



*Improving the Lives of Older Adults and People with Disabilities
Through Services, Research, and Education*

Wheelchair-Accessible Medical Diagnostic Equipment: Cutting Edge Technology, Cost-Effective for Health Care Providers, and Consumer-Friendly

In January 2017, the U.S. Access Board finalized [voluntary standards for Accessible Medical Diagnostic Equipment](#). These standards promise considerable benefits for providers and patients alike,ⁱ including:

- Reducing disparities in access to preventive health care for people with disabilities and older adults who have limited mobility compared to people without disabilities;
- Providing opportunities to dramatically reduce workplace injuries, liability, and attrition by curtailing the need for nurses and nursing assistants to physically transfer patients to and from inaccessible examination equipment with a cost-effective alternative;ⁱⁱ
- Addressing the needs of the 13% and growing share of the US population with mobility disabilities.ⁱⁱⁱ

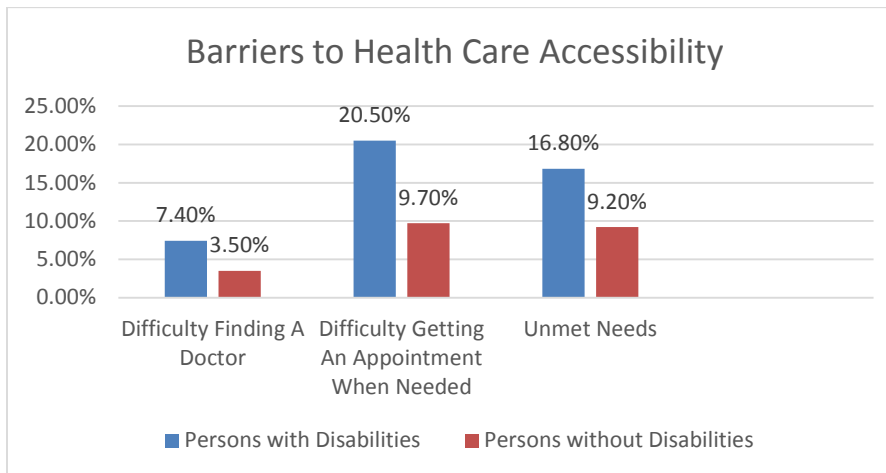
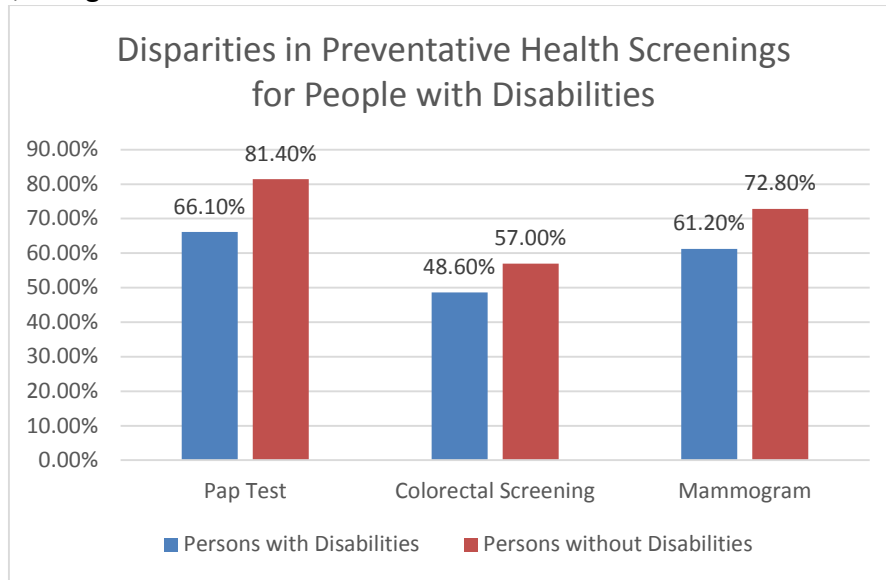
Many Health Care Settings Lack Accessible Medical Diagnostic Equipment:

