June 8, 2012

Office of Technical and Informational Services
United States Access Board
1331 F Street, NW, Suite 1000
Washington, DC 20004-1111

RE: Docket No. ATBCB-2012-0003 (Proposed Accessibility Standards for Medical Diagnostic Equipment)

Dear Members of the United States Access Board:

Disability Rights Education and Defense Fund (DREDF), Access Living, Boston Center for Independent Living (BCIL), Center for Accessible Technology (CforAT), Disability Law Center of Massachusetts (DLC), Disability Rights Network of Pennsylvania (DRN), Greater Boston Legal Services (GBLS), Harris Family Center for Disability and Health Policy (HFCDHP), New York Lawyers for the Public Interest (NYLPI), Robbins, Salomon and Patt, Ltd. (RSP) and the additional undersigned organizations and individuals appreciate the opportunity to provide comments in response to the Access Board's Proposed Accessibility Standards for Medical Diagnostic Equipment. We are all committed to eliminating barriers and increasing access to effective healthcare for people with disabilities, as mandated by the Americans with Disabilities Act (ADA), the Rehabilitation Act of 1973, and the Patient Protection and Affordable Care Act.

While we understand that the Access Board's role is limited to engineering and design concepts and does not ordinarily encompass policy considerations, we emphasize that the Access Board's mandate under the Patient Protection and Affordable Care Act is to promulgate regulatory standards for medical diagnostic equipment which "shall ensure that such equipment is accessible to, and usable by, individuals with accessibility needs, and shall allow independent entry to, use of, and exit from the equipment by such individuals to the maximum extent possible." [1] The usability of fixed facility components such as doorways or counters can generally be determined directly by an individual with a disability. Even in those circumstances, the Access Board's facility standards require purely technical area dimensions to be clear of obstructions, which implicates the practices, policies, and procedures of human actors that inhabit those spaces.[2] Similarly, the usability of medical diagnostic equipment almost always requires another person's intervention, usually in the form of a medical provider who operates, or oversees the operation of, the equipment. As a result, certain policy issues are inextricably related to the design and accessible use of medical equipment and, therefore, should necessarily be addressed in the Access Board's standards. These

[1] Patient Protection and Affordable Health Care Act, Pub. L. No. 111-148 § 4203, 124 Stat. 119 (2010) (adding Section 510 of the Rehabilitation Act of 1973, 29 U.S.C. § 794f (2012)).

[2] *See, e.g.* U.S. Architectural and Transportation Barriers Compliance Board (U.S. Access Board), ADA Accessibility Guidelines, § A4.1.3(19)(a) (2002) (referencing a requirement for the removal of obstructing seats in advance by the facility management).

issues include the manner in which the *provider's* use and operation of medical equipment interacts with the accessibility of that equipment, and logically requires everyone involved with the design, manufacture, and use of medical equipment to consider the needs, safety, and choice[3] of individuals with disabilities. Therefore, we strongly urge the Access Board to include the following recommendations.

Staff training: The accessible use of medical diagnostic equipment is not necessarily intuitive and will be rendered ineffective unless staff persons are sufficiently trained to work with individuals with the full spectrum of disabilities, and to operate the equipment with their needs in mind. Staff should receive information and training on the location and use of the equipment, the provision of communication and other program access, and on working with patients with disabilities both generally and with particular emphasis on the use of accessible equipment. Given the complexity of diagnostic equipment and rapid technological advances in this field, the Access Board should recommend that purchase and installation of the equipment by manufacturers be accompanied by instructions on the equipment's appropriate placement and the proper use of all accessibility features. Where manufacturers offer or provide training, initial and/or ongoing, related to the medical equipment, they must include components relating to the accessible features.

In addition, manufacturers should include information regarding the limitations of the accessibility features included in medical equipment. That is, the purchase of accessible equipment or the presence of accessibility features on medical equipment does not guarantee compliance with the totality of a provider's accessibility obligations. For example, the presence of tactile or visual controls on magnetic resonance imaging (MRI) units will not automatically effectuate effective communication with individuals who are Deaf or who have Limited English Proficiency, and who may need an American Sign Language, Certified Deaf or other language interpreter, and/or other auxiliary aids and services to understand instructions and risks. Similarly, individuals with anxiety, post traumatic stress disorder, or cognitive limitations may need extra time to receive information about use of the equipment, instructions and risks. The presence of a height-adjustable examination table in an office will not facilitate accessible use of that table unless provider staff learn what accessible equipment and accommodations may be needed, appropriately book and reserve the use of accessible equipment, and determine whether additional time or staffing may be needed for the appointment due to the use of accessibility features and/or other accommodations. Therefore, we strongly urge the Access Board to recommend comprehensive staff training for the use and accessibility of medical diagnostic equipment, including training on ensuring access for people with a range of disabilities.

---

[3] We urge the Access Board to advise equipment manufacturers of the increasing number of new state laws on safe lifting that require creation and implementation of policies recognizing the right of a patient or patient's guardian to choose among, or reject, the range of transfer and lift options based on individual needs and preferences. *See, e.g.*, R.I. Gen. Laws § 23-17-59 (2012) (effective July 5, 2008) (appropriate lifting policy to include patient choice); N.J. Stat. § 26:2H-14.11 (2012) (effective Jan. 3, 2008) (right of patient to refuse assisted transfer, lifting, movement); 210 Ill. Comp. Stat. 85/6.25(9)(c) (2012) (effective January 1, 2012) (right of patient or guardian to choose among range of lift and transfer options).

Policies and Procedures: In addition to staff training requirements, we strongly recommend that the Access Board reinforce the need for providers to modify existing policies and procedures as needed to ensure that current procedures do not constitute a barrier to the accessible use of medical equipment by individuals with disabilities. For example, medical providers must have policies in place to maintain safety standards for radiology technicians when accommodation is needed to help an individual with disabilities to maintain position during imaging. In addition, policies on the placement of accessible equipment are necessary to ensure that equipment is housed in a location with an accessible path of travel and in close proximity to accessible restrooms.

