

# **White Paper on Inclusion of Students with Disabilities in Nursing Educational Programs for the California Committee on Employment of People with Disabilities (CCEPD)**

Beth Marks, PhD, RN

Director, HealthMatters Community Academic Partnership (HealthMattersProgram.org) Associate  
Associate Director for Research, Rehabilitation Research and Training Center on Aging with  
Developmental Disabilities (rrtcadd.org)

Research Associate Professor, Department of Disability and Human Development, College of Applied  
Health Sciences

Immediate Past President, National Organization of Nurses with Disabilities (NOND.org)

University of Illinois at Chicago 1640 West Roosevelt Road, Room 736

Chicago, Illinois 60608

[BMarks1@uic.edu](mailto:BMarks1@uic.edu)

Sarah Ailey, PhD, RN, CDDN APHN-BC

Associate Professor

Rush University

College of Nursing

Department of Community, Systems and Mental Health Nursing

600 S. Paulina #1080

Chicago, IL 60612

[Sarah\\_H\\_Ailey@rush.edu](mailto:Sarah_H_Ailey@rush.edu)

*We would like to extend our gratitude to Melanie Dreher, RN, PhD, FAAN and Susan Matt, RN, MN, PhD, JD for providing invaluable information and feedback on the preparation of this document.*

**White Paper on Inclusion of Students with Disabilities in Nursing Education  
Programs and Technical Standards for the California Committee on  
Employment of People with Disabilities (CCEPD)**

<b>Abstract .....</b>	<b>iii</b>
<b>Students with Disabilities in Nursing Education .....</b>	<b>1</b>
<i>Social and Legal Changes: Invigorating New Expectations .....</i>	<i>2</i>
<i>Employment Gaps: Expanding Opportunities.....</i>	<i>4</i>
<i>Nursing Shortage with a Twist: Fixing a Pipeline in Crisis.....</i>	<i>4</i>
<b>Barriers and Supports for Students with Disabilities .....</b>	<b>5</b>
<i>Historical Context: Concretizing Technical Standards .....</i>	<i>5</i>
<i>“What” Versus “How:” Understanding Essential Functions and Technical Standards .....</i>	<i>6</i>
<i>Technical Standards Today: Conflating Technical Standards and Essential Functions.....</i>	<i>7</i>
<b>Accommodations and Nursing Students .....</b>	<b>8</b>
<i>Standardized Technical Standards: Getting through “Clinicals” .....</i>	<i>9</i>
<i>Nursing Practice with Accommodations: Rethinking the Status Quo .....</i>	<i>10</i>
<i>Nursing in the 21<sup>st</sup> Century: Creating Technical Standards to Improve Practice .....</i>	<i>12</i>
<b>Citations.....</b>	<b>15</b>
<b>Appendix A: Model Technical Standard for Nursing Education Programs.....</b>	<b>19</b>

# **White Paper on Inclusion of Students with Disabilities in Nursing Education Programs and Technical Standards for the California Committee on Employment of People with Disabilities (CCEPD)**

## **Abstract**

Nurses are challenged to fill the new and expanded roles for a health care system designed to improve the quality of health care. Despite the unique perspective and set of skills that students and health professionals with disabilities have to address many of these challenges, people with disabilities are often effectively excluded from the nursing profession. The purposes of this white paper are to (1) frame the issues that prevent applicants with disabilities from entering nursing education and the nursing profession and (2) propose the changes necessary to engage the potential of people with disabilities to enhance nursing leadership and innovation necessary to transform health care. Major barriers include the following: 1) outmoded admission standards that deter applicants with disabilities; 2) misconceptions about the capacity of students with disabilities to function effectively in the clinical components of nursing education; and, 3) lack of a comprehensive understanding of issues related to patient safety. This paper begins with an historical overview of the journey toward the acceptance of nurses with disabilities, including civil rights legislation, judicial rulings with reference to specific landmark cases, and the development of current technical and educational standards. The paper also presents a new model of technical standards inclusive of all students with and without disabilities, along with recommendations supportive of students with disabilities in admission, matriculation and graduation from nursing programs.

## Students with Disabilities in Nursing Education

A central theme of the 2011 Institute of Medicine (IOM) report titled *The Future of Nursing: Leading Change, Advancing Health* [1] is the mandate addressing the health care workforce within the Patient Protection and Affordable Care Act (P.L. 111-148) to redesign the health care system. Nurses are challenged to fill the “new and expanded roles” needed for a quality health care system that meets the needs of 32 million people who now have health insurance. With the broad continuum of nursing practice ranging from health promotion, disease prevention, coordination of care, cure, and palliative care, the nursing profession is well matched to meet the needs of the American population. However, according to the IOM Report [1] the nursing profession is challenged to improve education and training through the following:

- 1) Increase the proportion of nurses with a baccalaureate degree to 80 percent by 2020 so that more nurses achieve higher levels of education and training early in their career to meet demands of an evolving health care system and meet the changing needs of patients.
- 2) Develop innovative competencies for practicing nurses and transform nursing curricula to engage nurses at all levels—from students to front-line nurses to nursing executives and researchers—to assume leadership roles within an interprofessional health care workforce.
- 3) Expand the diversity of students, faculty, the workforce, and the cadre of researchers to create a workforce prepared to meet the demands of a culturally diverse population across the lifespan—“...with respect to race and ethnicity (just 16.8 percent of the workforce is nonwhite), gender (approximately 7 percent of employed nurses are male), or age (the median age of nurses is 46, compared to 38 in 1988)—to provide culturally relevant care to all populations... [1]”

A limitation of the 2011 IOM report is the lack of inclusion of people with disabilities as under-represented health care professionals who bring a unique set of skills that can transform education, research, and practice. The Affordable Care Act (ACA) provides a platform to increase the supply of qualified health care workforce to provide care for the 56.7 million Americans or 1 in 5 people (19 percent of the population) who have a disability [2]. Within ACA, several titles address potential reforms in the areas related to the health care workforce and the provision of care for people with disabilities. For example, in Title V of the Affordable Care Act, two subtitles address the need for improved cultural competency training among health professionals to provide health care for people with disabilities – Subtitle D—Enhancing Health Care Workforce Education and Training (Sec. 5307. Cultural competency, prevention, and public health and individuals with disabilities training) and Subtitle E—Supporting the Existing Health Care Workforce (Sec. 5402. Health care professionals training for diversity). By increasing the numbers of health care providers with disabilities, we can enhance the potential for creating innovative health care services across the lifespan. For example, a nurse who practices with one hand is in a great position to teach a patient who has either lost a hand or has lost function of a hand how to care for himself or herself with one hand.

Students and health care professionals with disabilities bring a unique perspective and set of skills with renewed potential to engage the nursing profession in the leading change in health care. Nurses with disabilities have the capacity to enhance the delivery of culturally relevant and competent care to all patients. Just as racial and ethnic diversity is linked with quality of health care [3], health care professionals with disabilities have the same potential to improve health care quality. The experience of living with disability often resonates with patients and families, which enhances communication and linguistic congruency. This concordance results in greater patient involvement in care, higher levels of patient satisfaction, engagement in more preventive care, and better health outcomes [4-8]. Florence

Nightingale, often considered the mother of modern nursing, had a disability; and, while frequently confined to her bed, made substantial contributions to the nursing profession[9].

Traditional nursing competencies, such as care management and coordination, patient education, public health intervention, and transitional care are likely to dominate in a reformed health care system as it inevitably moves toward an emphasis on prevention and management rather than acute care [10]. According to the IOM Report [1], nurses are developing new competencies for the future to help do the following: 1) bridge the gap between coverage and access; 2) coordinate increasingly complex care for a wide range of patients; 3) fulfill their potential as primary care providers to the full extent of their education and training; 4) implement system-wide changes that take into account the growing body of evidence linking nursing practice to fundamental improvements in the safety and quality of care; and, 5) capture the full economic value of their contributions across practice settings.

