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, 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;

• Addressing the needs of the 13% and growing share of the US population with mobility disabilities.

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.
  
  o 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. 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:
  
  o 22% of specialty provider offices could not accommodate her. Of these, 18% also could not help the her transfer onto an exam table, preventing access to an appropriate physical exam;
  
  o The subspecialty of gynecology had the highest rate of practices inaccessible to people with disabilities (44%).

• 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. 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.

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, as well as other forms of preventative care; higher rates
of obesity and cardiovascular disease; and greater difficulty in finding doctors, securing appointments; and general unmet needs.

- 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.  

- 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.

- 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.\textsuperscript{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. \textsuperscript{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. \textsuperscript{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. \textsuperscript{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. \textsuperscript{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. \textsuperscript{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). \textsuperscript{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. \textsuperscript{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. \textsuperscript{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/

---


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


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.