Enforcement: Finally, we recommend that the Access Board emphasize adoption of these standards by the Department of Justice and state and local agencies for enforcement.

The remainder of our comments and recommendations are organized in response to selected questions posed by the Access Board in its Proposed Accessibility Standards.

Question 2. *What other barriers that affect the accessibility and usability of medical diagnostic equipment should be addressed in future updates to the standards? Comments should include information on sources to support the development of technical criteria to address the barriers, where possible*.

Develop overarching guidelines and technical criteria that use principles of universal design.

Although the proposed technical criteria are intended to address most of the barriers that have been identified as affecting the accessibility and usability of medical diagnostic equipment, not every barrier is addressed in the proposed standards. Moreover the proposed standards do not provide adequate overall guidance whereby barriers to accessibility and usability can be identified throughout product design and development, from conceptualization to production. The proposed standards are also predicated primarily upon patient positions that equipment is currently designed to support, which do not necessarily adequately guide the development of future devices that may utilize different approaches to positioning. Thus, the Access Board should issue design guidelines and technical criteria that will ensure that medical diagnostic equipment is designed, developed and fabricated to ensure the highest possible level of accessibility and usability.

We recommend therefore that the Access Board develop overarching design guidelines and technical criteria that are based on broad, universal principles of access and usability. These criteria will apply not only to barriers that may not have been considered in the current proposed technical criteria, but will also function to prevent barriers from needlessly being built into new types of equipment that cannot easily be foreseen now, but that will inevitably be developed in response to advances in science and technology, and changes in market forces.

We recommend that guidelines and technical criteria require consideration of and

design for (1) the greatest number of patient positions that are possible for any given diagnostic procedure; (2) the greatest number of possible methods for utilizing the functions of the equipment, keeping in mind how various human functional impairments can require modification of any so-called “optimal” procedural position; (3) ensuring that all types of lift equipment interface seamlessly, safely and effectively with medical diagnostic equipment so that people with disabilities can be transferred onto the transfer surface at the optimal location that meets their individual needs; (4) multiple transfer locations for all medical or diagnostic devices to ensure that people with disabilities who wish to do so can achieve independent transfers; and (5) simultaneous development of multi-function securement and positioning mechanisms in concert with equipment design, development and fabrication of medical diagnostic devices to ensure that people with disabilities can be examined or tested safely and comfortably.

Question 3. *In organizing the technical criteria functionally by the patient positions that medical diagnostic equipment is designed to support, is it clear which technical criteria apply to different types of equipment? If not, how should the technical criteria be organized so it is clear which technical criteria apply to different types of equipment?*

We think the Access Board has made it clear what type of equipment is subjected to the technical criteria, but examples of specific types of equipment should be included for each category along with illustrations or diagrams depicting the standards, such as those posted on the Access Board’s website, http://www.access-board.gov/medical-equipment.htm, and referenced in the Medical Diagnostic Equipment Accessibility Standards February 8, 2012 Notice of Proposed Rulemaking. The covered equipment should not be limited only to the examples given, and the standards should clearly cover all existing medical diagnostic equipment as well as future technology that may develop for this type of equipment.

Question 4. *Is there language in the proposed standards that is ambiguous or not clear? Comments should identify specific language in the proposed standards that is ambiguous or not clear and, where possible, recommend alternate language that is clear.*

Clarify that M301.2.1 and M302.2.1 require a minimum 17-inch transfer height from the floor to the top of the upholstery.

We think that the technical criteria for the height of the transfer surface specified at M301.2.1 and M302.2.1 require clarification. As written, the criteria could be interpreted to mean that the height from the floor of the transfer surface *without upholstery* could be between 17 and 19 inches, thus making the final height of a surface more than the 19 inches maximum when upholstery is added. However, to maximize independent transfers and access for the broadest number of persons with disabilities, the Access Board should clarify that the height of the transfer surface shall be a minimum of 17 inches from the floor to the top of the upholstery under

static conditions, without compression or deflection in the transfer surface.

Please also refer to our response to Question 12.

Question 6. *Should other terms in the proposed standards be defined? Comments should identify specific terms in the proposed standards that should be defined and, where possible, recommend definitions*.

The Access Board should provide definitions and non-exhaustive examples as well as illustrations and diagrams for the terms “transfer surface,” “patient support surface,” “transfer supports,” and “positioning supports.” While these terms are illustrated in Example Application of the Proposed Medical Diagnostic Equipment Accessibility Standards, *available at* http://www.access-board.gov/mde/examples.htm, we recommend that they be included in the definitions section of the final rule.

Question 7. *Comments are requested on whether the figures can be improved to help readers better understand how the technical criteria apply to diagnostic equipment.*

Figure M4, which provides an illustration of a weight scale, currently indicates that the readout showing the weight of the person on the scale is mounted above and behind the individual, whether the person is standing or seated in a wheelchair. This arrangement makes it impossible for the person using the scale to read the result. This illustration may be used by manufacturers to guide its placement, which perpetuates the idea that the equipment is designed so that only a medical professional, rather than the patient her or himself has access to weight information. We recommend that the illustration of the readout device be relocated to a position that can be read by the person being weighed in accordance with proposed Advisory M306.1 General.

Question 11. *Are there types of diagnostic equipment that cannot conform to certain technical criteria proposed in Chapter M3 because of the structural or operational characteristics of the equipment?*

Please refer to our response to Question 2, which recommends that the Access Board develop overarching guidelines and technical criteria that use principles of universal design.

Question 12. *Do the technical criteria proposed in Chapter M3 have any positive or negative unintended consequences?*

Expand upon the positioning and devices that invoke the requirement for leg supports in M301.3.2.

In M301.3.2, the Access Board NPRM seeks input on the requirement to provide leg supports when stirrups are used for medical procedures. We strongly recommend that the Board explicitly expand on the types of devices that are used as leg supports. The types of devices used as supports should include not only stirrups, but also any other device or surface that is provided for patients to rest their feet and legs. Without this clarification, manufacturers might think the requirement to provide methods for positioning and securing a person's legs applies only when stirrups are also provided, which we do not think is the Board's or Congress's intent.

