Technical Standards

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Technical Standards are neither technical, nor standard
–Dr. Kurt Herzer, lamenting on the lack of utility and intentionality in most technical standards

What Are Technical Standards?

The term '*technical standards*' refers to all non-academic admission criteria that are essential to participation in the program in question." [1]. In Southeastern Community College v. Davis [2], the US Supreme Court considered a case where an

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already licensed practical nurse, with bilateral, sensorineural hearing loss, was denied admission to a professional (registered) nursing program that received federal funds and that was required under Section 504 of the Rehabilitation Act of 1973 to provide reasonable accommodations [1]. An audiologist's report indicated that even with a hearing aid, the respondent could not understand speech directed to her except through lip-reading; the program rejected the respondent's application for admission because it believed her disability made it impossible for her to participate safely in the normal clinical training program or to care safely for patients.

The court held that the respondent was not an *otherwise qualified individual* protected by Section 504, and that the decision to exclude her was not discriminatory, and that in determining whether respondent was "otherwise qualified," the program must confine its inquiry to her ***academic and technical qualifications***." The term "technical standards," thereafter, has been used to refer to the non-academic requirements articulated by most health professions schools that delineate the physical and other requirements for entry into a clinical program. Technical standards should not be conflated with ***essential functions***, a term related to employment, not education.

Importantly, on appeal in Southeastern Community College v. Davis, the Supreme Court stated that:

> It is possible to envision situations where an insistence on continuing past requirements and practices might ***arbitrarily deprive genuinely qualified*** handicapped persons of the ***opportunity to participate*** in a covered program. Technological advances can be expected to enhance opportunities … Thus, situations may arise ***where a refusal*** to modify an existing program ***might become unreasonable and discriminatory***.

Technical standards, the non-academic abilities required prior to entering a program, such as the ability to effectively communicate with members of a healthcare team, differ from a program's core competencies, which include the knowledge, skills, and abilities that a student must demonstrate in order to persist or graduate. Examples of these acquired skills include conducting a physical exam. Core competencies should be both measurable and observable and vary based on the health professional education program. Technical standards and core competencies are often conflated with one another and with the essential functions of employment, which are job-specific duties that an employee must be able to perform.

History of Technical Standards

In 1979, the American Association of Medical Colleges (AAMC) [3] put forward five key areas for technical standards including having abilities and skills in the following areas: [1] intellectual-conceptual abilities; [2] behavior and social attributes; [3] communication; [4] observation; and [5] motor capabilities. Since that time many programs have added a behavioral or professionalism category. The AAMC technical standards were intended to specify the minimum physical and mental abilities that were thought to be necessary to function as a physician. Candidates who were unable to meet these requirements could be denied admission to or graduation from a program. In medicine, the Liaison Committee on Medical Education

Box 9.1 Liaison Committee on Medical Education Standard Number 10.5
10.5 Technical standards: A medical school develops and publishes technical standards for the admission, retention, and graduation of medical students, in accordance with legal requirements.

(LCME) (see Box 9.1) provides guidance to programs stating that all medical schools must maintain technical standards; however, the specific technical standards wording is left up to each school [4].

Candidates who are unable to meet the technical standards of a program have been denied admission to health professions programs, and the courts have held that schools are able to develop technical standards that are in keeping with their educational program goals as long as they are justifiable. In the case of McCulley v. University of Kansas School of Medicine [5], the court held that McCulley did not have the physical or motor capacity to execute emergency treatment (e.g., performing CPR) rendering her unable to meet the technical standards for admission to the University of Kansas School of Medicine. The court deferred to the school's assertion that the motor technical standards were an essential requirement for participation in a medical education at the University of Kansas School of Medicine.

The Law and Technical Standards

When developing technical standards for a program, the ADA (1990) regulations provide some guidance stating that a public accommodation [school]"shall not impose or apply eligibility criteria that screen out or tend to screen out an individual with a disability or any class of individuals with disabilities from fully and equally enjoying any goods, services, facilities, privileges, advantages, or accommodations, unless such criteria can be shown to be necessary for the provision of the goods, services, facilities, privileges, advantages, or accommodations being offered [6]."

Screening out someone with a disability occurs when a program applies a technical standard to a programs admissions standard that is not grounded in actual competencies required by the health professional education program, accrediting body, or that does not consider potential accommodations for meeting the standard. The communication domain of technical standards offers the most salient example. While the ability to communicate is certainly necessary to provide health care, a healthcare professional who is deaf or hard of hearing may communicate differently, but the ability to communicate can be equivalent to their peers with the provision of reasonable accommodations, including sign language interpreters or assistive devices. Based on this example, the following technical standard would impose or apply eligibility criteria that screen out or tend to screen out an individual with a disability (see Examples 9.1 and 9.2).

In contrast, in the following example, qualified individuals who are deaf or hard of hearing are provided an opportunity to meet the technical standards through reasonable accommodations.

Example 9.1 Prohibitive Language in Technical Standards
Communication: A candidate should be able to ***speak, to hear***, and to observe patients in order to elicit information, describe changes in mood, activity, and posture, and perceive nonverbal communications. A candidate must be able to communicate effectively and sensitively with patients. Communication includes not only ***speech*** but reading and writing. The candidate must be able to communicate effectively and efficiently in ***oral*** and written form with all members of the healthcare team.

Example 9.2 Inclusive Technical Standards Language
Communication: Students should be able to ***communicate*** with patients in order to elicit information, to detect changes in mood and activity, and to establish a therapeutic relationship. Students should be able to communicate effectively and sensitively with patients and all members of the healthcare team both in person and in writing.