The purpose of this paper is to frame the issues related to barriers for applicants and students with disabilities who desire to enter nursing education or the nursing workforce. Major barriers include existing technical standards for admission and the conceptions and misconceptions related to the capacity of students with disabilities for the practice components of their education. We present an historical overview on issues related to legislation, judicial decisions, and the exclusionary technical standards used in many institutions. Lastly, a new model of technical standards inclusive of students – with and without disabilities – is provided, along with recommendations to support students with disabilities in all phases of their nursing education journey - admission, matriculation and graduation.

### ***Social and Legal Changes: Invigorating Expectations***

A formal dialogue regarding the role of nurses and nursing students with disabilities in advancing the diversity of the nursing workforce began in 2003 at the *Rush University College of Nursing Symposium on Nursing Students with Disabilities* held in Chicago, Illinois. Two important milestones occurred at this symposium: (1) an open discussion of the value of people with disabilities in the nursing profession within a public, expert forum and (2) formation of the National Organization of Nurses with Disabilities ([www.NOND.org](http://www.NOND.org)).

Regrettably, however, the enrollment of students with disabilities into nursing education programs during the last decade has remained largely unchanged and the educational and employment gap for people with disabilities in nursing persists [2]. The barriers faced by people with disabilities entering the nursing profession continue – the most significant barrier is the medical model view of disability that is ingrained in nursing education and training. In this pervasive view, students with disabilities intrinsically lack the capacity to be successful in nursing education because of their perceived “impairments” and nursing faculty often believe that they are a potential liability in nursing practice. To open the doors to the nursing profession for people with disabilities, a fundamental shift from the medical perspective of disability that views disability as a personal characteristic disqualifying a disabled person as deficient or abnormal, to a social perspective of disability that views disability as a difference residing in the inhibiting qualities of the environment is imperative [11].

**Landmark laws.** The passage of **Section 504 of the Rehabilitation Act of 1973** guaranteed access for people with disabilities to all federally-financed institutions, schools, hospitals, transportation systems, and federally-run programs and created an era of new expectations for people with disabilities. Section 504 had particular relevance to higher education as most institutions of higher education receive federal funding. In particular, Section 504 was the first law requiring institutions that receive federal funds to not exclude from their programs individuals with disabilities who otherwise qualify.

The passage of the **Americans with Disabilities Act (ADA) in 1990** was a momentous piece of civil rights legislation for people with disabilities. Congress noted that people with disabilities are a unique minority and extended the intent and protections of Section 504, with a sweeping mandate to end discrimination on the basis of disability in employment, state and local government, public

accommodations, commercial facilities, transportation, and telecommunications. The passage of the ADA [12] changed the landscape of American society through increased architectural, transportation, and communication access for people with disabilities and greater accommodations for students and workers [13]. In education, Section 504 and the ADA essentially required colleges and schools to provide reasonable accommodations to students with disabilities. While the ADA was a symbolic victory for transitioning from a medical definition of disability to a social construction of disability, public representations of disability and federal courts' treatment of disability created another story [14]. A series of decisions, made by the United States Supreme Court and the lower courts, narrowed ADA's scope of protection [15-17]. Specific cases had the effect of restricting the entrance of people with disabilities into the nursing profession.

The **Americans with Disabilities Act Amendments Act (ADAAA) of 2008** [18], a *bright new era of equality, independence and freedom*, was signed into law (S.3406) by President George W. Bush on September 25, 2008. The ADAAA rekindled the spirit of the ADA of 1990 and provided an impetus to address the attitudinal issues that continued to impede people with disabilities from achieving the vision of the ADA of 1990. Moreover, ADAAA was passed to carry out the ADA's original objectives as a national mandate for the elimination of discrimination by *"reinstating a broad scope of protection to be available under the ADA* [19]." The bipartisan effort with the ADAAA aimed to reverse several controversial Supreme Court decisions that limited the original intent of the ADA. The ADAAA [19] also made significant changes to the ADA's definition of "disability" that broadens the scope of coverage under the previous acts. With the ADAAA, the burden has now shifted from determining if an individual has a disability to proving that efforts were made for accommodation. This is a key point of emphasis for higher education: the Office of Civil Rights will not have a problem with providing accommodations, in contrast, *not* accommodating students properly or refusing to accommodate students will be problematic [19]. Prudent regulators, educators, and employers might assume that most individuals requesting accommodation, under the ADAAA will be deemed "disabled." Attending to the interactive process can potentially minimize exposure to failure to accommodate claims, and compensatory and punitive damages [20]. Operationalizing the intent of the ADAAA and protections of the ADA can create a new fabric as to what constitutes the knowledge, skills, and abilities to practice nursing and consider how nurses with disabilities will expand the concept of safe nursing practice.

The most recent landmark day for people with disabilities was March 24, 2014, as the revised Section 503 Office of **Federal Contract Compliance Programs (OFCCP) 7% rule** became effective. The OFCCP now requires employers with federal contracts to take affirmative action to recruit, hire, promote, and retain individuals with disabilities. For the first time, a single, national utilization goal for individuals with disabilities is now mandated for federal contractors and subcontractors to set a goal of having 7% of their employees be qualified individuals with disabilities in each job group of the contractors' workforce. Health care institutions with federal contracts must now demonstrate that their nursing workforce is comprised of at least 7% individuals with disabilities.

In education, the ADAAA and the OFCCP regulations afford an opportunity to rethink the environmental factors, including physical characteristics built into the environment, cultural attitudes and social behaviors, as well as the institutionalized regulations, policies, procedures, and practices of public organizations and private entities that inhibit individuals with disabilities from entering and remaining in the nursing profession. We can now direct our activities away from questioning ***whether people with disabilities have a place in the nursing profession*** to actively developing strategies that will ***facilitate the presence of people with disabilities in nursing education and practice*** [21]. The ADAAA also shifts the focus for educators, regulators, and employers away from ***determining whether a student nurse or a practicing nurse has a disability to making accommodations and ensuring equal educational and employment opportunities*** [3].

### ***Employment Gaps: Expanding Opportunities***

The new OFCCP regulations support the movement of civil rights for people with disabilities into the mainstream of public policy and fundamentally alter the way in which Americans perceive disability. This is of particular significance given that the overall labor force participation among people with disabilities is 21 percent compared to 69 percent of their peers without disabilities. While most jobs in health care are covered by the ADA, participation of people with disabilities in health care careers is challenging across all health care professions. Similar to other under-represented minorities, the systematic collection of national data relating to the participation of people with disabilities in health care careers will provide the necessary data to increase employment of health care professionals with disabilities.

***California health care workforce.*** In California, people with disabilities currently represent only 3 percent of the health care workforce [22]. The expansion of the health care workforce as a result of health care reform provides a unique opportunity to address the long-standing unemployment of people with disabilities in the state. Jobs in California's health services sector are slated to grow 27 percent by 2020 to accommodate the over five million additional Californians covered by health insurance [23]. A large percentage of this population will be people with disabilities due to Affordable Care Act and Coordinated Care Initiative provisions that seek to eliminate or reduce significant health care coverage barriers frequently faced by people with disabilities. In the provision of culturally-relevant care, this has a direct impact on all patients in California and across the country. Within California, determining the precise numerical impact is difficult because the California Board of Registered Nursing (BRN) does not collect disability demographic data for the Pre-Licensure Nursing Program Annual School Report or for the Biennial Survey of Registered Nurses (although the BRN intends to collect this data in the future).

***Standards-based academics and industry-themed pathways.*** In 2014, the California Community Colleges Chancellor's Office reported that nursing students requesting a disability accommodation represented only 1.4 percent of the students that participated in assessment testing as part of the selection process, and only 1.3 percent of the total number of students who passed the testing [24]. Although not all students with disabilities need testing accommodations, this data and results from the California Committee on Employment of People with Disabilities (CCEPD) stakeholder input suggests that the population of students with disabilities in California's nursing education programs does not reflect the population of people with disabilities in the state. California has taken the lead on developing and integrating standards-based academics with a career-relevant, sequenced curriculum following industry-themed pathways. While these standards align to high-need, high-growth, or emerging regional economic sectors, being able to be employed in all potential settings of an occupation is not necessary.

