likelihood of the student falling behind or not completing medical training.

Shortage of DHoH role models

We recently learned that in New York State there are no science teachers who are deaf in schools that work primarily with DHoH children. Without these role models, DHoH children along with their parents, teachers, and guidance counselors lack valuable expertise and insight that can help them prepare for and pursue a career as a physician.

Ways to Better Support DHoH Physicians and Physicians-in-Training

“Pipeline programs” to ensure adequate educational preparation

Pipeline programs to prepare DHoH students for health professions education should be modeled after current programs that target other underrepresented groups. In addition to academic preparation, improving students’ access to DHoH mentors and changing expectations regarding what a DHoH individual can achieve are essential components for creating a pathway to health professions careers for DHoH individuals.

Outcomes over process

Medical education, including schools’ “technical standards,” should be more outcomes-oriented than process-oriented. For example, a physician should be expected to be able to diagnose pneumonia (an outcome), but this does not necessitate the ability to hear the lung sounds associated with pneumonia (a process). Alternate processes to achieve the outcome might include conducting a thorough history and physical exam using tactile fremitus, amplified stethoscopes, and appropriate imaging diagnostics. Teachers and learners will need to work together to determine appropriate processes to achieve educational outcomes and will likely need to include DHoH physicians as mentors and advisors. An outcomes-oriented approach to assessment in medical education will help faculty more effectively teach all students and residents with diverse learning styles.

Collaboration for efficient use of resources

Sharing or pooling accommodation resources in centers of excellence would enable more efficient and higher quality training. We should identify, encourage and provide financial support to those medical schools and training programs with experience and expertise in educating and training DHoH students, residents, and physicians. Consolidating these efforts might improve efficiency and contain costs of accommodations. For example, the costs of interpreter services for a lecture are the same whether there is one deaf student or more than one. Working with multiple DHoH students simultaneously, training centers of excellence

can use resources more efficiently, identify best practices quickly, and share what they learn with other schools, programs, and health care facilities. Additionally, individual DHoH students may benefit from having other DHoH students in the program.

Increased funding to address accommodation costs

Difficulty obtaining funding for certain accommodations (e.g. interpreters) and assistive devices (e.g. FM systems) poses a significant roadblock to the inclusion of DHoH applicants for positions in training and practice. The legal requirements to support these accommodation requests are perceived as punitive by many medical schools that do elect to accept DHoH applicants. Institutions engaged in medical education and health care should actively pursue funding to address the additional costs associated with working with DHoH learners and clinicians. A more equitable or broader distribution of the accommodation costs would mitigate the financial burdens that certain institutions undergo as a result of these accommodations.

The right accommodation for the situation

The population of DHoH individuals in medicine is heterogeneous in many ways, including variation in hearing acuity, communication styles and preferences, and accommodations used⁴. It is critical that admissions committees, faculty, and administrators do not make assumptions about which accommodations are needed for an individual DHoH student or physician. Working directly with the DHoH person is the best way to determine how a particular accommodation works in a given setting (e.g., lecture hall, small group, surgical suite). Students and programs frequently need assistance to locate and test the available accommodations (List 1). There are limited data on assistive devices and their use in medical education and health care, and technology continues to change rapidly, creating opportunities for new and improved devices and accommodations. To be successful, programs must allow for the time needed to test, select and become proficient with a device. Moreland and colleagues reported that DHoH respondents spent on average 1.3 hours per week to arrange for accommodations.⁴

Accessible educational materials and programs

Efforts to create and advocate for accessible educational materials and programs should include the informal curriculum (e.g., study groups, mentoring) and the formal curriculum, such as continuing education programs, real-time captions and/or sign language interpreter services for lectures, web-based materials, and captions for videos (List 1). Captioning ultimately benefits everyone, allowing the video to be indexed and searched by a keyword used in the video.