Organic Versus Functional Technical Standards

Organic Technical Standards

A review of existing US medical and nursing programs' technical standards demonstrates a reliance largely on an ***organic*** approach or one that requires the student be able to demonstrate certain physical, cognitive, behavioral, and sensory abilities without assistance [7–9]. Examples of this would be that a student must be able to *hear*, *see*, and *speak clearly* and be able to *stand* for long periods of time and move in tight spaces. The use of organic technical standards emphasizes how a student goes about completing a task, over the skill-based competency. Organic technical standards serve as barriers for qualified students with disabilities through multiple mechanisms. In doing so, they contribute to the inequitable number of students with disabilities in health professional programs and promote and reinforce negative views of people with disabilities. *Organic* technical standards are grounded in false assumptions that center around concerns for patient safety, the cost of accommodations, and false information about the availability of accommodations in employment or on licensing exams. The majority of health professions programs continue to utilize organic technical standards that highlight students' limitations or deficits rather than their abilities [10].

Functional Technical Standards

In contrast to organic technical standards, a more progressive view is based on ***functional*** technical standards that focus on the students' *abilities*, with or without the use of accommodations or assistive technologies [9–11]. Reichgott suggests categorizing health professional technical standards into the following five domains: [1] acquiring fundamental knowledge; [2] developing communication skills; [3] interpreting data; [4] integrating knowledge to establish clinical judgment; and [5] developing appropriate professional attitudes and behaviors [9]" In a recent article, Kezar and colleagues developed a model for functional technical standards using Reichgott's categorization [9] (see Fig. 9.1 Reichgott Functional Model for Revised Technical Standards for MD and DO programs).

The use of functional technical standards can assist in removing barriers that prevent students with disabilities from entering into health professional education programs and then into health professions, improving the diversity of the healthcare professional workforce. Functional technical standards allow students with disabilities to include rapidly developing, cutting-edge assistive technologies (e.g., amplified stethoscopes, specialized motorized wheelchairs, magnifying devices) and accommodations (e.g., extended test times) to meet technical standards of the health professional school or training program [9]. Examples of these accommodations include allowing a DHoH applicant to meet the communication standard through the use of an American Sign Language (ASL) Interpreter or allowing a student who is a wheelchair user to meet the standards for motor skills, recognizing that the ability to walk or stand is discriminatory and that the actual standard is to be able to navigate a clinic or hospital space in order to provide patient care. Programs across the country are successfully implementing this approach, and stories of these successes are making their way to the literature [12–14].

A "Failure to Communicate"

Unfortunately, many programs' technical standards failed to adequately address the notion that these standards must be met with or without accommodations. A recent study by Zazove and colleagues suggests that 67% of medical schools do not explicitly state that they allow for accommodations to meet technical standards, while 7% of schools fail to publicize their technical standards [8].

Failure to publicize technical standards may serve as a disincentive to students with disabilities, keeping them from applying to a program for lack of information about whether or not they would be eligible. Zazove's study also highlighted the lack of transparency in communicating technical standards. Of the schools who posted technical standards, almost half (42%) were not easily located. Finally, technical standards that are available (or obtained) may utilize language that communicates a legalistic approach to working with students with disabilities. In many technical standards, the communication is very clear and suggestive that students with disabilities are not welcome (see Example 9.3).

A Functional Model for Revised Technical Standards (TS) for MD and DO Medical Education Programs, Using Michael Reichgott's Categories[46]

[School name] seeks to produce highly skilled and compassionate doctors. Students are expected to develop a robust medical knowledge base and the requisite clinical skills, with the ability to appropriately apply their knowledge and skills, effectively interpret information, and contribute to patient-centered decisions across a broad spectrum of medical situations and settings. The following technical standards, in conjunction with the academic standards, are requirements for admission, promotion, and graduation. The term "candidate" refers to candidates for admission to medical school as well as current medical students who are candiates for retention, promotion, or graduation. These requirements may be achieved with or without reasonable accommodations. Candidates with disabilities are encouraged to contact [disability office or position] early in the application process to begin a confidential conversation about what accomodations they may need to meet these standards. Fulfillment of the technical standards for graduation form medical school does not guarantee that a graduate will be able to fulfill the technical requirements of any specific resisdency program.

Category	Technical standard
Acquiring fundamental knowledge	Candidates must be able to learn through a variety of modalities, including, but not limited to, classroom instruction; laboratory instruction, including cadaver lab; physical demonstrations, small-group, team, and collaborative activities; individual study; preparation and presentation of reports; and use of computer technology.
Developing communication skills	Candidates must exhibit interpersonal skills to accurately evalute patient conditions and responses and enable effective caregiving of patients. Candidates must be able to clearly and accurately record information and accurately interpret patinets' verbal and nonverbal communication. Candidates must demonstrate effective communication, participation, and collaboration with all members of a multidisciplinary health care team, patients, and those supporting patients, in person and in writing.
Interpreting data	Candidates must effectively interpret, assimilate, and understand the complex information required to function within the medical school curriculum, including, but not limited to, the ability to comprehend three-dimensional relationships and understand the spatial relationships of structures; synthesize information both in person and via remote technology; interpret causal connections and make accurate, fact-based conclusions based on available data and information; formulate a hypothesis and investigate the potential answers and outcomes; and reach appropriate and accurate conclusions. Candidates must be able to correctly interpret diagnostic representations of patients' physiologic data.
Integrating knowledge to establish clinical judgment	Candidates must conduct routine physical examinations and diagnostic maneuvers to form an accurate and comprehensive assessment of relevant patient health, behavioral, and medical information. Candidates must be able to provide or direct general care and emegency treatment for patinets and respond to emergency situations in a timely manner. Candidates must meet applicable safety standards for the environment and follow universal precaution procedures.
Developing appropriate professional attitudes and behaviors	Candidates must exercise good judgment; promptly complete all responsibilites attendant to the diagnosis and care of patients; and develop mature, sensitive, and effective relationships with patients. The skills required to do so include the ability to effectively handle and manage heavy workloads, function effectively under stress, adapt to changing environments, display flexibility, and learn to function in the face of uncertainties inherent in the clinical problems of patients. Candidates are expected to exhibit professionalism, personal accountability, compassion, integrity, concern for others,and interpersonal skills including the ability to accept and apply feedback and to respect boundaries and care for all individuals in a respectful and effective manner regardless of gender identity, age, race, sexual orientation, religion, disability, or any other protected status. Candidates should understand, and function within, the legal and ethical aspects of the practice of medicine and maintain and display ethical and moral behaviors commensurate with the role of a physician in all interactions with patients, faculty, staff, students, and the public. Interest and motivation throughout the educational processes are expected of all candidates.