***Health care professionals with disabilities in California.*** The under-representation of people with disabilities in California's health workforce has a negative impact on overall employment. According to data from the 2007–2008 California Survey of People with Disabilities conducted by the UCSF Community Living Policy Center, 97.3 percent of the survey respondents who were unemployed said they were not working because a health care provider told them they could not work [25]. If health professionals routinely worked side-by-side with colleagues who have disabilities, the treatment approaches for their patients would likely differ drastically and the employment potential for people with disabilities would likely be greatly enhanced.

### ***Nursing Shortage with a Twist: Fixing a Pipeline in Crisis***

The Bureau of Labor Statistics projects a 19 percent growth in employment for registered nurses in the United States from 2012–2022 compared to 11 percent average growth rate for all occupations [26]. This is not unlike the nursing shortages experienced by many countries around the world. A World Health Organization report in 2010 noted 2.4 million nurses are needed in India and the shortages in

sub-Saharan Africa, are having profound effects on health care. In California, a nursing shortage of 12,000 is anticipated in 2014 [27].

**Health care professionals as obstacles to care.** Health care professionals may be responsible for obstacles to the employment of people with disabilities. People with disabilities often find that dealing with the reactions people have toward them is more difficult than dealing their disabilities. Many of these reactions are initiated and modeled by health care professionals who have not yet fully embraced a social model of disability [3]. Obstacles range from inaccessible offices and unyielding equipment to negative attitudes (often treated as a “diagnosis” rather than as a person). Because nurses are typically the first health professionals that persons with disabilities or their families encounter, they have a tremendous influence on how people are treated and how disabled people view themselves.

**Our patients versus our peers.** The perception of people with disabilities as our patients but not our peers in the health profession must be challenged if culturally congruent care is to be provided [21]. Increasing the number and proportion of disabled health care providers can only improve health care for people with disabilities. As frontline health care professionals, nurses with disabilities create an opportunity to ensure access to acceptable and accessible health services, which can positively impact how people with disabilities view themselves [21]. Health professionals with disabilities who have incorporated their disability as a part of their identity model *Disability Pride* both for their patients and their colleagues.

## **Barriers and Supports for Students with Disabilities**

A major barrier to the admission, retention, and matriculation of nursing students with disabilities is the technical standards and essential functions [14] that are applied indiscriminately in decisions to admit and retain students in nursing education programs. Related to technical standards are misconceptions related to the capacity of disabled students to accomplish the clinical practice requirements of nursing education.

**Technical standards** is a term used in education. Many significant regulations and court cases in higher education related to Section 504, ADA and now the ADA, involve professional programs that lead to licensing, particularly health professional education [28]. The issue of technical standards is particularly contentious in health professional educational programs that are preparing students to successfully acquire a license to practice. Such programs generally receive particular deference in ADA related cases in regards to the following questions: 1) what are the essential requirements of the program; 2) what constitutes a direct threat; and, 3) what would be unduly burdensome [28, 29]?

**Essential functions** is a term related to employment, not education. Nevertheless, essential functions of a particular nursing role often are used to justify technical standards in nursing education and present a major barrier to nursing students with disabilities – many of whom, prior to the ADA, would have been admitted into nursing school and become licensed nurses. In Section 504, it was noted that for employment, individuals must be able, with accommodations, to meet normal and reasonable essential functions of employment. This language continued in the ADA and the current ADA also indicates that “consideration shall be given to the employer's judgment as to what functions of a job are essential” ADA Title 42 Chapter 126 Subchapter 1 Employment Section 121111 [19]. Thus, while technical standards for education and essential functions for employment are mutually influential, they are not the same. The essential functions of a job for a nurse are not the same as the technical standards for a nursing student, nor should they be.

### **Historical Context: Concretizing Technical Standards**

A special advisory panel of the Association of American Medical Colleges (AAMC) provided one of the early responses to the 1973 Rehabilitation Act to address technical standards (non-academic

requirements listing the skills or experiences a medical student must have/meet to enter a program) [30] (refer to section on ***Model technical standards for nursing education*** for further discussion on the evolution of technical standards into a new model). Within nursing, the **1979 Southeastern Community College vs. Davis** (Davis case) provided the first case law on implementation of Section 504 in higher education and is still a major case cited today. The Davis case established the permissibility of technical standards in higher education and it put forward the issue of reasonable accommodations in higher education versus accommodations that would involve substantial change to an educational program [28]. The case involved a nursing student (who also was a licensed practical nurse) with a hearing impairment. Her admission to Southeastern Community College was rejected on the basis that the school was unwilling to provide accommodations for the clinical portion of the program. The Supreme Court ruled that the nursing school did not have to admit the student and that Section 504 did not prohibit education institutions from having physical requirements for clinical programs [28]. The impact of the Supreme Court ruling continues to resonate across all nursing and allied health programs today.

One impact of the Davis case relates to the enforcement of the 1973 Section 504 of the Rehabilitation Act. Section 504 specified that “no otherwise qualified handicapped individual... shall, solely by reason of his handicap be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving Federal financial assistance.” In the mid-1970s, regulations on the enforcement of Section 504 did not exist. Moreover, few students with disabilities and few attorneys were capable of arguing cases in this area. In particular, they often lacked the understanding of disability from a civil rights perspective. The Davis case, along with the *Cherry vs. Matthews* 1976, began efforts to set standards defining qualified individuals and address the issue of reasonable accommodations in education. In *Cherry vs. Matthews*, the United States District Court for the District of Columbia held that Congress had intended regulations to be issued for Section 504. This, along with protests by the disability rights community, prompted the Department of Health, Education and Welfare to issue regulations in 1978. The regulations state that a “[q]ualified handicapped person” is, “[w]ith respect to postsecondary and vocational education services,” someone “who meets the academic and technical standards requisite to admission or participation in the [school's] education program or activity...” 45 CFR § 84.3(k)(3) (1978) [28] and that physical qualifications could be part of the standards.

### ***“What” Versus “How”: Understanding Essential Functions and Technical Standards***

Unfortunately, the Davis case also established a precedent that has restricted students with disabilities from being recruited and admitted across all health care professional education programs. With the Davis case, the focus narrowed to the physical aspects of technical standards, failing to take into account the “**what**” versus the specification of the “**how**” and narrowly connecting technical standards to what might be called the “undifferentiated” graduate, a concept that has had greater application in medical education than nursing education. Reichgott (1998) [31] noted that resistance from medical schools to admitting students is based on the idea that all graduates should be able to enter any field of medical practice. Potential students who might be unable to do this can thus be excluded. As seen in the Davis case, because she was hard of hearing, even though she could lip-read, one of the arguments to reject her case was that she would not be able to work in an operating room because she would not be able to read lips in that setting. Of note, is that deaf health care professionals were instrumental in the development of transparent surgical masks, which benefits not only health care professionals who are deaf or hard of hearing, but, benefits patients who rely on visual cues for communication or reassurance.

In response to the Davis case, nurse educators have endorsed technical standards and essential functions related to Section 504 and the ADA that reflect a narrow focus on the “**how**” of nursing rather than the “**what**.” Additionally, many nursing programs have perpetuated the notion that all nursing

graduates must be able to be employable in all settings. A major example of this orientation can be found in the National Council of State Boards of Nursing (NCSBN) document entitled *Guidelines for Using the Results of Functional Abilities Studies and Other Resources* [32]. As an early response in the nursing profession to Congress' 1990 adoption of the ADA, this document included *Appendix A: A Validation Study: Functional Abilities Essential for Nursing Practice*, prepared by Yocom in 1996 [32].