For example, a variety of foot and leg supports are available for use with a diagnostic chair when different procedures are being carried out and when a diagnostic chair is placed in different positions, yet these chairs do not feature leg supports that are adequate for people who have functional limitations of their lower limbs.[4]

Address the practical, functional, and safety limitations of using a floor mounted lifts.

When using a floor mounted patient lift, currently designed exam tables mounted on a solid base can only be accessed from the foot of the table. According to the technical criteria set forth in M301.4, M301.4.1, and M301.4.2, as well as the access dimensions set forth in Figures M1, M2, and M3, a person with a disability being transferred using such a lift can only be lowered onto the table at its foot. She will be lowered there while in a sitting position, possibly without the physical capacity to stabilize herself, even if a transfer support is available. Individuals with significant functional weakness will find it impossible to sit unassisted on this surface, even for just a few moments while the lift sling and lift are removed. Moreover, once they have been positioned at the end of the table, it is likely that some people will also need to be repositioned by being lifted or dragged to the head of the table if they are to be examined in a supine, side-lying or prone position. This standard, therefore, represents a cup-half-full access solution because of the limitations imposed by the common design of exam tables.

The standards at M301.4 (and M302.4) should require that an examination table (or chair) allow the use of a ceiling, portable, and floor mounted lift for persons to transfer at all typical transfer points including but not limited to the mid-line of either side as well as the short end.

Develop technical standards for the securement and stabilization of individuals who need assistance maintaining a position for a diagnostic examination.

The proposed technical standards omit any reference to methods to stabilize people with disabilities once they are positioned for a diagnostic test. Many people with trunk, upper torso, arm and/or leg weakness, spasticity and/or paralysis find it very

[4] *See* The Schmitz medi-matic Series 115, http://www.schmitz-soehne.com/fileadmin/media/pdf/kataloge/en/schmitz_kat75_en.pdf (last visited June 1, 2012); and The Andromeda Ellipse Chair, http://www.andromeda-ms.de/pdf/Ellipsechair_engl.pdf (last visited June 1, 2012).

difficult or impossible to remain in various positions required for the diagnostic procedure to be carried out including when recumbent or side-lying, and when seated on a hard bench or seat that is part of diagnostic equipment. Individuals report having to be secured into or onto the equipment and even report the use of masking tape being wrapped around them to hold them in position.[5]

We strongly urge the Access Board to develop technical criteria for achieving trunk, upper torso, arm and/or leg stability when a person is being positioned for a diagnostic examination. Such securement mechanisms have a distinct purpose from the positioning elements used with stirrups and other support devices described in M301.3, M302.3 and M305.2. Solutions could include padded Velcro straps, seat belt-type systems, wedges, pillows, and other adjustable positioning supports. Compatibility with such positioning and securement devices should be built into the design of the equipment (for example, where Velcro strapping can be safely and easily attached).

Develop technical criteria for transfer supports as well as fixed and portable patient lifts.

We strongly urge the Access Board to set technical criteria for transfer supports and fixed and portable patients lifts, which are integral for access to equipment. Technical criteria should also be set for gurneys. Accessible gurneys should not become the accessibility default but should only be used in limited situations with equipment that cannot be made accessible for use by all individuals with disabilities.

Question 13. *Should the technical criteria specify that the height of the transfer surface from the floor be measured to the top of the upholstery under static conditions, without compression or deflection in the transfer surface?*

Or should the technical criteria allow for more dynamic conditions and limit the amount of deflection permitted when a specific load is applied to the transfer surface?

People with disabilities report that diagnostic equipment surfaces can be extremely uncomfortable to lie on if no padding is available or the upholstery or surface padding is too dense, rigid, or limited in height. They also have long reported high levels of discomfort when they are required to remain stationary while lying on such surfaces for extended periods of time. At the same time, many people with disabilities find it easier to achieve an independent transfer onto and off of harder surfaces. Thus, both concerns must be considered in the final technical criteria. We recommend that the technical criteria specify that the height of the transfer surface be measured from the floor to the top of the upholstery (cushion) under static conditions, without

[5] For example, an individual with cerebral palsy needing radiation therapy for breast cancer needed support to keep still with her arm over her head. Staff used Velcro straps to keep her securely on the table but used masking tape to hold her arm in place and still. Lisa I. Iezzoni, et al., *Physical Access Barriers to Care for Diagnosis and Treatment of Breast Cancer Among Women with Mobility Impairments,* 37 Oncol. Nurs. Forum 711 (2010).

compression or deflection in the transfer surface. As stated in our response to Question 4, we urge the Access Board to clarify that the height of the transfer surface shall be a minimum of 17 inches from the floor to the top of the upholstery, using this measurement protocol.

However, we strongly urge the Access Board to also specify that the density and height of padded upholstery and other padded surfaces may not be reduced or eliminated in order to achieve the goal of required transfer height from the floor.

Question 14. *Comments are requested on the following questions regarding the adjustable height range (17 inches minimum to 25 inches maximum during patient transfer) that the Access Board is considering requiring in the final standards for transfer surfaces on diagnostic equipment used by patients in a supine, prone, or side-lying position, and diagnostic equipment used by patients in a seated position:*

a) What types of equipment currently provide patient support surfaces that are height adjustable? If there are several models of the same type of equipment, does at least one model provide patient support surfaces that are height adjustable? What is the range of adjustable heights? If the range of adjustable heights does not include 17 inches to 25 inches, what would be the incremental costs to achieve this range?

As stated in our response to Questions 4 and 13, it is critical that the table or chair have a minimum height of 17 inches from the floor to the top of the upholstery to ensure access for the broadest number of persons with disabilities, facilitate safe and successful transfers, and promote independent or semi-independent transfers.