Interprofessional infrastructure to support work with DHoH individuals

We need to build collaborative multidisciplinary health care teams that include DHoH physicians. Doing so requires other health-related professions to increase the number of students and graduates who are deaf or hearing and ASL fluent. Expanding interpreter training programs will help to accomplish this goal as well.

Research that includes DHoH people

Research and evaluation in medical education and health care services delivery should specifically study processes that include DHoH people. This will provide objective feedback on outcomes including documenting the career trajectories of DHoH students and residents.

Summary

Diversity among caregivers better equips the U.S. health care system to relate to, educate, and care for an increasingly pluralistic population. DHoH physicians are part of this diversity, and are especially important in the care of DHoH patients. DHoH persons are underrepresented in the health care workforce in general and in the ranks of physicians in particular. Qualified DHoH people face barriers to pursuing medical careers even while physicians who become DHoH can continue to practice medicine. Education and training of DHoH physicians should focus on outcomes, aggregate resources needed for accessible training when possible, and employ technologies when appropriate. These efforts will further increase opportunities for DHoH individuals to become physicians and maximize the DHoH physician's abilities to provide the highest quality of health care.

Acknowledgments

The authors thank the representatives of the Deaf Health Community Committee and the National Center for Deaf Health Research for their review and comments.

Funding/Support: Dr. McKee is currently supported by grant K01 HL103140 from the National Heart, Lung, and Blood Institute of the National Institutes of Health. Dr. Smith is currently supported by grant K01 HL103173 from the National Heart Lung and Blood Institute of the National Institutes of Health. Dr. Barnett and Dr. Pearson are currently supported by U48 DP001910 from the Centers for Disease Control and Prevention.

References

1. Lin FR, Niparko JK, Ferrucci L. Hearing loss prevalence in the United States. *Arch Intern Med.* 2011; 171:1851–1852. [PubMed: 22083573]
2. Task Force on Health Care Careers for the Deaf and Hard-of-Hearing Community. [October 18, 2012] Building Pathways to Health Care Careers for the Deaf and Hard-of-Hearing Community: A Final Report. (http://www.rit.edu/ntid/hccd/system/files/FINAL_REPORT_Building_Pathways_March_2012.pdf). Published March 2012.
3. U.S. Department of Justice. [October 21, 2012] Americans with Disabilities Act ADA Home Page. 2012. (<http://www.ada.gov/index.html>).
4. Moreland C, Latimore D, Sen A, Arato N, Zazove P. Deafness among physicians and trainees: A national survey. *Acad Med.* 2013; 88:XXX–XXX.
5. Mitchell R, Young T, Bachleda B, Karchmer M. How many people use ASL in the United States? Why estimates needed updating. *Sign Language Studies.* 2006; 6:306–335.
6. Steinberg A, Barnett S, Meador H, Wiggins E, Zazove P. Health Care System Accessibility. *J Gen Intern Med.* 2006; 21(3):260–266. [PubMed: 16499543]
7. Barnett S, McKee M, Smith S, Pearson T. Deaf sign language users, health inequities, and public health: opportunity for social justice. *Prev Chronic Dis.* 2011; 8(2) (http://www.cdc.gov/pcd/issues/2011/mar/10_0065.htm). Published March 2011.
8. McKee M, Barnett S, Block R, Pearson T. Impact of communication on preventive services among deaf American Sign Language users. *Am J Prev Med.* 2011; 41(1):75–79. [PubMed: 21665066]
9. McKee M, Schlehofer D, Cuculick J, Starr M, Smith S, Chin NP. Perceptions of cardiovascular health in an underserved community of deaf adults using American Sign Language. *Disabil Health J.* 2011; 4(3):192–197. [PubMed: 21723526]

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- Author Manuscript
10. Schwartz, M. [October 25, 2012] Technical Standards for Admission to Medical Schools: Deaf Candidates Don't Get No Respect.. College of Law Faculty Scholarship. 2012. Paper 80. (<http://surface.syr.edu/lawpub/80>).