According to Yocom at the 2003 Rush Symposium [33], Appendix A of the NCSBN *Guidelines* was an employment study to “specify the non-domain specific functional abilities that a nurse must possess in order to provide safe and effective nursing care.” The study addressed sixteen functional ability categories: gross motor skills, fine motor skills, physical endurance, physical strength, mobility, hearing, visual, tactile, smell, reading, arithmetic (counting, measuring, computing), emotional stability, analytical thinking, critical thinking, interpersonal skills, and communication skills (written, oral). A core set of twenty-one attributes in eight of the functional ability categories was identified as being necessary for employment for nurses. The attributes included being able to move in confined spaces, lifting 25 pounds, being able to reach below the waist, seeing objects 20 feet away and hearing faint voices.

A key issue about this study that is now almost 20 years old is that it was an employment study, not an education study. While the author noted the importance of the role of nursing and their cognitive and problem-solving skills in the study [32], more than half of the functions were not specifically related to the nursing role but were physical attributes related to specific functional skills and the way in which they were executed at the time. Many technological aids to procedures and tasks exist now that did not exist at the time. For example, a medical student at UC Davis with deafness used a clear surgical mask in order to read lips during a surgical rotation. With the advances in health care technology, the Southeastern Community College vs. Davis case would likely have a very different outcome today. The essential functions as defined also excluded alternative “ways of knowing” and “ways of doing” [3] without consideration of how nurses really work in a clinical practice setting. In practice, nurses often trade off tasks based on personal strengths and attributes as a part of a dynamic team, augmenting safe patient care in the workplace.

### ***Technical Standards Today: Conflating Technical Standards and Essential Functions***

Yocom noted in the *Rush University College of Nursing Symposium on Nursing Students with Disabilities* that the NCSBN Validation Study was not “the list” that you *have to* possess; rather it is a representative list of skills and abilities that you *may need to* possess [33]. Unfortunately, educators today continue to misconstrue the intent of the study by “stating that if you want to be a nurse, you've got to be able to do all of these things included on the list.” According to Yocom, this is not the case [33]. Nevertheless, after the publication of the NCSBN *Guidelines*, the essential functions outlined in Appendix A have become admission requirements for many colleges and schools of nursing across the country and continue to have widespread use. Furthermore, although NCSBN no longer disseminates this document on the internet, a search on the web reveals that many colleges and schools of nursing are using the functional abilities outlined in the 1996 Validation Study as their technical standard requirements for admission to their programs. This practice systematically excludes qualified students with disabilities.

An example of the use of Appendix A as technical standards in California, can be seen with one nursing school that currently has the following advisory posted (**Table 1**) on the “entrance requirements” section of its website (and also includes this language as an attachment in its Program Handbook). Even though the “advisory” includes a note indicating that “employers are required to provide reasonable accommodations for persons with disabilities,” simply having such an advisory on the “entrance requirements” section of a nursing program’s website discourages students with disabilities from applying (National Organization of Nurses with Disabilities, personal communication, May 1, 2014). According to CCEPD stakeholder input and key informants, technical standards based on

Appendix A are being used by many of California’s nursing education programs with a chilling effect on the admission and participation of students with disabilities. NCSBN needs to be accountable for the pervasive impact of its 1997 document and should consider partnering with disability organizations to put forth technical standards reflective of a diverse population in the 21<sup>st</sup> century.

The history of the “essential functions” in nursing and their continued use in determining who can be a nurse has made nursing a particularly difficult profession for people with disabilities to enter today. Essential functions of employment are related to each particular employment setting. Assuming that one set of essential functions exists for all types of nursing occupations does a disservice to the profession, to patient care and outcomes, and to nursing students. The presence of technical standards should not suggest that they can not be performed by a student with a disability who has an appropriate accommodation. Too often technical standards are viewed as a way to “avoid risk” or “protect their program” rather than as a tool to facilitate student diversity; technical standards are viewed as an end-point, rather than a place to start the creative/educational process.

**Table 1: Advisory for Career Choice: Mental and Physical Qualifications for Nursing** (also called Essential Functions)

Professional nursing practice requires specific qualifications, abilities, knowledge, and skills. Typically, nursing employers specify these as “minimal essential standards and functions” for employment as a nurse. Although qualifications may vary among employers, the Nursing Program wishes to inform prospective students of the general nature of such qualifications. The following list is provided to enable applicants and accepted students to informally assess their own capabilities for nursing prior to entering the program.

1. Work in a standing position and do frequent walking for twelve hours.
2. Lift and transfer adult and child patients up to six inches from a stooped position, and push or pull the weight of an adult up to three feet.
3. Lift and transfer adult and child patients from a stooped to an upright position to accomplish bed to-chair and chair-to-bed transfers.
4. Use hands, wrists, and arms to physically apply up to ten pounds of pressure in the performance of specific procedures (e.g., to control bleeding, perform CPR).
5. Respond and react immediately to verbal instructions and requests, auditory sounds from monitoring equipment, and perform auditory auscultation of patients.
6. Be able to move freely and physically maneuver in small spaces.
7. Possess sufficient visual acuity to perform close and distant visual activities involving objects, persons, and paperwork, as well as the ability to discriminate depth and color perception.
8. Read calibrated scales of one-hundredth increments in not more than a three-inch space.
9. Possess sufficient fine motor skills and eye-hand coordination to use small instruments and equipment.
10. Discriminate between sharp and dull, hot and cold.
11. Perform mathematical calculations for preparation and administration of medications in a timely manner.
12. Communicate effectively in the English language, both orally and in writing, using appropriate grammar, spelling, vocabulary and word usage.
13. Comprehend verbal and written directions and make appropriate notations.
14. Access patient/client information electronically and document care provided.
15. Develop the ability to make appropriate and timely decisions under stressful situations.
16. Demonstrate sufficient endurance to complete a twelve hour clinical laboratory experience.”

## Accommodations and Nursing Students

As a profession, necessitating licensure to practice, nursing education requires thoughtful consideration of the academic and technical standards required to prepare high quality nurses. While nursing education programs are not required to modify their admission standards for students with disabilities or to substantially modify their programs, rethinking the use of accommodations by students with disabilities can change and improve education and practice. For example, a nurse who is blind can model everyday activities and has the potential to transform practice for many patients who are blind or have

low vision. Amplified stethoscopes can also make a nursing career achievable for someone with a hearing loss; and, has been observed to be of benefit for new nursing students without disabilities to learn how to accurately recognize lung, bowel, and heart sounds (Janet Levey, RN, PhDc, personal communication, July 6, 2014). Nurses who are wheelchair users can transform the life of a young patient who also uses a wheelchair for mobility simply by rolling into his or her hospital room.

Considering technical standards for the 21<sup>st</sup> century is useful and appropriate when considering these issues related to cultural competency and care. The ADA, advances in technologies, and a generation of students with disabilities who have grown up under the ADA provide an opportunity to rethink technical standards. For example, does a nursing student need to be able to auscultate and palpate in order to assess a patient or do they need to be able to understand or direct the process? With modern technologies, data generated from auscultation and palpation are available in a variety of ways. In the context of a complex health care environment and the need for nursing leadership, the issue of clinical experiences should be rethought in terms of what nurses with various disabilities may bring to the profession and what insights on needed changes those students may bring.

### ***Standardized Technical Standards: Getting through “Clinicals”***

**Information bank.** Other than accommodating students with learning disabilities, the literature and information on how colleges and schools of nursing facilitate disabled students is sparse. Of particular concern is how to accomplish the clinical practice objectives of the program. Requirements for clinical practice learning vary state to state and clinical sites vary on accessibility. For example, a medical student who was blind and whose career goal was to become a psychiatrist worked with the university's disability services to develop accommodations. The accommodations for the surgical rotation included having a physician assistant student audio describe all the activities being conducted during the surgery. Additionally, the medical student worked with patients before and after their surgery to understand the pre- and post-surgery impact (Sarah Triano, personal communication, May 27, 2014).

According to the National Organization of Nurses with Disabilities, technology is changing the landscape of professional practice for nurses with and without disabilities [3]. The use of hand held devices in a clinical arena permits a nurse who is deaf or hard of hearing to be in constant communication with peers and supervisors through text messaging and feeling the vibration of the device. This type of technology is also less intrusive than an audible, loud beeper alert. Talking blood pressure devices that also offer a read out in large print of the patient's blood pressure and pulse permit nurses who have low vision to monitor their patients' vital signs. It is also a useful teaching tool for patients with low or no vision who has hypertension or diabetes and needs to monitor their blood pressure or blood sugars.