Fig. 9.1 Reichgott functional model for revised technical standards for MD and DO programs used with permission from Kezar et al. [9]

Example 9.3 Introductory Language for Technical Standards that Dissuade Students with Disabilities

The College of Medicine has an ethical responsibility for the safety of patients with whom students and graduates will come in contact. Although students learn and work under the supervision of the faculty, students interact with patients throughout their medical school education. *Patient safety and well-being are therefore major factors in establishing requirements involving the physical, cognitive, and emotional abilities of candidates for admission, promotion, and graduation.*[1] As a result, the medical education process, which focuses so largely on patients, differs markedly from postsecondary education in fields outside of the health sciences.

Candidates must have the *physical and emotional stamina to function in a competent and safe manner in settings that may involve heavy workloads, long hours, and stressful situations.*[2] All candidates should be aware that the academic and clinical responsibilities of medical students may, at times, require their *presence during day and evening hours, any day of the week, at unpredictable times and for unpredictable durations of time. Individuals who constitute a direct threat to the health and safety of others are not suitable candidates for admission, promotion, or graduation.*[3]

Delineation of technical standards *is required for the accreditation of US medical schools*[4] by the Liaison Committee on Medical Education.

Candidates must possess the capability to complete the entire medical curriculum, achieve the degree Doctor of Medicine, and practice medicine with or without reasonable accommodations.[5]

[1] Begins discussion of technical standards with a repetitive and strong statement about patient safety, suggesting that the concern about inclusion of students with disabilities may be focused on safety.

[2] Communication regarding physical abilities of candidates. Although health science programs are difficult, the approach in this wording could be perceived as attempting to elicit fear and doubt in the minds of any candidate with a chronic health or mental health disability.

[3] This sentence can be perceived as a disincentive for any candidate who may require an adjustment to the schedule as a reasonable accommodation, for example, weekend vs. night call. On top of the aggressive language about availability, the statement includes another reminder (with some assumptions implied) that a student who is incapable of all of the above is a direct threat to patient safety.

[4] Compliance-driven statement, as if to say "we have to do this."

[5] While this includes the mandatory statement "with or without accommodations," it assumes ability before even entering medical school, notwithstanding that students without disability are, at times, unable to achieve the MD degree or chose, without disability, not to practice medicine once completing their degree.

Technological accommodations can be made for some handicaps in certain areas of the curriculum, but a candidate must meet the essential technical standards so that he or she will be able to perform in a reasonably independent manner.[6] *The need for personal aids, assistance, caregivers, readers, and interpreters, therefore, may not be acceptable in certain phases of the curriculum, particularly during the clinical years.*[7]

In accordance with law[8] and the College of Medicine policy, no qualified individual with a disability shall, on the basis of that disability, be excluded from participation in College of Medicine programs or activities. The College of Medicine will provide reasonable accommodation to a qualified individual with a disa`bility. *Candidates must also be aware that approval for and provision of reasonable accommodations do not mean that similar accommodations would be granted elsewhere by postgraduate clinical training sites or by national licensing review boards.*[9]

A candidate who is unable to meet these technical standards with or without a reasonable accommodation may *be denied admission or may be dismissed from the MD program. Should a candidate pose a significant risk to health and safety of patients, self, or others that cannot be eliminated with a reasonable accommodation, the candidate may be denied admission or may be dismissed from the MD program.*[10]

In the example above, any candidate with a disability would be dissuaded from applying to this institution, which may, in fact, be the reason the language is written as presented. Oftentimes, bias and fear are the driver of an institution's communication about disability inclusion. In the example above, the institution mentions the legal obligation to accommodate, quickly followed by multiple reminders of all

[6] The use of the term handicaps is outdated and to some, offensive.

[7] The statement that suggests interpreters may not be acceptable in the clinical years is legally unsound. As well caregivers are appropriate at any time for someone who requires assistance with personal management (catherization). The expense of a personal caregiver may not be borne by the institution, but cannot be barred by it either.

[8] Compliance-driven statement, quickly mitigated by statement about what is not allowed.

[9] Language that suggests "even if we give you an accommodation, you won't make it past medical school." While it is certainly true that a medical school cannot predict nor be accountable for downstream decisions, this reads as more of a deterrent than a true disclosure.

[10] Another statement regarding patient safety, presuming a person with a disability pose a threat to patient safety. Strong language about dismissal or failure to accept.

reasons why they will exclude a person with a disability and three separate mentions of patient safety (beginning, middle, and end) subtly communicating their belief that a person with a disability should not be in their program.

In contrast to Example 9.3, some programs are working to ensure that students with disabilities understand the entry requirements but also feel welcomed and valued as a part of a diverse cohort of incoming students. Keep in mind the legal premise of accommodation and the legal requirement to accommodate is not tempered by the language used. The use of language only serves as a disincentive or incentive to apply. Take, for example, a starkly different and inviting set of language leading up to the technical standards in Example 9.4.