- ***What is Accessible Medical Diagnostic Equipment?*** Medical Diagnostic Equipment includes tables, chairs and diagnostic imaging equipment used for medical diagnosis and treatment purposes, as well as weight scales.
 - Accessible Medical Diagnostic Equipment means Medical Diagnostic Equipment designed pursuant to the US Access Board's voluntary standards to accommodate the needs of people with disabilities and older adults with mobility limitations.^{iv} Note that barrier-free access to the medical offices/facilities in which this equipment is utilized is necessary for Medical Diagnostic Equipment to be truly accessible.
- A 2014 study of 256 specialty providers asked if they would accept a referral of an obese female patient who used a wheelchair and required transfer assistance revealed that:
 - 22% of specialty provider offices could not accommodate her. Of these, 18% also could not help her transfer onto an exam table, preventing access to an appropriate physical exam;
 - The subspecialty of gynecology had the highest rate of practices inaccessible to people with disabilities (44%).^v
- A 2010 study of primary care offices in California found that only 3.6 % had an accessible weight scale, and only 8.4 % had height-adjustable tables.^{vi} The 2017 follow-up to this study showed only a modest increase to 10.9% with an accessible weight scale and 19.1% with height adjustable tables.^{vii}

Accessible Medical Diagnostic Equipment (MDE) Addresses Health Care Disparities, Barriers to Health Care and Compliance with Disability Rights Laws:

Compared to people without disabilities, people with disabilities face disparities across-the-board in receipt of cancer screenings^{viii}, as well as other forms of preventative care; higher rates

of obesity and cardiovascular disease;^{ix} and greater difficulty in finding doctors, securing appointments; and general unmet needs.



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- Further research has found that people with a disability who encounter a structural barrier are 2.5 times more likely to experience delayed or not to receive necessary medical care than people without a disability.^{xi}
- Better preventive care through increased use of accessible MDE results in earlier detection of life-threatening conditions, better prognoses, quality of life and health outcomes. These improvements, in turn, make health-care more cost-effective.^{xii}
- Large increases in the number of health settings with accessible medical equipment, paired with major improvements in the accessibility of health care programs and services, will help reduce risk of federal enforcement actions or private lawsuits under Title III of the Americans with Disabilities Act, Section 504 of the Rehabilitation Act and other legal, insurance and staffing expenses.

Use of Accessible Medical Diagnostic Equipment as a Solution for Reducing Health Care Worker and Patient Injuries as well as Related Costs

- Accessible MDE significantly reduces risk in health-care workers' most difficult, high-risk activities including transferring patients onto and off exam tables.^{xiii}
 - This benefits providers by making patient lawsuits for mishandling or dropping individuals as they are transferred between medical equipment largely obsolete, while also minimizing the costs of occupational injuries and lost work time.^{xiv}
 - In addition to reducing exertion required to transfer patients, as well as minimizing injuries to nurses, orderlies and related health professionals, utilizing accessible MDE has also lowers workers' compensation and medical malpractice insurance claims. This lowers cost because insurance companies will reduce rates if there is a reduction in injuries and injury-inducing activities.^{xv}
- Due to multiple occupational health findings and surveys of its own membership, the American Nursing Association (ANA) has considered manual lifting and moving patients unsafe since 2003, and advocated for their elimination.^{xvi}
 - Per an ANA Survey, 42% of nurses said their responsibilities include lifting or repositioning patients or heavy equipment. This creates a work-environment safety risk. Also 51 % of nurses reported having musculoskeletal pain at work.^{xvii}
 - Nurses have a higher incidence rate of worker compensation claims for back injuries than all other occupations – costing employers an estimated \$16 billion annually in benefits. Medical treatment, lost workdays, “light duty” and employee turnover cost the industry an additional \$10 billion.^{xviii}
 - Overexertion injuries involving outside sources (e.g. injuries related to lifting, pushing, pulling, holding, carrying, or throwing) in all occupations cost employers \$15.08 billion in workers' compensation (24.4% of US total).^{xix}
- According to national surveys by the Bureau of Labor Statistics (BLS):
 - Among nursing employees, in 2013, there were over 35,000 back and other injuries severe enough to cause missed work. Health related professions comprise four of the top eight and two of the top three categories of employees with musculoskeletal injuries.^{xx}
 - In 2015, health care/ social assistance was the private-sector category with the most lost work days (158,410), with a 43% incidence rate for muscular-skeletal injuries, and 12% for overexertion in lifting and lowering. The latter is closely associated with transferring individuals onto and off of medical equipment. Nursing assistants experienced over 16,860 muscular-skeletal injuries – more than 5% of the private-sector total.^{xxi}
- The National Institute for Occupational Safety and Health reported that there are 75 lifting-related injuries for every 10,000 full-time hospital workers, and 107 injuries for every 10,000 workers at nursing homes and residential facilities.