**Accommodation myths.** While information is lacking on accommodations for various student disabilities, they may not be as difficult to implement as thought. In the “Open the Door, Get ‘Em a Locker: Educating Nursing Students with Disabilities” film [34], the protagonist, Victoria, who is a paraplegic, required very few accommodations while she was a nursing student. Students and nurses with hearing impairments use amplified stethoscopes and vibrating pagers [3], reducing noise pollution, alarm fatigue, and enhancing a healing environment for patients. Title III of the ADA requires accessibility of public accommodations for all employees and patrons of buildings. If a hospital or other clinical site is not accessible for clinical staff, how will the facility be accessible for non-clinical staff, patients and visitors?

The view of nursing practice from a technological as well as holistic perspective will allow educators, regulators, and managers to position all nurses with disabilities as valued professionals who are capable of practicing safely, providing innovative care within their specialty areas, and enjoying their careers. As more students and role models with disabilities populate the nursing profession, we will see practice evolve with new ways of providing care. As noted by Evans [35], faculty members who initially resisted

the entrance of a student with a disability into a nursing program often gain a new perspective of who can be a nurse [36]. Students and nurses with disabilities are influencing how traditional clinical tasks can be accomplished differently with no negative impact on the outcome.

**Safety conundrum.** The concern for safety of the public is paramount for regulators, educators, and administrators. Safety is also paramount to all nurses – with and without disabilities [3]. The *essential functions* perpetuate the ongoing discourse that the “initial and/or continued competence of persons with disabilities to practice nursing” [32] is categorically different from any other minority group. The 1997 NCSBN position that “individuals do not always have insight into the implications of one’s disability” rests in the opinion category and has not been documented scientifically [3]. Assumptions that nurses with disabilities pose an inherent risk to the public that is distinctly different from that posed by any other nurse is unsubstantiated and needs to be rigorously challenged. According to Neal-Boylan “...there are no documented incidents of a patient injury caused by a nurse with a physical disability [37]. The Institute of Medicine (1999) reports that medical errors are most often attributable to faulty systems, processes, and conditions [38] rather than the characteristics of individual clinicians or recklessness or the actions of a particular group [39]. From a minority perspective, disability status is no more a liability than one’s ethnic/racial background or gender [3].

Perhaps a larger and unrecognized safety concern is the safety of people with disabilities who have long reported that health care professionals often lack knowledge and sensitivity about their disabilities, and focus more on their disabilities than their immediate health problems [3, 40] leading to misdiagnoses [41]. Diagnostic over-shadowing, the process by which health care providers attribute the individuals presenting complaints and symptoms to his/her disability and neglect routine screening activities and mental health assessments, may also occur.

The exclusion of people with disabilities from the health care professions through court cases, the development of technical standards that exclude them, and misconceptions parallels the historical treatment of other under-represented groups, including women in the workforce. The physical ability of each group was presumed to be less than that of the mainstream due to the prescribed social norms. Additionally, the current treatment of people with disabilities mirrors that of the historical treatment of African-Americans in the U.S. In both groups, the legal system was the vehicle through which socially contingent definitions were seen as immutable biological reality. The identities were couched in terms of neutral scientific principles that in turn prescribed people’s appropriate social roles [42, 43]. While we now see race as a social construct [42, 44] and a politically contingent category [42] rather than a biologically absolute reality, society seems to have retained a medical paradigm for understanding disability [14] – that is, *different differences*, but *same struggle* [42].

### ***Nursing Practice with Accommodations: Rethinking the Status Quo***

**System designs that meet diverse population needs.** Health care educators and administrators recognize the need to design systems that will meet the needs of diverse populations. The emergence of “cultural competence” in health care attempts to address the factors that contribute to disparities in health care services and to tailor services to meet consumers’ social, cultural, and linguistic needs [4]. In a dialogue with nurses about cultural competence that did not include nurses with disabilities or disability as a cultural issue, Lester [45] documented the importance of having a diverse nursing workforce in providing long-term, culturally competent care. Research has documented that African-Americans and Hispanic Americans sought care from physicians of their own ethnicity because of personal preference and language, not solely because of geographic accessibility. Further, nurses reported enhanced learning from working in diverse environments and working with co-workers of different cultural backgrounds [45]. Moreover, nurses had improved cultural competence learning when they interacted with faculty and fellow students who had diverse cultural backgrounds [21]. Because disability cuts across all ethnicities and cultures, these findings have implications for developing targeted

strategies to increase the numbers of health care providers with disabilities who may support more effective communication within the health care delivery system for people with and without disabilities.

By including a variety of people with different life experiences, we will be able to promote both safety and positive patient experiences. For instance, having nurses who are hard of hearing or deaf and proficient with American Sign Language or lip reading can meet a vast unmet need that will enhance the safety of their patients and create a sense of security through communication [3]. Additionally, nurses who have a hearing loss often have an enhanced skill in being able to read lips which could easily be an essential job function when trying to communicate with someone who is only able to move his or her lips or has aphasia (Rush University, personal communication, August 15, 2014). For example, one hospital in California has a respiratory therapist who is deaf and in high demand because she is the only person who can accurately read the lips of cancer patients who have recently undergone a tracheotomy and can't talk [46]. Nurses with disabilities are often hyper-vigilant in regards to safe practice and understand, from personal experiences, the pitfalls of unsafe nursing care (National Organization of Nurses with Disabilities, personal communication, April 11, 2014).

**Accommodations and diversity.** As we think about accommodations from a diversity perspective, rethinking the questions being asked is imperative. The first step is to analyze what is being asked [3]. For example, if a nurse or student nurse uses a calculator in a clinical setting, *does the use of a calculator create a fundamental alteration in the program or service?* The question is not what the disability is but rather what accommodations are required. See **Table 2** for an analysis of this accommodation request of a calculator in practice.

**Table 2. Accommodation Steps: Request of a Calculator In Practice [3, 47]**

**Steps to Follow:**

1. Consider the content being taught in the course and whether or not the use of the calculator fundamentally alters that content.
2. Is it essential to that program that a student **not** use a calculator? What is being tested? The faculty needed to be able to defend that the use of a calculator would create a fundamental alteration. Just because they require all of the students to not use a calculator does not mean that it would be a fundamental alteration for a student with a disability that needs to use one as an accommodation to do so. For example, if it's a fundamental math class that every student has to take, etc. to learn the fundamentals of algebra or something else then they need to look at how the student can demonstrate mastery of the information. This may require a different analysis than what is used with other students without this type of disability.
3. The fact that the various tests, etc. that the student will take for nursing boards, on the job, etc. don't require use of a calculator is a different matter.
4. First, examine the course that is being questioned and what is it fundamentally teaching or intending to teach. Second, examine alternatives in terms of accommodations that do not alter what is being taught.

**Overarching questions to be asked:**

1. Does the use of the calculator as a reasonable accommodation provide the students with an unfair advantage or undermine academic standards?
2. Is the ability to add, subtract, multiply, or divide accurately considered an essential part of what an exam/quiz is designed to test?

**Philosophical shifts to improve care.** The premise that traditional civil rights remedies do not engender costs, but disability accommodations do, is factually erroneous [42]. All civil rights actions (gender and racial/ethnic), have engendered cost in that they will change a prejudicial status quo, which

arguably has been good for women and people of color. While changing the prejudicial status quo usually is of little to no cost, statistics show that 98% of accommodations for people with disabilities are on average less than \$500.00 with many accommodations having no associated costs or some costs can be shared through the vocational rehabilitation services (VRS). Additionally, some schools have developed innovative programs incorporating for-credit coursework for health professional students to provide accommodations for students with disabilities, such as note-taking or interpreting.