Example 9.4 Introductory Language for Technical Standards that Encourage Disclose of Disability

The school of nursing is *committed to diversity*[11] and to attracting and educating students who will make the population of healthcare professionals' representative of the national population. We *actively collaborate with students*[12] to develop *innovative ways to ensure accessibility*[13] and create a *respectful accountable culture through our confidential and specialized disability support.*[14]We are *committed to excellence in accessibility*[15]; we *encourage students with disabilities to disclose and seek accommodations*.[16]

The College of Nursing provides the following sample description/examples of technical standards to *inform incoming and enrolled students of the performance abilities and characteristics that are necessary to successfully complete the requirements of the nursing curriculum and provide effective and safe health care*.[17] To matriculate (enroll) the student must meet technical standards *with or*

[11] The first statement makes clear that disability is viewed as part of diversity.

[12] Actively collaborating with students is a description of the interactive process and is presented positively in this example.

[13] This statement suggests that the institution is aware of the technological advances available to aid in meeting technical standards and that they are willing to engage them.

[14] This statement communicates to the student or applicant that their disability-related items will be confidential and respected and that specialized support for accommodations is available.

[15] A statement of commitment to inclusion.

[16] A statement encouraging students with disabilities to disclose and seek accommodations.

[17] A statement about meeting the competencies and providing safe patient care, vastly different from that in Example <InternalRef RefID="FPar3" >9.2.

without reasonable accommodations and maintain related satisfactory demonstration of these standards for progression through the program.[18]

We wish to *ensure that access to our facilities, programs, and services*[19] are available to students with disabilities. *The university provides reasonable accommodations to students on a nondiscriminatory basis consistent with legal requirements as outlined in the Americans with Disabilities Act (ADA) of 1990, the Americans with Disabilities Act Amendments ACT (ADAAA) of 2008, and the Rehabilitation Act of 1973.*[20]

As you can see, for the student reviewing programs technical standards, the choice of which program has a better culture of people with disabilities is clear. A side-by-side comparison of two of the elements provides greater clarity about the differences. In Example 9.5 you can see the comparison of statements regarding the legal requirement for inclusion.

As you will notice, these read quite differently, with option A and option B (see footnotes for specific notes). As well, the statements about inclusion of students with disabilities are vastly different in these two sets of technical standards language, which becomes very clear with a side-by-side comparison (see Example 9.6).

When directly compared there is little question about the differences in concern, and desire for inclusion, between the two programs. As discussed, there are several specific barriers in technical standards that work against schools wishing to recruit and retain students with disabilities. Two of the biggest barriers are failure to publish technical standards and overly legalistic language as highlighted below.

When schools fail to update their standards, many potential and current students resort to litigation. Examples of legal challenges from medical students with disabilities include *Argenyi* vs *Creighton* [15], *Featherstone* vs *Pacific Northwest University of Health Sciences*, [16] *and Palmer College of Chiropractic v. Davenport Civil Rights Commission* [17]. These cases favored the student's inclusion, in part due to the expansion of accessible technology and accommodations in use nationally and the prior successes of clinicians with hearing and vision loss.

The Critical Nature of Inclusive Technical Standards

Social justice and the need for full inclusion of students with disabilities in the health professions add compelling ethical reasons for inclusive technical standards, thereby improving the likelihood of admission to health professions programs and greater inclusion and provision of accommodations for applicants and students with disabilities. Students and professionals with disabilities are underrepresented in health care. Despite >20% of patients reporting a disability [18], the prevalence of medical students with disabilities remains low (4.7%) [19]. Patients with disabilities struggle to access equitable healthcare services in many cases due to providers who

Example 9.5 Direct Comparison of Statement Regarding the Legal Requirement for Inclusion

Option A:

In accordance with law[21] and the College of Medicine policy, no qualified individual with a disability shall, on the basis of that disability, be excluded from participation in College of Medicine programs or activities. The College of Medicine will provide reasonable accommodation to a qualified individual with a disability. Candidates must also be aware that approval for and provision of reasonable accommodations does not mean that similar accommodations would be granted elsewhere by postgraduate clinical training sites or by national licensing review boards.[22]

Option B:

We wish to ensure that access to our facilities, programs, and services[23] are available to students with disabilities. The university provides reasonable accommodations to students on a nondiscriminatory basis consistent with legal requirements as outlined in the Americans with Disabilities Act (ADA) of 1990, the Americans with Disabilities Act Amendments ACT (ADAAA) of 2008, and the Rehabilitation Act of 1973.[24]

do not understand the experience of disability, have insufficient knowledge about the impact of disability on health, and lack training specific to caring for people with disabilities, resulting in health and healthcare disparities [20–26]. The life experiences of health sciences students and professionals with disabilities may better equip them to not only understand but also to care for patients with disabilities more effectively and compassionately than their counterparts without disabilities but also help educate the health professions in general, changing attitudes through close associations with people with disabilities working alongside one another

[18] The standard "with or without accommodations statement."

[19] Another statement of inclusion to access.

[20] A compliance statement that comes after all of the language to invite inclusion and is written in a pro-student manner.

[21] Compliance-driven statement, quickly mitigated by statement about what is not allowed.

[22] Language that suggests, "even if we give you an accommodation, you won't make it past medical school." While it is certainly true that a medical school cannot predict, nor be accountable for downstream decisions, this reads as more of a deterrent than a true disclosure.

[23] Another statement of inclusion to access.

[24] A compliance statement that comes after all of the language to invite inclusion and is written in a pro-student manner.

Example 9.6 Direct Comparison of Inclusive Wording in Opening Paragraph of Technical Standards

Option A:

The College of Medicine has an ethical responsibility for the safety of patients with whom students and graduates will come in contact. Although students learn and work under the supervision of the faculty, students interact with patients throughout their medical school education. Patient safety and well-being are therefore major factors in establishing requirements involving the physical, cognitive, and emotional abilities of candidates for admission, promotion, and graduation.[25] As a result, the medical education process, which focuses so largely on patients, differs markedly from postsecondary education in fields outside of the health sciences.