Accessible Medical Diagnostic Equipment Promotes Retention in Critical, Growing Health and Health- Related Professions Including Nursing

- An aging nursing workforce, the aging population, proliferation of chronic disease, people with disabilities living longer and limited capacity of nursing schools mean that the nursing profession is not growing fast enough to keep up with demand.^{xxii}
- The Registered Nursing (RN) workforce is expected to grow by 438,100 or 15% by 2026, making it a top profession for job growth. BLS projects a need for 203,700 new RNs each year to replace hundreds of thousands of nurses nearing retirement age and meet growing demand for more nurses. ^{xxiii}
 - Much of this demand will likely involve geriatric care, meaning individuals who have limited mobility and require accessible MDE or assistance with transferring onto and off of inaccessible equipment.
- Use of accessible MDE can reduce the considerable number of days lost by nurses and nurses' assistants to lifting and musculoskeletal injuries and ease strain on staff by minimizing the need for physically demanding lifting and transferring of individuals. This in turn could be anticipated to curb nursing staff burnout,^{xxiv} alleviate the need for early retirement and slow workforce attrition.

How Medical Providers Can Leverage Existing Incentives and Resources to Integrate Accessible Medical Diagnostic Equipment:

Accessibility should be Included as Part of a Broader Quality Strategy to Enhance the Patient Experience and Address Disparities

- Accessible facilities promote better, safer, clinical care, lead to better patient health outcomes and save providers money.
 - Many elements of accessibility increase the value and choice available to many individuals seeking health care, regardless of disability. Many of these features will benefit older adults, obese individuals, and those weakened by sickness or injury.
- **Use the U.S. Access Board's Standards for Accessibility**
 - These standards provide minimum technical criteria that must be met to ensure physical accessibility of medical diagnostic equipment, including but not limited to, examination tables, examination chairs, weight scales, mammography equipment, and other imaging equipment used by health care providers for diagnostic purposes.
 - **Exam Table Standards:** Accessible exam tables have adjustable height features with a minimum seat height of 17 to 19 inches, a high transfer height of 25 inches and four in-between heights to facilitate transfer from standard wheelchairs, scooters and other common mobility devices.
 - **Other Specifications** in the Access Board standards include:

- Mammography equipment that accommodates sitting for women with mobility disabilities or difficulty with balance;
 - Accessible wheelchair scales with sufficiently large platform surfaces, appropriate ramping and edge protection.
 - **Limitations**
 - The Access Board’s Standards for MDE do not impose any mandatory requirements on health care providers or medical device manufacturers.
 - The Access Board Standards do not include scoping requirements for how many accessible MDE are needed to serve individuals in hospitals or provider networks of particular sizes or within a certain mileage radius.
- **Tax Credits are available to businesses that remove physical, structural and transportation barriers and comply with the Americans with Disabilities Act.**
 - **Learn more:** ADA National Network <https://adata.org/factsheet/quicktips-tax>
- **Accessibility Should Be Part of A Broader Quality Strategy to Enhance the Patient Experience and Address Disparities:**
 - Accessible facilities promote better, safer clinical care and lead to better patient health outcomes.
 - Many elements of accessibility increase the value and choice available to individuals seeking health care, *regardless* of disability. Many of these features will benefit older adults, obese individuals, and those weakened by sickness or injuries.