### ***Nursing in the 21<sup>st</sup> Century: Creating Technical Standards to Improve Practice***

***Current technical standards in nursing education.*** The ongoing use of the *Functional Abilities Essential for Nursing Practice* to admit students into nursing programs nationwide, rather than academic qualifications and nondiscriminatory technical standards, at a minimum sets up a negative learning environment for students with disabilities, and a potentially more serious impact is the denial of admission of qualified students with disabilities [3]. Additionally, the current technical standards that include the physical requirements used by many schools across the country are not being used consistently within schools and/or across schools. Thus, a student with a disability may be denied in one school because he or she does not meet the technical standards, but will be accepted in another school with the same technical standards in place. Additionally, some schools are “waiving” their technical standards for some students with disabilities who do not meet the standards, while adhering to their technical standards for other students with disabilities within the same school (National Organization of Nurses with Disabilities, personal communication, October 29, 2012).

Considering that the Davis case and the initial regulations promulgated for Section 504 are now over 35 years old, we need to think about technical standards in the 21<sup>st</sup> century and in the context of health care reform. Of equal importance is the value that nurses with disabilities bring to the profession and to the future sustainability of nursing. Technical standards need to reflect “what nursing is” and the “nursing role of the future.” The ANA defines nursing as the following:

the protection, promotion, and optimization of health and abilities, prevention of illness and injury, alleviation of suffering through the diagnosis and treatment of human response, and advocacy in the care of individuals, families, communities, and populations [48]

Central concepts defining nursing curricula are the person (individual, family, community receiving nursing care), the environment in which the person, family, community lives, the health-illness continuum, and nursing actions related to the person, environment and health-illness continuum [49]. These concepts are taking on new importance in considering the future of nursing and nurses with disabilities can have a positive impact in providing nursing care in the 21<sup>st</sup> century for a diverse population of patients and clients.

Additionally, in developing technical standards, accounting for the advances in technologies is critical; and, the fact that students entering nursing programs today have grown up with the ADA now present with a very different set of expectations and perspectives. Today, students with disabilities have often had accommodations in the past, have ideas on what does and does not work for them, and may be used to dealing with the specifics of accommodations. Nursing programs should develop technical standards taking into consideration what is essential for completion of the program.

***Model technical standards for nursing education.*** In 1979, the American Association of Medical Colleges (AAMC) 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. After the passage of the ADA, the AAMC made skills in the five areas requirements for acceptance into medical school. Within the medical field, a discussion ensued about the usefulness of the five areas or categories. The Association of Academic

Physiatrists (AAP) published a white paper regarding students with disabilities being denied admission to medical school [50]. The paper noted that graduates of medical schools are not expected to acquire all technical skills and accommodation and alternatives should be considered. For example, a potential student with sensory difficulties should be able to demonstrate alternative means to acquire, convey and use the information. In regard to certain motor skills, such as performing auscultation and placing IVs, the report stated that performance of all procedures independently is not necessary, but rather students should be able to learn and direct the methodology involved and to use the results [50].

Despite some controversy, the five areas or categories are commonly addressed in current technical standards for nursing students, medical students, OT students, social work students and others in the health professions. However, in today's complex health care environment, categories such as motor and observation may not reflect the cognitive, communication and leadership skills needed for nursing professionals. Reichgott [31] suggested rethinking the categories of technical standards and suggested instead the following five: (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." These categories for technical standards address the "what" rather than "how" and are more conducive to advancing nursing practice in the 21<sup>st</sup> century and incorporate information from a report on necessary skills for future workforce 2020 [51] within the standards and examples [52]. Technical standards should consider the following elements:

1. Link with what is taught in the curriculum and what is required for graduation.
2. Address what the profession is rather than ability to perform some specific skill.
3. Consider overall ability, not the particular way that an ability is manifested [3, 53].
4. Reflect the "what" rather than the "how" [53]. For example, consider the ability to *gather vital signs using variety of means* versus a unilateral assessment, such as, *must be able to hear a heart murmur through a stethoscope* [3].
5. Must not be based on skills that a student will learn to do in a nursing program (e.g., *assessing heart murmurs*) – nor can students be tested on these skills before they are taught. Technical standards necessary for an educational program should include the tag-line, *able to meet these requirements with or without a reasonable accommodation* and should not be conflated with essential functions of a specific nursing job.
6. Must not be written with every potential reasonable accommodation that could be requested/needed in them. Technical standards documents apply to all students and should be responsive to new technology.

See **Appendix A** for an example of a model technical standard for the 21<sup>st</sup> century. These standards also incorporate the AACN's set of competencies as outlined in *Essentials for Baccalaureate Education* and highlights such areas as "patient-centered care, interprofessional teams, evidence-based practice, quality improvement, patient safety, informatics, clinical reasoning/critical thinking, genetics and genomics, cultural sensitivity, professionalism, practice across the lifespan, and end-of-life care" (AACN, 2008b) [54]. The focus of the model technical standards for the 21<sup>st</sup> century aims to move nursing education to focus less on training students to be "task-oriented" for only acutely ill patients to a greater emphasis on nurses as "knowledge workers" who provide care in all types of settings with the competencies proposed by AACN.

The 2008 ADA has changed the social and legal landscape in the United States by affording people with disabilities civil rights that are advancing their opportunities to move into specialized educational programs and seek employment opportunities in an area of their choice. They also should receive the accommodations necessary to perform the essential functions of the job. Technological advances in medical adaptive devices and computer technology have opened the doors to nursing, creating a

profession in which disability can be viewed as an asset and in which patient safety can be ensured and not a liability. Recruiting and retaining nurses with disabilities has the profound ability to provide culturally relevant and competent care that cannot be provided if they are absent from the nursing profession [3]. The greatest change in perceiving our peers and patients with disabilities as fully human will occur when we embrace people with disabilities as colleagues with equal status.

**Project EDUCATE.** The following recommendations are proposed as next steps for state association of nursing education programs to promote the inclusion of students nurses with disabilities in nursing in the following areas:

- **ENCOURAGE** conversation about technical standards.
- **DISSEMINATE** information and examples on developing accommodations to facilitate the education.
- **UNDERSTAND** technical standards for education and essential functions for employment.
- **CREATE** training hubs for assistive technology and resources to schools and students.
- **ADOPT** technical standards and policies that are uniformly applied to guide advocacy for and support of students with disabilities in admission, matriculation & graduation.
- **TRAIN** faculty and staff on the social model of disability.
- **ENSURE** data collection is being undertaken related to the participation of students with disabilities.

Currently, many technical standards for nursing programs in California and across the country are written in a manner that adversely impacts the equal participation of students with disabilities in nursing schools. The numerical impact of these standards is unknown, as the California Board of Registered Nursing, along with most Boards across the country, does not collect disability demographic data for the *Pre-Licensure Nursing Program Annual School Report* or for the *Biennial Survey of Registered Nurses*. By encouraging nursing education programs in California to adopt model technical standards based on nondiscriminatory language, the California Committee on Employment of People with Disabilities (CCEPD) aims to address this high impact barrier that is limiting educational and employment opportunities in California's health care workforce for students and workers with disabilities. The goal of this partnership with the California Board of Registered Nursing (BRN) is to ensure that disability demographic data is collected as part of its regular reporting requirements and providing recommendation on supporting students with disabilities in nursing programs. As we eliminate barriers that restrict students with disabilities from being admitted into health professions education and identify effective strategies for accommodating and ensuring equal educational options, we have an exciting opportunity to transform nursing practice, create more employment opportunities, and ultimately improve patient care.