Question 15. *Comments are requested on the following questions regarding the minimum dimensions (30 inches wide and 15 inches deep) proposed for the transfer surface on diagnostic equipment used by patients in a supine, prone, or side-lying position and whether transfer surfaces should be provided at more than one location on such equipment:*

a) Do the above dimensions provide sufficient space for patients with disabilities to safely and easily transfer to the equipment?

DREDF's 2011 comments on the U.S Department of Justice Advance Notice of Proposed Rulemaking, Titles II and III of the Americans with Disabilities Act (ADA), stated that examination tables should be, "Extra-wide (e.g., 30+ inches) and [have] high weight capacity (e.g., 500 to 800+ pounds)." DREDF did not recommend that 30 inches be the maximum width of a transfer surface although DREDF was quoted as having done so in the Access Board NPRM on Accessibility Standards for Medical and Diagnostic Equipment. Rather, DREDF's comment was intended to illustrate that 30 inches should be a minimum width requirement for transfer surfaces, but that wider surfaces are often likely to be required. We think that transfer surfaces should be no less than 30 inches wide and that the functional needs of most people with

significant mobility impairments would be best met if transfer surfaces were 36 inches wide. This width is sufficiently narrow to ensure that medical personnel can accomplish exams and various procedures, while being wide enough to ensure the comfort and safety of patients with diverse disabilities as exemplified by the 36-inch width of most typical hospital beds.

After height adjustability, one of the most often reported problems with medical and diagnostic equipment is the narrowness of transfer and exam surfaces. While adjustable features such as extendable platforms help mitigate this problem to a certain extent, for many people with disabilities, especially those who are heavy, tall and big in stature, obese, or who have contractures or spasticity, 36-inch transfer and exam surfaces are fundamental necessities. Even if 30-inch transfer surfaces have extendable platforms, there likely still will be areas where a person's body will not be supported adequately or safely. For example, a large individual may find it almost impossible to place her arms at rest by her sides when lying supine on medical equipment that is 30 inches in width because the transfer surface is insufficient and the extendable platform, if there is one, may only be available at the midpoint or at the end of the transfer surface. Similarly, support surfaces as currently proposed would only be available on one long side of the transfer surface. Thus, for a person with limited arm use, her or his arms may need to be strapped or tied so they don't fall off the table. Similarly, a heavy or tall person who is being examined in a side-lying position may find that her knees are extending beyond the transfer surface and are unsupported by an extendable platform, leaving her legs at possible risk of sliding off the exam surface. A 36-inch transfer surface would significantly help to address this issue.

Likewise, we do not think that a 15-inch depth for a transfer surface is adequate. While this dimension may have been determined based on the hip-to-knee measurement of a large percentage of the population, for many people with disabilities who have significant functional limitations caused by weakness, atrophy, paralysis, spasticity, or other conditions, this seat length will provide insufficient support under the legs and will foster instability. Regardless of where their upper leg length falls along the population bell curve for this dimension, lack of adequate under-thigh support will still make it more difficult for some people to sit safely on the transfer surface. We recommend that the Access Board reconsider this dimension in light of the specific stability, safety, and comfort needs of people with disabilities and at a minimum, consider increasing it to 17 inches.

> *b) Should the width of the patient support surface be at least as wide as the width of the transfer surface (30 inches minimum) to allow patients with disabilities to reposition their bodies to a lying down position and maintain positions safely and comfortably? What would be the incremental costs for the design or redesign and manufacture of the equipment to make the patient support surface at least as wide as the width of the transfer surface?*

We think that the patient support surface should be at least as wide or greater than the width of the transfer surface. Frequently, patient support surfaces are narrower

than the transfer surface (e.g., Brewer's AssistPro Power Procedure table, which measures 28 inches in width, has leg rests that measure 16.6 inches by 11.25 inches)[6] and they generally are lower than the transfer surface because they pull out from under it. When these pullouts are narrower, people with disabilities report that their legs can fall off the surface or the surface does not adequately support limbs that have muscle contractions or spasticity and therefore they do not rest on the support surface in conventional positions, thus causing unnecessary pain and insecure positioning.

c) *Would alternative dimensions be appropriate for transfer surfaces? Comments should include information on sources to support alternative dimensions, where possible.*

Please see our response to Question 15 (a) above.

d) *Should an adjustable feature (e.g., extendable platform) be permitted to meet the transfer surface dimensions?*

Please see our response to Question 15 (b) above.

Question 16. *Comments are requested on the following questions regarding the minimum dimensions (21 inches wide and 15 inches deep) proposed for the transfer surface on diagnostic equipment used by patients in a seated position:*

a) Do the above dimensions provide sufficient space for patients with disabilities to safely and easily transfer to the equipment?

The proposed 21 inch width requirement for diagnostic equipment used by patients in a seated position likely would not provide sufficient space for many people with disabilities to transfer and remain seated comfortably for an examination. This dimension will create the greatest hardship for individuals who are of large stature or obese, who are present in increasingly larger numbers in the general population as well as among people with disabilities.

b) *Would alternative dimensions be appropriate for transfer surfaces? Comments should include information on sources to support alternative dimensions, where possible.*

We recommend that the Access Board consider increasing the width requirement by at least two inches to 23 inches. This recommendation is based on contact with individuals who have experienced difficulties accessing medical diagnostic seats because they are too small and reports of the increase in seat widths now typically

[6] Brewer Assist Power Procedure Table, http://www.brewercompany.com/BrewerCompanyFilePile/Literature-Downloads1/AssistPRO.pdf (last visited June 1, 2012).

found in public venues such as restaurants, theaters, and stadiums, which provide a valuable snapshot of new seating needs based on shifts upward in the weight and size of the public. For example, one study reports that the average width of seats installed in multipurpose theaters in Atlanta, Georgia in 2007 and Orlando, Florida in 2012 range in size from 20 inches to 24 inches, as compared with seat widths of 19 to 22 inches in a similar theater in Cincinnati, Ohio built in 1995.[7]

Please refer to our response to Question 15(a) related to 15-inch seat depth.