Option B:

The school of nursing is committed to diversity[26] and to attracting and educating students who will make the population of healthcare professionals' representative of the national population. We actively collaborate with students[27] to develop innovative ways to ensure accessibility[28] and create a respectful accountable culture through our confidential and specialized disability support.[29]We are committed to excellence in accessibility[30]; we encourage students with disabilities to disclose and seek accommodations.[31]

[12, 27–30]. Disability is a valuable form of diversity. Health professions students with disabilities offer enriching perspectives from whom their peers can learn about the experience of disability. This can help address the gaps in disability awareness and disability health training in most programs' curricula [31–33].

[25] Begins discussion of technical standards with a repetitive and strong statement about patient safety, suggesting that the concern about inclusion of students with disabilities may be focused on safety.

[26] The first statement makes clear that disability is viewed as part of diversity.

[27] Actively collaborating with students is a description of the interactive process and is presented positively in this example.

[28] This statement suggests that the institution is aware of the technological advances available to aid in meeting technical standards and that they are willing to engage them.

[29] This statement communicates to the student or applicant that their disability-related items will be confidential and respected and that specialized support for accommodations is available.

[30] A statement of commitment to inclusion.

[31] A statement encouraging students with disabilities to disclose and seek accommodations.

Example 9.7 Two Largest Barriers Regarding Technical Standards

Barrier 1: Failure to Publicize Technical Standards

Students with disabilities who cannot obtain information about a programs' technical standards will struggle in determining eligibility. When schools are not transparent with their technical standards, it discourages applications from potential students with disabilities. This reduces the overall representation of disability in the student population and reinforces negative stereotypes of disabilities in general.

Barrier 2: Overly Legalistic Language in Technical Standards

Technical standards are often framed in a legalistic or unwelcoming manner. This may intimidate students with disabilities, disincentivizing their willingness to disclose their disabilities when applying.

Revising Technical Standards

Programs that seek to improve their technical standards can use the following sections as a guide to revision. The process of revising technical standards offers a unique opportunity for the program to reevaluate the mission, curricular competencies, and the essential components required to earn a degree in the health professions discipline. A periodic review of technical standards also allows the program to review the appropriate use of language and to ensure that program practices are in keeping with recent courts decisions. Importantly, reviewing and updating the standards help programs reflect on the mission for disability inclusion and improve the engagement of learners with disabilities.

Current Best Practice in the Field

Advances in technologies, recent case law, and a growing cohort of health science professionals with disabilities in practice have challenged programs to rethink their technical standards. Modern technologies such as high-frequency audio and visual output stethoscopes, standing wheelchairs, and voice-to-text technologies allow individuals with disabilities to perform the same tasks asked of their peers with equal competence. By focusing on the final competency, not the method a student uses, programs measure the "what" and not the "how."

Recent commentaries in the literature warn of the legal implications of maintaining organic technical standards, while others suggest that outdated and discriminatory technical standards that do not accurately reflect the technical skills needed in the twenty-first century may negatively affect learners. Best practice, therefore, necessitates that schools revise their technical standards to align with *functional technical standards* that focus on students' ability to perform with or without the use of accommodations or assistive technologies. The distinct difference in functional technical standards is the lack of a motor skills category that is replaced by language that represents what a clinician does versus how they do it (see Examples 9.8 and 9.9).

Example 9.8 Acquiring Fundamental Knowledge
Candidates must be able to learn through a variety of modalities, including but not limited to laboratory instruction, including cadaver lab; physical demonstrations, small group, team, and collaborative activities; individual study; preparation and presentation of reports; and use of computer technology.

Example 9.9 Integrating Knowledge to Establish Clinical Judgment
Candidates must conduct routine physical examinations and diagnostic maneuvers to form an accurate and comprehensive assessment of relevant patient health, behavioral, and medical information. Candidate must be able to provide or direct general patient care and emergency treatment for patients and respond to emergency situations in a timely manner. Candidates must meet applicable safety standards for the environment and follow universal precaution procedures.

Experts support the move to functional technical standards and recommend that explicit information about the school's compliance with the ADA and the process for requesting accommodations be *clearly articulated on the website and other program communication*.[8] Programs should ensure, through technical standards, that applicants and matriculated students understand the process for requesting accommodations. It should be clear to the current and prospective student that the program *encourages disclosure* of disability and maintains a commitment to students with disabilities.

Information about the process may look different for different programs, but at a minimum, technical standards should contain three fundamental elements (see Example 9.10).

- A statement that encourages disclosure
- A statement that communicates a confidential process
- A statement that directs students to the office for disability resources

By proactively communicating a commitment to prospective and current students with disabilities, programs may reduce stigma, encourage disclosure of disability, and increase opportunities to ensure learner access.

Conclusion

A diverse health professional team that includes those with disabilities may improve our ability to care for our increasingly diverse patient population. With the move to competency-based education, one might question the very need for technical

Example 9.10 Technical Standards Disability Statements
[Name of program] maintains a strong institutional commitment to equal educational opportunities for qualified students with disabilities who apply for admission to [degree program] or who are already enrolled. The technical standards are not intended to deter any candidate for whom reasonable accommodation will allow the fulfillment of the complete curriculum. Admitted candidates with disabilities are confidentially reviewed by the [name of office] to determine whether there are any reasonable accommodations or alternative mechanisms that would permit the candidate to satisfy the standards. This process is informed by the knowledge that students with varied types of disability have the ability to become successful health professionals. If you are an applicant with a disability who may require accommodations in our program, we encourage you to contact [name of person] at [email and phone number] for a confidential consultation.

standards. Advances in assistive technologies, recent case law, and a growing cohort of healthcare professionals in practice, representing multiple categories of disability, challenge health programs to rethink the applicability and necessity of technical standards. In the interim, the move from organic to functional technical standards will help facilitate the inclusion of individuals with disabilities into their educational programs.