## Citations

1. *The Future of Nursing: Leading Change, Advancing Health*, 2011, Institute of Medicine (IOM): Washington, DC.
2. Anonymous, *Census Bureau Releases 2009 American Community Survey Data*, 2010, PR Newswire Association LLC: New York.
3. Marks, B., K. McCulloh, and R. Jones, *Beyond Goldilocks: Getting Disability Just Right with the Americans with Disabilities Act Amendments Act of 2008 in the Nursing Profession*. Article in Preparation.
4. Betancourt, J.R., A.R. Green, and E. Carrillo, *Cultural competence in health care: Emerging frameworks and practical approaches*. 2002, New York: The Commonwealth Fund.
5. Cooper-Patrick, L., et al., *Race, gender, and partnership in the patient-physician relationship*. JAMA, 1999. 282(6): p. 583-9.
6. Morales, L.S., et al., *Are Latinos less satisfied with communication by health care providers?* Journal of General Internal Medicine, 1999. 14(7): p. 409-17.
7. Saha, S., et al., *Patients-physician racial concordance and the perceived quality and use of health care*. Archives of Internal Medicine, 1999. 19(4): p. 76-83.
8. Saha, S., et al., *Do patients choose physicians of their own race?* Health Affairs, 2000. 19(4): p. 76-83.
9. Small, H., *Brucellosis and Psychology: Nightingale's "depression"*, in *Florence Nightingale: Influence & Inspiration'2010*: London, England.
10. O'Neil, E., *Four factors that guarantee health care change*. Journal of Professional Nursing, 2009. 25(6): p. 317-321.
11. Marks, B.A., *Jumping Through Hoops and Walking on Egg Shells or Discrimination, Hazing, and Abuse of Students with Disabilities?* Journal of Nursing Education, 2000. 39(5): p. 205-210.
12. *Americans with Disabilities Act of 1990*, in *Pub. L. No. 101-336, § 2, 104 Stat. 328 (1991)*, Stat. 328.
13. Burgdorf, R.L., *Restoring the ADA and Beyond: Disability in the 21st Century*. 2008. 13 TEX. J. ON C.L. & C.R. 241. .
14. Areheart, B.A., *When disability isn't "just right": The entrenchment of the medical model of disability and the Goldilocks dilemma*. Indiana Law Journal, 2008. 83(1): p. 181-232.
15. M, J., *The disabilities act covers all of us. Ragged Edge*, 1999: Retrieved February 10, 2003, from <http://www.ragged-edge-mag.com/extra/edextraburgdorf.htm>.
16. Emens, E.F., *Disabling Attitudes: U.S. Disability Law and the ADA Amendments Act*. The American Journal of Comparative Law, 2012. 60(1): p. 205-233.

17. Burgdorf, R.L., *Some lessons on equality from the Americans with Disabilities Act, White Paper*, in *Public Policy, Equality and Diversity in the Context of Devolution* 2005, Cardiff University Cardiff, UK.
18. *ADA Amendments Act of 2008*, in *Pub.L. No. 110-325, § 2 (2008)*.
19. *An Act to restore the intent and protections of the Americans with Disabilities Act of 1990 (short title "ADA Amendments Act of 2008")*, 2008, Available at: <http://www.govtrack.us/congress/bills/110/s3406/text>.
20. Husband, J.M. and B.J. Williams. *YOU JUST MIGHT FIND . . . You get what you need—A practical guide to finding and managing disability accommodations*. in *American Bar Association Section of Labor & Employment Law, 4th Annual Section of Labor & Employment Law Conference*. 2010. Chicago, Illinois.
21. Marks, B., *Cultural competence revisited: nursing students with disabilities*. *The Journal of nursing education*, 2007. 46(2): p. 70-74.
22. *U.S. Census Bureau, Current Population Survey-2012 Data*, August 2013, Compiled by EDD-Labor Market Information Division.
23. *Recovery 2020: Job Growth and Education Requirements through 2020*, June 2013, Georgetown Public Policy Institute Center on Education and the Workforce.
24. *2014 Nursing Education Programs*, California Community Colleges Chancellor's Office. : Sacramento, CA.
25. Kaye, H.S., *Barriers to employment for people with disabilities: Bad advice, poor health, and ineffective public policy*. *Disability and Health Journal*, 2010. 3(2): p. e6.
26. R, R., *The new nursing shortage*, in *USA Today* 2014: Retrieved May 7, 2014 online at: <http://www.usatoday.com/story/money/business/2014/05/07/ozy-nursing-shortage/8807937/>.
27. Release), P.P., *California Forecasts Nursing Shortage of 12,000 By 2014*: Retrieved on line at: <http://www.prlog.org/10020506-california-forecasts-nursing-shortage-of-12-000-by-2014.html>.
28. Rothstein, L., *Higher Education and Disability Discrimination: A Fifty Year Retrospective* *Journal of College and University Law*, 2010. 36(University of Louisville School of Law Legal Studies Research Paper Series No. 2010-05.): p. 843-874.
29. Rothstein, L., *Millennials and Disability Law: Revisiting Southeastern Community College v. Davis: Emerging Issues for Students with Disabilities*, in *Legal Studies Research Paper Series Paper No. 2008-36* 2007.
30. Watson, J.E. and S.H. Hutchens, *Medical Students with Disabilities: A Generation of Practice*, 2005, Association of American Medical Colleges: Washington, D.C.
31. Reichgott, M.J., *The Disabled Student as Undifferentiated Graduate: A Medical School Challenge*. *JAMA*, 1998. 279(1): p. 79.

32. National Council of State Boards of Nursing, I., *Guidelines for Using Results of Functional Abilities Studies and Other Resources*, 1997, Nursing Practice & Educational Committee: NCSBN: Chicago, IL.
33. Pischke-Winn, K.A., K.G. Andreoli, and L.K.E. Halstead. *Students with Disabilities: Nursing Education and Practice Proceedings Manual*. in *Rush University College of Nursing Symposium on Nursing Students with Disabilities* 2003. Chicago, IL: Rush University College of Nursing.
34. Evans, B. and B. Marks, *Open the Door, Get 'Em a Locker*, 2009, National Organization of Nurses with Disabilities (NOND).
35. Evans, B.C., *Our students, our teachers: Nursing education for students with disabilities*, in *Annual Review of Nursing Education*. 2005, Springer: New York. p. 3-22.
36. Rhodes, R., D. Davis, and B. Odom, *Challenges and rewards of educating a profoundly deaf student*. *Nurse Educator*, 1999. 24: p. 48-51.
37. Neal-Boylan, L., *End the Disability Debate in Nursing: Quality Care is a Fact*. *Insight Into Diversity*, 2013: p. 11.
38. Westbrook, J.I., et al., *Association of interruptions with an increased risk and severity of medication administration errors*. *Archives Internal Medicine*, 2010. 170: p. 683-690.
39. *To err is human: Building a safer health system*, I.o. Medicine, Editor. 1999, National Academy Press: Washington, DC.
40. Gill, C.J., *Becoming visible: Personal health experiences of women with disabilities*, in *Women with Physical Disabilities: Achieving and Maintaining Health and Well-Being*, D.M. Krotoski, M.A. Nosek, and M.A. Turk, Editors. 1996, Paul H. Brookes Publishing Co: Baltimore. p. 5-15.
41. Marks, B. and T. Heller, *Bridging the equity gap: Health promotion for adults with developmental disabilities*. *Nursing Clinics of North America*, 2003. 38(2): p. 205-228.
42. Stein, M.A., *Same Struggle, Different Difference: ADA Accommodations as Antidiscrimination*. 153 U. PA. L. REV. 579, 2004.
43. Halley, J.E., *Sexual orientation and the politics of biology: A critique of the argument from immutability*. *Stanford Law Review*, 1994. 46(503): p. 546-66.
44. Abernathy, C.R., *Advocacy Scholarship and Affirmative Action*. 1997. 86 GEO. L.J. 377, 399 (book review).
45. Lester, N., *Cultural competence: A nursing dialogue part 2*. *American Journal of Nursing*, 1998. 98(9): p. 36-42.
46. Triano, S., *CCEPD's Stakeholder Input session at the California Association of Postsecondary Education and Disability Conference in October of 2013*, 2013.
47. Jones, R., *Technical Standards FAQs*, 2012, NOND, Chicago, IL.