Question 17. *Comments are requested on the following questions regarding obstructions on the transfer sides:*

a) *Should equipment parts be permitted to extend horizontally 3 inches maximum beyond the edge of the transfer sides provided they do not extend above the top of the transfer surface?*

b) *If equipment parts are not permitted to extend horizontally 3 inches maximum beyond the edge of the transfer sides, would any diagnostic equipment need to be redesigned?*

Permitting equipment parts to extend horizontally 3 inches beyond the edge of the transfer side will depend on the type of medical or diagnostic equipment and whether or not multiple transfer locations are available. For example, a patient support surface that extends 3 inches beyond the transfer surface of an examination table could be permitted provided it does not impede or block any typical transfer location, such as but not limited to at the mid-line of the table, on both sides, and at the foot of the table, where some people will execute their transfers. Many people who use mobility devices parallel park their wheelchairs or scooters next to the exam table and transfer onto the transfer surface by moving laterally from the seat of the mobility device. If the equipment parts encroach into this transfer zone, then it will create a 3-inch 'gap' between the transfer surface and the mobility device from which the person is transferring. For many people, this gap may make it impossible to achieve the transfer independently.

If equipment parts are permitted to extend horizontally 3 inches beyond the edge of the transfer surface, then they should not be permitted to be permanently mounted and therefore obstruct zones identified as transfer spaces, which include sufficient space to parallel park the mobility device next to the transfer surface of the examination or diagnostic equipment and transfer at the end of the equipment.

Question 19. *Comments are requested on the following questions regarding the above technical criteria for the location and size of transfer supports on diagnostic*

---

[7] *Size Matters: How a growing American audience affects the size and cost of performing arts spaces*, Theatre Projects Consultants, 10 (July 2010), http://www.tpcworld.com/files/pdf/Resources_IdeasInfo_sizematters.pdf (last visited June 1, 2012).

equipment used by patients in a supine, prone, or side-lying position, and diagnostic equipment used by patients in a seated position:

a) *Are the above technical criteria for the location and size of transfer supports sufficient to facilitate transfer and maintain position on the equipment?*

The technical criteria should require that transfer supports be provided on both sides of the equipment, not just on one side, so people with disabilities who need such supports have access to them to enable and assist with transfers and positioning by maintaining stability and position during the transfer and while on the equipment. Supports are required on both sides in order to maximize the ability of persons to transfer, as not all people transfer on the same side and some experience one-sided weakness. Supports are also required on both sides to assist people who must be in the side-lying, supine, prone, and intermediate positions in order to be examined or treated, and to turn and reposition. There are situations where certain people with disabilities simply will not be able to move their bodies independently without transfer supports on both sides. Moreover, transfer supports also serve to prevent people from falling or having arms or legs slide off the support surface during examination or other procedures. In situations where examinations are conducted while the person is seated on the examination surface, such supports are critical for people who have balance or trunk weakness and stability limitations, spasticity, or other impairments that make sitting on such surfaces difficult or painful without lateral supports and hand-holds. Such transfer supports should be available even when armrests are also available because they provide a more effective gripping surface.

e) *Should angled or vertical supports be permitted*?

The full range of supports that are easily adjustable and able to be relocated should be required to ensure the broadest and most independent access.

Question 20. *Comments are requested on the following questions regarding the above height range (6 inches minimum and 19 inches maximum above the transfer surface) for transfer supports on diagnostic equipment used by patients in a supine, prone or side-lying position, and diagnostic equipment used by patients in a seated position:*

a) *Are transfer supports within the above height range usable by patients with disabilities?*

The proposed height range is appropriate so long as all transfer supports are required to be adjustable from a minimum of 6 inches to a maximum 19 inches above to transfer surface. In order to provide height range flexibility in meeting the diverse needs of individuals with disabilities, the Access Board should recommend an array of choices of rail height adjustability and/or adding a mid-height horizontal and parallel support rail which dissects the support rail pictured in Figure M1 of the

Example Applications of the Proposed Medical Diagnostic Equipment Accessibility Standards.[8]

Question 23. *Comments are requested on the following questions regarding stirrups:*

b) Should diagnostic equipment used by patients in a seated position that provide stirrups such as urodynamics study chairs be required to provide a method of supporting, positioning, and securing the patient's legs?

Methods for comfortably supporting, positioning and securing patient's legs should be provided for any diagnostic equipment that requires the legs to be elevated or specially positioned for the test, procedure or treatment. For any person with a disability, such as but not limited to cerebral palsy or paralysis, that limits use or control of the legs, such equipment may make it possible to undergo the required test or treatment whereas the absence of such equipment may make it impossible for the test or treatment to be carried out. Examples of equipment currently in use that require special positioning of the legs include not only urodynamic chairs, but also tables and specialized multi-use chairs for obstetric, gynecologic, and proctologic care. Supports and positioning aids should be provided so that individuals can use the equipment and maintain the correct position in the equipment.

Please see our response to Question 12 for additional comments recommending that the Access Board should not limit the inquiry about supporting and securing patient's legs only to equipment that provides stirrups.

Question 24. *Comments are requested on the following questions regarding positioning supports along the sides of diagnostic equipment used by patients in a supine, prone or side-lying position, and diagnostic equipment used by patients in a seated position that can be adjusted to a reclined position:*

a) Should the technical criteria address the configuration of positioning supports (e.g., length, height above the patient support surface, location) to ensure their effectiveness? Or should the technical criteria require that positioning supports be provided within reach and provide flexibility for designing the supports based on the intended use of the equipment?

The Access Board should provide specific technical criteria for configuration and use of positioning supports based on known information about need and likely use by people with disabilities. The location and purpose of such supports is critical to ensuring that patients with disabilities can safely and relatively easily access diagnostic equipment. While we recognize that there is a wide variety of medical and diagnostic equipment currently in use, we think that it should not be left to each manufacturer to independently determine what constitutes effectiveness in deciding the configuration of positioning supports. Further, we urge the Access Board to consider undertaking in the future a study to determine in greater detail optimal

[8] http://www.access-board.gov/mde/examples.htm (last visited June 1, 2012).

configuration of positioning supports for the range of equipment that is commonly in use, which takes into account the known needs of people with diverse physical limitations.