FREE TECHNICAL ASSISTANCE IS AVAILABLE FROM:

- **ADA National Network:** <https://adata.org/find-your-region>
- **Department of Justice:** Website: <http://www.ada.gov>
- **Toll-free ADA Information Line:** 800 - 514 - 0301 (voice) 800 - 514 - 0383 (TTY)
- **U.S. Access Board:** <https://www.access-board.gov/>

ⁱ US Access Board, *Standards for Accessible Medical Diagnostic Equipment*, 36 CFR Part 1195 <https://www.access-board.gov/guidelines-and-standards/health-care/about-this-rulemaking>

ⁱⁱ See *Ibid.* at <https://www.access-board.gov/guidelines-and-standards/health-care/about-this-rulemaking/final-standards-2/text-of-the-proposed-standards-7> for price comparisons of accessible MDE compared to their manual counterparts based on informal market research by the Access Board from January to June of 2016.

ⁱⁱⁱ Iezzoni, L and Pendo, E, “Accessibility of Medical Diagnostic Equipment - Implications for People with Disability,” *New England Journal of Medicine (NEJM)* 378(15):1371-1373 · April 2018.

^{iv} US Access Board, *Standards for Accessible Medical Diagnostic Equipment*, 36 CFR Part 1195 <https://www.access-board.gov/guidelines-and-standards/health-care/about-this-rulemaking/final-standards>

^v Lagu T., Hannon NS, Rothberg MB, et al. “Access to subspecialty care for patients with mobility impairment: a survey,” *Annals of Internal Medicine*. 2013.

^{vi} Mudrick, N., Breslin, ML, Liang, M. & Yee, S. “Physical accessibility in primary health care settings: Results from California on-site reviews,” *Disability and Health Journal* 5 (2012) 159-167.

^{vii} Mudrick, N. Breslin, ML. and Swagger, LA. “Equal Care: Accessibility of health care settings for people with disabilities across two time periods,” 2018.