Appendix A: Self-Assessment of Technical Standards

Programs should review the following questions to determine if their technical standards require revision.

1. Do your Technical Standards include language encouraging disclosure of disability?
   Students may be reticent to seek accommodations when they feel the environment is hostile or non-inclusive. Students should be *actively encouraged* to disclose disability and seek accommodations from the beginning of the program. These early requests for accommodations are known facilitators of success and help prevent last minute disclosures that may occur when a student has performed poorly.
2. Do your Technical Standards include welcoming language?
   Welcoming language is critical to encouraging disclosure of applicants. Check your technical standards for language that might be viewed as micro-aggressions. Framing accommodations in a positive manner encourages early disclosure of disability. A shift to more welcoming language does not change the laws that govern inclusion, the reasonable nature of an accommodation, or what

constitutes an undue burden. However, changing a program's language *does* communicate to applicants that your institution is a safe place to disclose a disability where the student and the program can engage in a meaningful interactive process. By proactively communicating a commitment to students with disabilities through their technical standards language, programs can reduce stigma and proactively address learner access.

3. Do your Technical Standards communicate a process for disclosing disability and requesting accommodations?
   Programs must endeavor that applicants and matriculated students understand the process for requesting accommodations and have the information necessary to do so. In keeping with OCR recommendations, that programs provide clear notice of these requirements in order to prevent misunderstandings about the expectations for the program [34].
4. Are Your Technical Standards free of discriminatory language that screens out people with disabilities?
   Technical standards that impose or apply eligibility criteria that screen out or tend to screen out an individual with a disability or any class of individuals with a disability are prohibited unless proven that they are essential for performing the tasks of the profession. Words like *hear*, *speak*, *or walk* are likely not appropriate for the technical standards of a health professions program.

If you found yourself answering any of these four questions with a *NO*, you should reassess your technical standards to align with the current best practices. Appendix A and B of this chapter provides a step-by-step approach to revising technical standards. Appendix C offers a set of general technical standards as a guide.

Appendix B: How to Approach a Review

Programs should periodically review their technical standards to ensure that these accurately reflect advancements in technology and align with the *actual* abilities needed to learn and master the competencies of the program. This appendix is designed for health professions programs that determine their technical standards warrant revision. The process can help health professional schools move toward more functional and inclusive technical standards. It is recommended that those revising the technical standards be aware of current advancements in assistive technologies and disability law.

Step 1: Identify a Team

Identify key stakeholders for a council or committee to review technical standards.

Team members should include:

- Experts in health science disability inclusion and the best practices on accommodation.
- Faculty who understand clinical curricula

- Simulation center experts
- Assessment deans or directors
- Student representative, preferably someone with a disability

Step 1: Identify Philosophy of School or Program

Schools should consider their philosophy and its implications on students with disabilities. It is helpful to review program goals to get a clear vision of how these goals align with equal access of students with disabilities. You should also gather all forward-facing messaging to review for inclusive language. Finally, you'll need to review all program competencies and accreditation requirements in order to identify the specific technical skills and abilities necessary for inclusion in the technical standards.

- What is the mission and vision of the program?
- What does the non-discrimination or inclusion statement say about people with disabilities?
- Does the school's philosophy reflect the current technological advances for the inclusion of people with disabilities?
- What are the competencies necessary for promotion and graduation? What, if any, competencies are required by the accrediting organization.

Now you and your team are ready to *begin revising technical standards!*

The Five-Step Process for Technical Standards Revision

Once you have developed your team and have gathered your forward-facing messaging and program competencies, you are prepared to begin the process of revising your technical standards. The following five 1–2 hour-long meeting structure is offered to assist programs with the revision process. The process may vary given the amount of revision needed or the unique structure of a specific program.

First Meeting

During the first meeting, programs should discuss the need for revision of the technical standards based on the above step 1, which are usually grounded in three items: [1] a need to comport with legal guidance, case law [2] desire to approach technical standards from a functional v. organic perspective, and [3] a desire to expand the diversity agenda to include disability.

This meeting should include a philosophical discussion about the program's commitment to inclusion. The committee members should determine how the program wishes to communicate their willingness to work with students with disabilities, with the understanding that the technical standards must meet the basic tenants of legal accessibility. In this first meeting, you may want to ask the following questions to get a better idea of the goals of the technical standards revision.

Committee questions:

1. What is the philosophy of the program or university?
2. Do our technical standards align with our mission statement?
3. Why do we have technical standards?

4. What are the expectations of oversight agencies regarding technical standards?

Questions 3 and 4 require committee members to have a basic understanding of expectations from accrediting agencies, state boards of licensure and professional organizations. Committee members should be able to articulate the need for technical standards, how they are used, and how to apply them in schools and programs. For example, the LCME provides general guidance to medical schools through their elements. See Example 9.11.

Example 9.11 LCME Guidance
The Liaison Committee for Medical Education (LCME) is recognized by the US Department of Education and World Federation for Medical Education (WFME) as the reliable authority for the accreditation of medical education programs leading to the MD degree. In order to carry LCME accreditation, a school must maintain a list of technical standards. Therefore, maintaining technical standards is critical to maintaining accreditation.

LCME Element 10.5 Technical Standards
A medical school develops and publishes technical standards for the admission, retention, and graduation of applicants or medical students with disabilities, in accordance with legal requirements.

Second Meeting

This meeting will be focused on identifying the goals of the technical standards revision and include a review of existing technical standards in comparison with other programs.