Question 27. *If diagnostic equipment is designed for use with overhead lifts, should the equipment be exempted from providing clearance in or around the base for portable floor lifts?*

Diagnostic equipment designed for use with overhead lifts should not be exempted from providing clearance in or around the base for portable floor lifts.

Individuals able to transfer independently should be able to do so, as supported by Section 510 of the Rehabilitation Act of 1973, and thus sufficient base clearance should be required. In addition, while a piece of diagnostic equipment may be designed for use with an overhead lift, that does not mean that a medical facility will have purchased and installed such a lift or use the lift, even if it is available.

In light of the high probability that such diagnostic equipment will not be set up with a readily available overhead lift, or in the event that an overhead ceiling lift is not functioning, people with disabilities must have an alternative method to get onto and off of the diagnostic surface. Thus, this type of diagnostic equipment must provide sufficient clearance in or around the base to accommodate a floor-mounted or portable lift and it must also provide adequate transfer surfaces for those individuals who use wheelchairs or other mobility devices to accomplish a transfer.

Question 28. *Where diagnostic equipment is designed for use by patients seated in a wheelchair and provides a folding seat, should the folding seat be required to comply with the technical criteria in M302 for transfer surfaces and supports?*

All folding seats used in conjunction with medical and diagnostic equipment should be required to comply with the technical criteria set forth in M301 for transfer surfaces and supports. Many people with disabilities choose to transfer from their mobility device to such seats when they are available, thus the need for the seats to comply with M301. Such a requirement will help "to ensure, to the maximum extent possible, independent entry to, use of, and exit from such equipment by individuals with disabilities," as stated in Section 510 of the Rehabilitation Act and referenced throughout the proposed standards.[9]

Please also see our response to Question 37(b).

Question 29. *Comments are requested on the following questions regarding the depth dimension (58 inches minimum) that the Access Board is considering requiring in the final standards for wheelchair spaces that can be entered from the front or rear:*

[9] 29 U.S.C. § 794f (2012).

We support the proposed 58-inch minimum depth for wheelchair spaces for medical or diagnostic equipment that can be entered from the front or rear because that dimension will likely accommodate a broad array of mobility devices that are of diverse sizes. This dimension is particularly important because it will ensure that people who are heavy, use larger mobility devices, or use scooters that have longer wheelbases will have access to the equipment.

Question 32. *Comments are requested on the following questions regarding diagnostic equipment with wheelchair spaces on raised platforms and the use of such equipment by patients who use scooters*:

a) *Is equipment with wheelchair spaces on raised platforms such as wheelchair scales currently usable by patients who use scooters?*

Due to the inaccessibility of weight scales in healthcare settings, many persons with mobility disabilities, including power mobility device users, do not get weighed. Many allegedly accessible weight scales with platforms such as those that are 24 inches wide by 30 inches deep do not have sufficient length to accommodate the longer wheelbases found on many power wheelchairs and scooters. These small platform scales leave too many people unable to be weighed.

b) If the equipment is not currently usable by patients who use scooters, should the width and depth of the raised platform be changed so that the equipment is usable by patients who use scooters? Comments should include information on sources to support the dimensions, where possible.

The raised platforms on weight scales should be designed to accommodate the broadest array of mobility devices, including scooters, taking into account the wheelbase dimensions and total length of these devices and the turning space needed for effective use of the scale. As stated by the Anthropometry of Wheeled Mobility Project (2010), the largest of the occupied length and width values across the three device categories should be used for all of three types of mobility devices (i.e., manual wheelchairs, power wheelchairs and scooters). Thus, a “universal space” to accommodate 95% of the total population would be 860 mm x 1480 mm (34 in. x 58 in.)

The Access Board’s process needs to determine the dimensions of the wheelbase which must be on the platform in order to get an accurate weight measurement. For example, do the foot pedals and tilt wheels need to actually be on the platform, or is it permissible for them to extend beyond the platform, and still get an accurate weight measurement?

c) Should folding seats and supports be required on equipment with wheelchair spaces on raised platforms for patients who can transfer independently from their mobility device to the raised platform?

Folding seats and supports should be required so that individuals with disabilities who are able to independently transfer from their mobility device to the raised platform will also have the option to be seated while they are being weighed. The folding seat and supports must conform to the Access Board's accessibility standards, particularly standards that address transfer surfaces and supports. The folding seat and supports make it possible for people with stamina, balance, pain or other impairments that affect standing, balance and walking to be seated while being weighed and also to be weighed separately from their mobility device. Frequently, healthcare practitioners are unable, unwilling, or do not know how to accurately weigh a wheeled mobility user.

> *d) If folding seats and supports are provided on equipment with wheelchair spaces on raised platforms, should the raised platform also accommodate scooters?*

Equipment with wheelchair spaces on raised platforms with folding seats should also accommodate scooters.

Question 36. *Comments are requested on the following questions regarding breast platforms:*

> *a) Is the proposed height range for the breast platform (30 inches high minimum and 42 inches high maximum above the floor) sufficient to accommodate patients seated in a wheelchair?*

We urge the Access Board to take into consideration the testimony of June Isaacson Kailes during the March 14, 2011 hearing convened by the Board regarding the most desirable height for breast platforms used with mammography equipment. She suggests that the proposed minimum height range of 30 inches is not sufficient. Ms. Kailes recommends that breast platforms should be 24 to 26 inches minimum to accommodate a wider range of statures of wheelchair users. We also support this recommendation based on reports from women with disabilities in our communities with whom we have consulted.

> *b) Are there other features of the breast platform that the technical criteria should address to ensure accessibility and, if so, how should they be addressed? Comments should include information on sources to support the technical criteria for the features, where possible*.

We urge the Access Board to take into consideration the testimony of June Isaacson Kailes at the March 14, 2011 Access Board hearing concerning the thickness of the breast platform and receptor. When the platform is turned to a vertical position in order to image the breast laterally, it can hit the legs or abdomen of a person seated in a wheelchair. Both the thickness and surface size of the platform contribute to this problem. We urge the Access Board to issue technical criteria that call for dimensions that address these problems to the maximum extent possible.