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- viii Steele CB, Townsend JS, Courtney-Long EA, Young M. "Prevalence of Cancer Screening Among Adults With Disabilities, United States, 2013." *Prev Chronic Dis* 2017;14:160312. DOI: <http://dx.doi.org/10.5888/pcd14.160312>
Note: these numbers apply only to those who are recommended as age appropriate for screenings by the USPSTF;
- ix For rates of cardiovascular disease and obesity, see Krahn, G., Walker, D. and Correa-De-Araujo, R. "Persons With Disabilities as an Unrecognized Health Disparity Population." *American Journal of Public Health*: April 2015, Vol. 105, No. S2, pp. S198-S206, referenced by CDC, "Common Barriers to Participation Experienced by People with Disabilities," accessed online at <https://www.cdc.gov/ncbddd/disabilityandhealth/disability-barriers.html>.
- x Karpman, M. & Long, S. "QuickTake: Even with Coverage, Many Adults Have Problems Getting Health Care, with Problems Most Prevalent among Adults with Disabilities," *Urban Institute*, 9/24/15, accessed online at <http://hrms.urban.org/quicktakes/Many-Adults-Have-Problems-Getting-Health-Care.html>
- xi Henning Smith, McAlpine, Shoop and Priebe (2013) "Delayed and unmet need for medical care among publicly insured adults with disabilities." *Medical Care* 51(11) 1015-1019. Reichard, A., Stransky, M., Phillips, K., McClain, M., & Drum, C. (2017). "Prevalence and reasons for delaying and foregoing necessary care by the presence and type of disability among working-age adults." *Disability and health journal*, 10(1), 39-47 and Stransky, M. L., & Reichard, A. (2019). "Provider continuity and reasons for not having a provider among persons with and without disabilities." *Disability and health journal*, 12(1), 131-136. See also Bauer, Sarah, Schumacher, J., Hall, A., Marlow, N. Friedel, C., Scheer, D. and Redmon, S., "Disability and physical and communication-related barriers to health care related services among Florida residents: A brief report," 3/24/2016, accessed online at <https://doi.org/10.1016/j.dhjo.2016.03.001>, which found people with disabilities are significantly more likely to encounter physical environment and clinical experience barriers in medical settings than people without disabilities.
- xii Carroll, Aaron, "Preventive Care Saves Money? Sorry, It's Too Good to Be True. Contrary to conventional wisdom, it tends to cost money, but it improves quality of life at a very reasonable price," *New York Times, The Upshot*, Jan 29, 2019, accessed online at <https://www.nytimes.com/2018/01/29/upshot/preventive-health-care-costs.html>; and Ku, L. Paradise, J. and Thompson, V., "Data Note: Medicaid's Role in Providing Preventive Care for Adults," *Kaiser Family Foundation*, May 17, 2017, accessed online at <https://www.kff.org/medicaid/issue-brief/data-note-medicoids-role-in-providing-access-to-preventive-care-for-adults/>.
- xiii Palmer, John, "Alternatives to Lifting Patients," *Patient Safety Quality Healthcare*, 9/4/2018, online at <https://www.psqh.com/analysis/alternatives-to-lifting-patients/>
- xiv Independence Care Systems and New York Lawyers for the Public Interest, "Breaking Down Barriers, Breaking the Silence: Making Health Care Accessible for Women With Disabilities," October, 2012, p. 8, accessed at <https://www.nylpi.org/images/FE/chain234siteType8/site203/client/breakingbarriers.pdf>.
- xv *Ibid*.
- xvi American Nurses Association, Position Statement: Elimination of Manual Patient Handling to Prevent Work-Related Musculoskeletal Disorders: Effective Date: June 21, 2003, Washington, D.C.
- xvii American Nurses Association, "Health Risk Appraisal, Executive Summary: Key Findings October 2013-October 2016," https://www.nursingworld.org/~495c56/globalassets/practiceandpolicy/healthy-nurse-healthy-nation/ana-healthriskappraisalsummary_2013-2016.pdf
- xviii Eldlich, R., Winters, K. Hudson, ML, Britt, LD, Long, W. "Prevention of disabling back injuries in nurses by the use of mechanical patient lift systems," *Journal of Long-Term Effects of Medical Implants*, 2004, 14(6) accessed at <https://pdfs.semanticscholar.org/Of55/e5255d5473c7f8c3b34d58a1bc4b0b387a51.pdf>
- xix 2016 Liberty Mutual Workplace Safety Index at http://cdn2.hubspot.net/hubfs/330425/2016_Liberty_Mutual_Workplace_Safety_Index.pdf.
- xx Bureau of Labor Statistics, U.S. Department of Labor, Survey of Occupational Injuries and Illnesses in cooperation with participating State agencies, Table 18. Number, incidence rate, and median days away from work for nonfatal occupational injuries and illnesses involving days away from work and musculoskeletal disorders by selected worker occupation and ownership, 2013 <https://www.bls.gov/news.release/osh2.t18.htm> ; Also Daniel Zwerdling, "Hospitals Fail to Protect Nursing Staff from Becoming Patients," *NPR, All Things Considered*, 2/4/2015.
- xxi Bureau of Labor Statistics, NonFatal Occupational Injuries and Illnesses Requiring Days Away from Work, 2015 <https://www.bls.gov/news.release/pdf/osh2.pdf>
- xxii Rebecca Grant, "The US is Running Out of Nurses," *The Atlantic*, 2/3/2016, accessed online at <https://www.theatlantic.com/health/archive/2016/02/nursing-shortage/459741/>.
- xxiii Bureau of Labor Statistics' [Employment Projections 2016-2026](https://www.bls.gov/news.release/archives/emp20160601a.pdf).
- xxiv Kronos Incorporated, "Employee Engagement in Nursing," May 2017, accessed at <https://www.kronos.com/about-us/newsroom/kronos-survey-finds-nurses-love-what-they-do-though-fatigue-pervasive-problem>