After reviewing all of the items mentioned above (language, mission/vision, and requirements for technical standards), the committee should focus on identifying the goal of revising the technical standards. For example, is the goal to become more inclusive, to improve the use of language in the technical standards, to develop functional technical standards, or to ensure alignment with the legal obligations. It could be that all four are drivers for a technical standards revision. Sometimes this exercise is time-consuming. People may be confused about the need for technical standards and how they are actually used. If this is the case, you should allow for an additional meeting to address any confusion.

The second half of this meeting can be spent comparing existing technical standards to other technical standards in the same or similar type of health professions program. Remember that other programs technical standards may not be well-written. Part of the comparison is to help the committee crystalize the difference between well-written and poorly written technical standards.

This exercise is helpful in identifying the range of language and technical requirements used in the field. The program gets to decide the essential competencies of the

program and has this reflected in the technical standards, as long as they are in keeping with legal guidance and grounded in program or accreditation standards.

The committee should make a list of the items they liked from other program technical standards, and they should conduct a critical "first pass" of their own technical standards to identify nonconformity with the critical four questions:

- Do your technical standards language encouraging disclosure of disability?
- Do your technical standards include welcoming language?
- Do your technical standards communicate a process for disclosing disability and requesting accommodations?
- Are your technical standards free of discriminatory language that screens out people with disabilities?

Homework Review existing technical standards and note items that need to be removed and language that should be added.

Third Meeting

Here is where your committee will do a lot of the actual changing of the technical standards. This meeting may need to be longer than the other meetings to allow for the critical rewriting and revision of the standards. The committee members should come to table having completed the homework of identifying needed change in the program's technical standards and developing recommendations for new language. These recommendations can be funneled to one person who can create a master document that can be reviewed during the third meeting. At the end of this meeting, there should be a working document with all edits included. The committee members should review these recommended edits between the third and the fourth meetings.

Fourth Meeting

At this meeting, committee members will work to refine and finalize the technical standards. Once finalized, these standards are usually forwarded to a faculty committee or leadership for final approval. It may be helpful to provide a written summary of the process you followed to other stakeholders. It is also helpful to include any exemplar technical standards from similar programs. The next meeting should follow the final approval of the standards or a returned set of standards with queries from the leadership.

Fifth and Final Meeting

Once the technical standards are approved, the committee should work to implement them.

The committee should propose how the school's faculty, including the admission committee and disability resources professionals, will be informed of the revised technical standards.

We recommend a close collaboration between the office of disability resources and the school's faculty and admission committee members during the rollout of the technical standards. It may be helpful to have a question and answer session for those who have questions about the process or changes in technical standards. Importantly, all references to the old technical standards should be removed in writing and on the institutional and program website.

Finally, when possible, the disability office should conduct a training to remind faculty and leadership about the resources available, current best practices, and the mission and vision that informed the technical standards.

Appendix C: Example Technical Standards

[University] is committed to diversity and to attracting and educating students who will make the population of healthcare professionals' representative of the national population. We provide confidential and specialized disability support and are committed to excellence in accessibility; we encourage students with disabilities to disclose and seek accommodations.

Technical (Non-academic) Standards

- *Observation*: Students should be able to obtain information from demonstrations and experiments in the basic sciences. Students should be able to assess a patient and evaluate findings accurately. These skills require the use of vision, hearing, and touch or the functional equivalent.
- *Communication*: Students should be able to communicate with patients in order to elicit information, to detect changes in mood and activity, and to establish a therapeutic relationship. Students should be able to communicate via English effectively and sensitively with patients and all members of the healthcare team both in person and in writing.
- *Motor*: Students should, after a reasonable period of time, possess the capacity to perform a physical examination and perform diagnostic maneuvers. Students should be able to execute some motor movements required to provide general care to patients and provide or direct the provision of emergency treatment of patients. Such actions require some coordination of both gross and fine muscular movements balance and equilibrium.
- *Intellectual, conceptual, integrative, and quantitative abilities*: Students should be able to assimilate detailed and complex information presented in both didactic and clinical coursework, engage in problem-solving. Candidates are expected to possess the ability to measure, calculate, reason, analyze, synthesize, and transmit information. In addition, students should be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures and to adapt to different learning environments and modalities.
- *Behavioral and social abilities*: Students should possess the emotional health required for full utilization of their intellectual abilities, the exercise of good judgment, the prompt completion of all responsibility's attendant to the diagnosis and care of patients, and the development of mature, sensitive, and effective relationships with patients, fellow students, faculty, and staff. Students should be able to tolerate physically taxing workloads and to function effectively under stress. They should be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties inherent in the clinical problems of many patients. Compassion, integrity, concern for others,

interpersonal skills, professionalism, interest, and motivation are all personal qualities that are expected during the education processes.

- *Ethics and professionalism*: Students should maintain and display ethical and moral behaviors commensurate with the role of a physician in all interactions with patients, faculty, staff, students, and the public. The candidate is expected to understand the legal and ethical aspects of the practice of medicine and function within the law and ethical standards of the medical profession.

The technical standards delineated above must be met with or without accommodation.

Students who, after review of the technical standards determine that they require accommodation to fully engage in the program, should contact the [insert disability contact information] and [insert website] to confidentially discuss their accommodations needs. Given the clinical nature of the program, additional time may be needed to implement accommodations. Accommodations are never retroactive; therefore, timely requests are essential and encouraged.