Question 37. *Comments are requested on the following questions regarding whether a folding or removable seat should be required on diagnostic equipment used by patients in a standing position:*

a) Should a folding or removable seat be required on weight scale platforms?

Folding or removable seats should be required on weight scale platforms. Such seats should be required to comply with the Access Board's standards on transfer surfaces and supports.

b) Should a folding or removable seat be required on other types of diagnostic equipment used by patients in a standing position?

Folding or removable seats should be required on other types of diagnostic equipment used by patients in a standing position because they would permit more options for accessing the equipment for people with diverse mobility, balance, stamina and pain-related problems that affect their ability to stand comfortably or for the periods of time required to conduct certain diagnostic procedures. They would also afford a method for someone with a mobility impairment to rest during breaks in testing.

We urge the Access Board to take into consideration the testimony of June Isaacson Kailes during the March 14, 2011 Access Board hearing regarding folding or removable seating, which emphasizes the insufficient options currently available to technologists. Ms. Kailes reported that, as a result, technologists reported using their mammography chairs less than 10% of the time because of poor design and prefer to have wheelchair users remain in their wheelchairs because the auxiliary chairs they have offer less stability and support.[10]

Desired features that technologists listed include:

- Adjustable height
- Removable foot rests that flip out of the way
- Removable/adjustable armrests
- Shorter seat length
- Seat belt, trunk supports, and positioning straps
- Reclining seat backs (in case of an emergency and the patient needs to be in supine - on her back)
- Circular seats with wheels and locks
- Motorized seat height adjustor is preferred over the foot pedal pump

d) If folding or removable seats are provided on diagnostic equipment used by

[10] June Isaacson Kailes & Michelle Lee, *Mammography: Addressing Equipment Design*, Center for Disability Issues and the Health Professions, 11 (2009), http://www.hfcdhp.org/training/3-briefv3_mml_7-10-09.doc (last visited June 1, 2012).

patients in a standing position, should the equipment be required to meet the technical criteria in M302 regarding transfer surfaces, supports, and lift compatibility for diagnostic equipment used by patients in a seated position?

Folding or removable seats should be required to meet the technical criteria in M302 regarding transfer surfaces, supports, and lift compatibility for diagnostic equipment used by patients in a seated position. Please refer to our responses to previous related questions.

Question 41. *Comments are requested on the following questions regarding methods of communication provided by diagnostic equipment:*

a) Should diagnostic equipment that communicates instructions or other information to the patient be required to provide the instructions or other information in all three methods of communication (i.e., audible, visible, and tactile)?

Diagnostic equipment that communicates instructions or other information to the patient should be required to provide the instructions or other information in all three methods of communication (i.e., audible, visible, and tactile), which are necessary for effective communication for persons with diverse sensory disabilities. Such accommodations are required under the ADA and Section 504 of the Rehabilitation Act of 1973.[11]

In addition, please refer to our introductory comments regarding the necessity of requirements for policies and procedures. Such policies and procedures are necessary to ensure effective communication.

Question 43. *Comments are requested on the following questions regarding reach ranges for operable parts on diagnostic equipment that are used by patients:*

a) Would the reach ranges in the 2004 ADA and ABA Accessibility Guidelines for an unobstructed forward reach or side reach (48 inches maximum for a high reach and 15 inches minimum for a low reach) be appropriate for operable parts on diagnostic equipment that are used by patients?

We are particularly concerned that the Access Board is proposing use of the 2004 ADA and ABA Accessibility Guidelines reach ranges for unobstructed forward or side reach. There are multiple additional factors to consider in the context of operable parts on diagnostic equipment that are not necessarily present in the typical retail or public accommodation situations for which the ADA reach ranges were

[11] 42 U.S.C. § 12182 (2012); 28 C.F.R. § 35.160 (2012); 28 C.F.R. 36.303(c) (2012); 29 U.S.C. § 794 (2012); 29 U.S.C. § 794f (2012).

developed. Some individuals may have difficulty operating systems which require reach or strength. It is important to place the controls where they can be easily reached with minimal changes to body position. These controls should be operated without the need for grasping, pinching, and strength and they should not be time dependent, unless necessary for the purpose of the exam.

For example, visual field testing typically used by ophthalmologists to detect glaucoma and other eye conditions require fairly intense concentration for a relatively lengthy period of time (15-20 minutes for a complete glaucoma evaluation), and the requirement that only one eye be used at a time can exacerbate any existing balance or spasticity impairments. Some of the latest MRI machines raise the potential for successfully completing lengthy (1-2 hours), noisy MRI scans by offering patients the ability to interface with FM/AM stereo, multi-CD players, and other media promoting relaxation, as well as medical providers operating the machine. The key consideration for purposes of diagnostic equipment is maximizing the positional flexibility and operability of patient controls in circumstances that may place individuals, who have varying degrees of motor control, in positions that are uncomfortable, disorienting, or painful for long periods of time. We recommend that patient controls be capable of being brought to and affixed immediately by the body part that a person with a disability typically uses to operate controls, and that they be capable of operation without grasping, pinching, or the use of only one or two isolated fingers/digits.

Thank you again for the opportunity to comment on these proposed standards.