48. ANA, *What is nursing?*, 2014, American Nurses Association: Retrieved from <http://www.nursingworld.org/especiallyforyou/what-is-nursing>.
49. Powers, B. and T. Knapp, *A dictionary of nursing theory and research*. 1990, Newbury Park, CA: Sage Publications.
50. AAP, *Recommended guidelines for admission of candidates with disabilities to medical school (developed by the Association of Academic Physiatrists)*. American Journal Physical Medicine Rehabilitation, 1993. 72(1): p. 45-47.
51. Davies, A., D. Fidler, and M. Gorbis, *Skills Needed by 2020*, in *Skills Needed by 2020*, I.f.t.F. (IFTF), Editor 2011, University of Phoenix Research Institute: AZ.
52. Conner, M., *Ten Skills for the Future Workforce*, 2013.
53. Smith, M., *Developing Disability-Friendly Policies for Nursing Programs: Technical Standards Versus Essential Functions FAQs*, 2008, NOND, Chicago, IL.
54. AACN, *The Essentials of Baccalaureate Education for Professional Nursing Practice*, A.A.o.C.o.N. (AACN), Editor 2008: Washington, DC.

## Appendix A: Model Technical Standard for Nursing Education Programs

XX nursing program has a responsibility to educate competent nurses to care for their patients (persons, families and/or communities) with critical judgment, broadly based knowledge, and well-honed technical skills. XX nursing program has academic as well as technical standards that must be met by students in order to successfully progress in and graduate from its programs.

**Technical Standards:** XX nursing program provides the following description/examples of technical standards to inform prospective and enrolled students of a sampling of technical standards required in completing their nursing science curriculum. 1 These technical standards reflect a sample of the performance abilities and characteristics that are necessary to successfully complete the requirements of XX nursing program. The standards are not requirements of admission into the programs and the examples are not all-inclusive. 2 Individuals interested in applying for admission to the programs should review these standards to develop a better understanding of the skills, abilities and behavioral characteristics required to successfully complete the programs. Key areas for technical standards in nursing include having abilities and skills in the areas of: (1) acquiring fundamental knowledge; (2) developing communication skills; (3) interpreting data; (4) integrating knowledge to establish clinical judgment; and, (5) incorporating appropriate professional attitudes and behaviors into nursing practice capabilities.

XX nursing program wishes to insure that access to its facilities, programs and services is available to all students, including students with disabilities (as defined by Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990 and the ADA Amendments Act of 2008) and all students can study and practice nursing with or without reasonable accommodation. XX nursing program provides reasonable accommodations to all students on a nondiscriminatory basis consistent with legal requirements as outlined in the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990 and the ADA Amendments Act of 2008. A reasonable accommodation is a modification or adjustment to an instructional activity, equipment, facility, program or service that enables a qualified student with a disability to have an equal opportunity to fulfill the requirements necessary for graduation from the nursing program. To be eligible for accommodations, a student must have a documented disability of (a) a physical or mental impairment that substantially limits one or more major life activities of such individual; (b) a record of such impairment; or, (c) be regarded as having such a condition.

---

1 Schools are not being asked to write technical standards for nurses/students with disabilities (Jones, 2012). Technical standards are written so that students with disabilities do not experience discrimination.

2 Technical standard is what's used to determine whether or not someone is qualified, with or without a disability; and, the student with the disability should be afforded the opportunity to work toward meeting those standards with or without an accommodation (Jones, 2012). The educational programs need to understand what an accommodation is, how to analyze the limitation against what the standard is and how an accommodation may be utilized to meet that standard. Working with the school's office of disability services is essential.

Requirements	Standards	Examples
Acquiring fundamental knowledge	<ol style="list-style-type: none"> <li>1. Ability to learn in classroom and educational settings</li> <li>2. Ability to find sources of knowledge and acquire the knowledge</li> <li>3. Ability to be a life-long learner</li> <li>4. Novel and adaptive thinking</li> </ol>	<ul style="list-style-type: none"> <li>• Acquire, conceptualize and use evidence-based information from demonstrations and experiences in the basic and applied sciences, including but not limited to information conveyed through online coursework, lecture, group seminar, small group activities and physical demonstrations</li> <li>• Develop health care solutions and responses beyond that which is rote or rule-based</li> </ul>
Developing communication skills	<ol style="list-style-type: none"> <li>1. Communication abilities for sensitive and effective interactions with patients (persons, families and/or communities)</li> <li>2. Communication abilities for effective interaction with the health care team (patients, their supports, other professional and non-professional team members)</li> <li>3. Sense-making of information gathered from communication</li> <li>4. Social intelligence</li> </ol>	<ul style="list-style-type: none"> <li>• Accurately elicit or interpret information: medical history and other info to adequately and effectively evaluate a client or patient's condition</li> <li>• Accurately convey information and interpretation of information using one or more means of communication (verbal, written, assisted (such as TTY) and/or electronic) to patients and the health care team</li> <li>• Effectively communicate in teams</li> <li>• Determine a deeper meaning or significance in what is being expressed</li> <li>• Connect with others to sense and stimulate reactions and desired interactions</li> </ul>
Interpreting data	<ol style="list-style-type: none"> <li>1. Ability to observe patient conditions and responses to health and illness</li> <li>2. Ability to assess and monitor health needs</li> <li>3. Computational thinking</li> <li>4. Cognitive load management</li> </ol>	<ul style="list-style-type: none"> <li>• Obtain and interpret information from assessment maneuvers such as assessing respiratory and cardiac function, blood pressure, blood sugar, neurological status, etc.</li> <li>• Obtain and interpret information from diagnostic representations of physiologic phenomena during a comprehensive assessment of patients</li> <li>• Obtain and interpret information from assessment of patient's environment and responses to health across the continuum</li> <li>• Obtain and interpret for evaluation information about responses to nursing action</li> <li>• Translate data into abstract concepts and to understand data-based reasoning</li> </ul>

Requirements	Standards	Examples
Integrating knowledge to establish clinical judgment	<ol style="list-style-type: none"> <li>1. Critical thinking, problem-solving and decision making ability needed to care for persons, families and/or communities across the health continuum and within (or managing or improving) their environments –in one or more environments of care</li> <li>2. Intellectual and conceptual abilities to accomplish the essential of the nursing program (for example, baccalaureate essentials)</li> <li>3. New-media literacy</li> <li>4. Transdisciplinarity</li> <li>5. Design mindset</li> </ol>	<ul style="list-style-type: none"> <li>• Accomplish, direct or interpret assessment of persons, families and/or communities and develop, implement and evaluate of plans of care or direct the development, implementation and evaluation of care</li> <li>• Critically assess and develop content that uses new media forms, and to leverage these media for persuasive communication</li> <li>• Literacy in and ability to understand concepts across disciplines</li> <li>• Represent and develop tasks and work processes for desired outcomes</li> </ul>
Incorporating appropriate professional attitudes and behaviors into nursing practice	<ol style="list-style-type: none"> <li>1. Concern for others, integrity, ethical conduct, accountability, interest and motivation</li> <li>2. Acquire Interpersonal skills for professional interactions with a diverse population of individuals, families and communities</li> <li>3. Acquire Interpersonal skills for professional interactions with members of the health care team including patients, their supports, other health care professionals and team members</li> <li>4. Acquire the skills necessary for promoting change for necessary quality health care</li> <li>5. Cross-cultural competency</li> <li>6. Virtual collaboration</li> </ol>	<ul style="list-style-type: none"> <li>• Maintain effective, mature, and sensitive relationships with clients/patients, students, faculty, staff and other professionals under all circumstances</li> <li>• Make proper judgments regarding safe and quality care</li> <li>• Function effectively under stress and adapt to changing environments inherent in clinical practice</li> <li>• Demonstrate professional role in interactions with patients, intra and inter professional teams</li> <li>• Operate in different cultural settings (including disability culture)</li> <li>• Work productively, drive engagement, and demonstrate presence as a member of a virtual team</li> </ul>

To be qualified for XX nursing program individuals must be able to meet both our academic standards and the technical standards, with or without reasonable accommodations. For further information regarding services and resources to students with disabilities and/or to request accommodations please contact the Office for Student Access.