References

1. Section 504 Federal Guidance, 45 CFR pt. 84, App. A, p. 405. 1978.
2. Powell, Lewis F., Jr, and Supreme Court of The United States. U.S. Reports: Southeastern Community College v. Davis, 442 U.S. 397. 1978. Periodical. Retrieved from the Library of Congress, www.loc.gov/item/usrep442397/.
3. Association of American Medical Colleges. Special Advisory Panel on Technical Standards for Medical School Admission. Washington, DC: Association of American Medical Colleges; 1979.
4. Liaison Committee on Medical Education. Functions and structures of a Medical School, standards for accreditation of medical education programs leading to the MD Degree. 2019. Retrieved from: lcme.org/publications.
5. McCulley v. The University of Kansas School of Medicine, Case No. 13–3299 (10th Cir. 2014).
6. 42 U.S.C. § 12182(b)(2)(A)(i); 28 CFR § 36.301(a).
7. Marks B, Ailey S. White paper on inclusion of students with disabilities in nursing educational programs for the California committee on the employment of people with disabilities. Chicago: American Association of Colleges of Nursing; 2014. Available at: https://www.aacnnursing.org/Portals/42/AcademicNursing/Tool%20Kits/Student-Disabilities-White-Paper.pdf.
8. Zazove P, Case B, Moreland C, Plegue MA, Hoekstra A, Ouellette A, Sen A, Fetters MD. U.S. medical schools' compliance with the Americans with disabilities act: findings from a national study. Acad Med. 2016;91(7):979–86. https://doi.org/10.1097/ACM.0000000000001087.
9. Kezar LB, Kirschner KL, Clinchot DM, Laird-Metke E, Zazove P, Curry RH. Leading practices and future directions for technical standards in medical education. Acad Med. 2019;94(4):520–7. https://doi.org/10.1097/ACM.0000000000002517.
10. McKee M, Case B, Fausone M, Zazove P, Ouellette A, Fetters MD. Medical schools' willingness to accommodate medical students with sensory and physical disabilities: ethical foundations of a functional challenge to 'organic' technical standards. AMA J Ethics. 2016;18(10):993–1002.
11. Argenyi M. Technical standards and deaf and hard of hearing medical school applicants and students: interrogating sensory capacity and practice capacity. AMA J Ethics. 2016;18(10):1050–9. https://doi.org/10.1001/journalofethics.2016.18.10.sect1-1610.

12. Meeks LM, Poullos P, Swenor BK. Creative approaches to the inclusion of medical students with disabilities. AEM Education and Training. Advance online publication. 2019. https://doi.org/10.1002/aet2.10425.
13. Jauregui J, Strote J, Addison C, Robins L, Shandro J. A novel medical student assistant accommodation model for a medical student with a disability during a required clinical clerkship. AEM Education and Training. Advance online publication. 2019. https://doi.org/10.1002/aet2.10426.
14. Herzer KR. Moving from disability to possibility. JAMA. 2016;316(17):1767–8.
15. Argenyi v. Creighton University, 703 F. 3d 441 (8th Cir. 2013).
16. Featherstone v. Pacific Northwest University of Health Sciences, No. 1:CV-14-3084-SMJ (E.D. Wash. 2014).
17. Palmer College of Chiropractic v. Davenport Civil Rights Commission, 850 NW2d 326. 2014.
18. Okoro CA, Hollis ND, Cyrus AC, Griffin-Blake S. Prevalence of disabilities and health care access by disability status and type among adults—United States, 2016. Morb Mortal Wkly Rep. 2018;67(32):882.
19. Meeks LM, Case B, Herzer K, Plegue M, Swenor BK. Change in prevalence of disabilities and accommodation practices among US medical schools, 2016 vs 2019. JAMA. 2019;322(20):2022–4.
20. Agaronnik ND, Pendo E, Campbell EG, Ressalam J, Iezzoni LI. Knowledge of practicing physicians about their legal obligations when caring for patients with disability. Health Aff. 2019;38(4):545–53.
21. Chapman EN, Kaatz A, Carnes M. Physicians and implicit bias: how doctors may unwittingly perpetuate health care disparities. J Gen Intern Med. 2013;28:1504–10.
22. Peacock G, Iezzoni LI, Harkin TR. Health care for Americans with disabilities—25 years after the ADA. N Engl J Med. 2015;373(10):892–3.
23. Iezzoni LI, Wint AJ, Smeltzer SC, Ecker JL. "How did that happen?" public responses to women with mobility disability during pregnancy. Disabil Health J. 2015;8(3):380–7.
24. Iezzoni LI, Kurtz SG, Rao SR. Trends in mammography over time for women with and without chronic disability. J Women's Health. 2015;24(7):593–601.
25. Wu J, McKee K, Meade M, McKee M, Sen A. Contraceptive use among women with vision or hearing loss: a secondary analysis of the National Survey of Family Growth, 2011–2013. Contraception. 2016;94(4):431.
26. McKee MM, Winters PC, Sen A, Zazove P, Fiscella K. Emergency department utilization among deaf American sign language users. Disability Health J. 2015;8(4):573–8.
27. DeLisa JA, Lindenthal JJ. Commentary: reflections on diversity and inclusion in medical education. Acad Med. 2012;87(11):1461–3.
28. McKee MM, Smith S, Barnett S, Pearson TA. Commentary: what are the benefits of training deaf and hard-of-hearing doctors? Acad Med. 2013;88(2):158–61.
29. Meeks LM, Herzer K, Jain NR. Removing barriers and facilitating access: increasing the number of physicians with disabilities. Acad Med. 2018;93(4):540–3.
30. Meeks LM, Maraki I, Singh S, Curry R. The new normal: global commitments to disability inclusion in health professions. The Lancet. (accepted).
31. Byron M, Cockshott Z, Brownett H, Ramkalawan T. What does "disability" mean for medical students? An exploration of the words medical students associate with the term "disability". Med Educ. 2005;39(2):176–83.
32. Symons AB, Fish R, McGuigan D, Fox J, Akl EA. Development of an instrument to measure medical students' attitudes toward people with disabilities. Intellect Dev Disabil. 2012;50(3):251–60.
33. Ailey SH, Marks B. Technical standards for nursing education programs in the 21st century. Rehabil Nurs. 2017;42(5):245–53. https://doi.org/10.1002/rnj.278.
34. OCR Letter to Appalachian State University, Case No. 11-05-2085; 2006.