Sincerely,

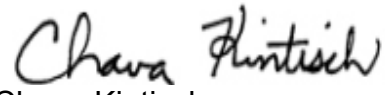
Mary Lou Breslin
Senior Policy Advisor
Disability Rights Education and Defense Fund
3075 Adeline Street, Suite 210
Berkeley, CA 94703

Marca Bristo
President and CEO
Access Living
115 West Chicago Avenue
Chicago, IL 60654

Bill Henning
Executive Director
Boston Center for Independent Living
60 Temple Place
Boston, MA 02111

Dmitri Belser
Executive Director
Center for Accessible Technology
3075 Adeline, Suite 220
Berkeley, California 94703

Stefanie Krantz, Esq,
Disability Law Center
32 Industrial Drive East
Northampton, MA 01060



Chava Kintisch
Staff Attorney and Assistive Technology
Project Director

Daniel S. Manning
Director of Litigation
Greater Boston Legal Services
197 Friend Street
Boston, MA 02458

Rocco Iacullo
Staff Attorney
Disability Rights Network of Pennsylvania
1315 Walnut Street, Suite 500
Philadelphia, PA 19107

June Isaacson Kailes,
Associate Director
Harris Family Center for Disability and
Health Policy
Western University of Health Sciences,
Pomona, California

Miranda Massie
Legal Director and Interim Executive Director
New York Lawyers for the Public Interest
151 West 30th Street, 11th Floor
New York, NY 10001

Andrés J. Gallegos, Esq.
Robbins, Salomon and Patt, Ltd.
180 N. LaSalle Street, Suite 3300
Chicago, IL 60601

Additional organizations and individuals:

ACHIEVA Disability Healthcare Initiative
711 Bingham Street
Pittsburgh, PA 15203

ADAPT Montana
Marsha Katz and Bob Liston, State Organizers
8625 Street Vrain Way
Missoula, MT 59808

Advocacy Center
8325 Oak Street
New Orleans, LA 70118

American Association on Health and Disability
110 North Washington Street, Suite 340-A
Rockville, MD 20850

The American Association of People with Disabilities
Mark Perriello, President and CEO
2013 H Street, NW
Washington, D.C, 20006

American Foundation for the Blind
1660 L St., NW, Suite 513
Washington, DC 20036

The Arc of Pennsylvania
101 S. Second Street, Suite 8
Harrisburg, PA 17101-2535

The Arc of the US
1825 K Street NW, Suite 1200,
Washington, D.C. 20006

Association of Assistive Technology Act Programs
1 W Old State Capitol Plaza, Suite 100
Springfield, IL 62701

The Bazelon Center for Mental Health Law
1101 15th Street, NW, Suite 1212
Washington, DC 20005

Elizabeth Begley, MA, CCC/SLP
Licensed Speech/Language Pathologist
College Station Medical Center
1604 Rock Prairie Road
College Station, TX 77845

Brain Injury Association of America
1608 Spring Hill Road, Suite 110
Vienna, VA 22182

Bronx Independent Living Services (BILS)
4419 Third Avenue Suite 2C
Bronx, NY 10457

Brooklyn Center for Independence of the Disabled (BCID)
27 Smith Street, 2nd Floor
Brooklyn, NY 11201

California Foundation for Independent Living Centers
1234 H Street, 1st Floor
Sacramento, CA 95814

Center for Independence of the Disabled, New York (CIDNY)
841 Broadway Suite 301
New York, NY 10003

Consortium for Citizens with Disabilities (CCD) Technology and Telecommunications Task Force
1660 L Street, NW, Suite 700
Washington, DC 20036

Disability Practice Institute
Christopher Duff, Acting Executive Director
http://www.disabilitypracticeinstitute.com/

Disability Rights California
1330 Broadway, Suite 500
Oakland, CA 94612

Disability Rights New Jersey
210 S. Broad Street, 3rd Floor
Trenton, New Jersey 08608

Disability Section of the American Public Health Association
800 Eye Street, NW
Washington, DC 20001-3710

Disabled in Action of PA
Juliet Marsala, Executive Director
714 Market Street, Suite 322
Philadelphia, PA 19106

Daryle Gardner-Bonneau, Ph.D.
Principal, Bonneau and Associates
(Human Factors Consultancy)
2264 Quincy Avenue
Portage, MI 49024-4806

Amy S. Goldman
Co-Executive Director
Institute on Disabilities at Temple University
Student Center - Suite 411 S
1755 N.13th St.
Philadelphia, PA 19122

Goldstein, Demchak, Baller, Borgen & Dardarian
Linda M. Dardarian, Partner
300 Lakeside Drive, Suite 1000
Oakland, CA 94612

Rosemary B. Hughes, Ph.D.
The University of Montana
Missoula, MT 59812

Independence Care System (ICS)
Marilyn E. Saviola, Vice President, Advocacy and the Women's Health Access Program
257 Park Avenue South, 2nd Floor
New York, NY 10010-7304

Kristi L. Kirschner, MD
Staff Physician, Schwab Rehabilitation Hospital and
Professor of Medical Humanities & Bioethics and of Physical Medicine & Rehabilitation
Northwestern University Feinberg School of Medicine
Chicago, IL 60611

The National Council on Independent Living
1710 Rhode Island Avenue, NW, 5th Floor
Washington, DC 20036

National Disability Rights Network
900 2nd Street, Suite 211
Washington, DC 20002

National Health Law Program
1444 Eye Street, NW, Suite 1105
Washington, DC 20005

National Organization of Nurses with Disabilities (NOND)
Department of Disability and Human Development
University of Illinois at Chicago (M/C 626)
1640 West Roosevelt Road
Chicago, IL 60608

National Senior Citizens Law Center
1444 Eye Street, Suite 1100
Washington, DC 20005

Elizabeth Pendo
Associate Dean for Academic Affairs and Professor of Law
Center for Health Law Studies, Saint Louis University School of Law
3700 Lindell Boulevard
Saint Louis, MO 63108

Pennsylvania Council on Independent Living
Barbara Orstein, M. Ed., CRC
Executive Director
200 Locust Street, Suite 200
Harrisburg, PA 17101

Rehabilitation Research Design and Disability (R2D2) Center
College of Health Sciences, UW-Milwaukee
Enderis Hall 135
2400 E. Hartford Ave
Milwaukee, WI 53211

Rehabilitation Engineering and Assistive Technology Society of North America (RESNA)
1700 North Moore Street, Suite 1540
Arlington, VA 22209-1903

United Spinal Association
1660 L Street, NW, Suite 504
Washington, DC 20036

World Institute on Disability
3075 Adeline Street, Suite 280
Berkeley, CA 94703