

Research Article

Amenities for Medical Students with Physical Disabilities in the Medical Institution

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ABSTRACT

Background: Inclusive medical education is fundamental to achieving equitable healthcare systems and developing a diverse healthcare workforce. Medical students with physical disabilities possess the potential to become competent healthcare professionals when provided with appropriate institutional support, reasonable accommodation, and accessible learning environments. Despite significant advancements in medical education, physical, educational, technological, and attitudinal barriers continue to limit equal participation for students with disabilities. The Rights of Persons with Disabilities (RPwD) Act, 2016, the National Medical Commission (NMC), the World Health Organization (WHO), and the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) advocate inclusive education through barrier-free infrastructure, assistive technologies, reasonable accommodation, and equal educational opportunities. Medical institutions therefore have both ethical and legal responsibilities to ensure accessibility throughout academic, laboratory, clinical, residential, and recreational environments.

Objective: To review the essential amenities required for medical students with physical disabilities, examine the legislative and regulatory framework governing disability inclusion, and discuss strategies for creating accessible and inclusive medical institutions.

Methods: A narrative review was conducted using peer-reviewed publications published between 2021 and 2026 together with guidelines issued by the National Medical Commission (NMC), World Health Organization (WHO), United Nations (UN), Department of Empowerment of Persons with Disabilities (Government of India), and other international organizations. Literature related to disability inclusion, universal design, assistive technologies, competency-based medical education, anatomy education, and accessibility in higher education was critically reviewed.

Results: Inclusive medical education requires integration of accessible infrastructure, assistive technologies, barrier-free campus design, digital accessibility, adaptive laboratory facilities, accessible anatomy education, reasonable examination accommodations, faculty sensitization, and institutional disability support systems. Recent NMC recommendations emphasizing Enabling Units further strengthen institutional responsibility toward students with benchmark disabilities. Adoption of Universal Design for Learning (UDL), competency-based educational approaches, and accessible clinical training environments significantly improves educational participation and academic success among medical students with physical disabilities.

Conclusion: Medical institutions should move beyond regulatory compliance toward comprehensive disability inclusion by integrating universal accessibility, assistive technologies, faculty development, individualized accommodations, and inclusive educational policies. Such initiatives will strengthen competency-based medical education, promote diversity within the medical profession, and ultimately improve equitable healthcare delivery.

Keywords: Physical Disability, Medical Education, Accessibility, Competency-Based Medical Education, Universal Design, Medical Students, Anatomy Education, Assistive Technology, Inclusive Education, Reasonable Accommodation.

INTRODUCTION

Medical education is founded upon the principles of equity, professionalism, compassion, and social accountability. As healthcare systems evolve toward greater inclusivity, medical institutions are increasingly recognizing that diversity among healthcare professionals strengthens patient care, improves cultural competence, and enhances healthcare accessibility. Students with physical disabilities constitute an important component of this diverse healthcare workforce and possess the capability to become competent physicians when provided with appropriate educational opportunities, reasonable accommodations, and supportive institutional environments (1).

Historically, students with disabilities encountered numerous barriers to medical education, including inaccessible infrastructure, restrictive admission policies, inadequate assistive technologies, and misconceptions regarding their professional competence (2). Such barriers often resulted in exclusion from medical training despite the absence of evidence that physical disability alone limits professional capability. Contemporary educational philosophy instead recognizes disability as the interaction between individual functional limitations and environmental barriers, emphasizing institutional responsibility for removing obstacles to participation (3).

The adoption of Competency-Based Medical Education (CBME) by the National Medical Commission (NMC) has further reinforced the importance of inclusive educational practices. CBME emphasizes achievement of defined competencies through flexible learning pathways while acknowledging individual differences among learners (4). This educational model supports reasonable accommodation, adaptive assessment strategies, assistive technologies, and personalized learning approaches that enable students with disabilities to achieve prescribed competencies without compromising educational standards.

Advances in assistive technology have substantially expanded educational opportunities for students with physical disabilities. Digital learning platforms, electronic health records, speech recognition

software, adaptive computer systems, virtual anatomy applications, simulation-based education, and telemedicine have transformed medical education by reducing dependence on physical accessibility alone (5). These innovations facilitate independent learning, improve participation in laboratory and clinical settings, and promote equitable educational outcomes.

Anatomy education deserves particular attention because it constitutes one of the earliest and most intensive practical components of undergraduate medical training. Traditionally, anatomy dissection halls, museums, histology laboratories, and practical examination stations were designed without consideration of accessibility requirements. Contemporary medical institutions are increasingly adopting height-adjustable dissection tables, digital anatomy software, virtual microscopy, accessible museum displays, and ergonomic laboratory designs to facilitate participation by students with physical disabilities (6).

International organizations including the World Health Organization (WHO), United Nations (UN), World Federation for Medical Education (WFME), and UNESCO consistently advocate disability-inclusive higher education based upon principles of accessibility, non-discrimination, reasonable accommodation, universal design, and equal educational opportunity (7).. These recommendations align closely with India's legislative reforms, particularly the Rights of Persons with Disabilities (RPwD) Act, 2016, which mandates barrier-free educational environments and equal participation for persons with disabilities (8).

The present review examines the concept of disability inclusion within medical education, discusses the legislative and regulatory framework supporting accessibility, and highlights the importance of comprehensive institutional amenities for medical students with physical disabilities. Particular emphasis is placed on creating inclusive learning environments that enable all students to develop the competencies required for safe, ethical, and patient-centered medical practice.

Disability Inclusion in Medical Education

Disability inclusion refers to the systematic removal of physical, educational, technological, social, and institutional barriers that restrict equal participation by individuals with disabilities. Within medical education, inclusion extends beyond admission policies and encompasses every aspect of the educational experience, including classroom learning, laboratory instruction, anatomy practicals, clinical postings, hostel accommodation, assessment, extracurricular activities, and career development (9).

The World Health Organization estimates that approximately 16% of the global population lives with some form of disability, highlighting the importance of inclusive educational and healthcare systems (10). Medical institutions that embrace disability inclusion not only fulfill legal obligations but also contribute to developing a healthcare workforce that better reflects the diversity of the populations it serves.

Students with physical disabilities often encounter multiple barriers within medical institutions. Architectural barriers include inaccessible entrances, staircases without ramps, narrow doorways, inaccessible washrooms, inadequate elevators, and poorly designed laboratories (11). Academic barriers may involve inaccessible learning materials, rigid attendance policies, conventional practical teaching methods, and limited availability of assistive technologies. Clinical barriers include inaccessible wards, examination tables, diagnostic equipment, and transportation between teaching facilities (12).

Universal Design (UD) and Universal Design for Learning (UDL) provide practical frameworks for creating educational environments that accommodate diverse learners without requiring extensive individual modifications (13). Universal Design emphasizes accessibility from the planning stage by incorporating ramps, elevators, adjustable furniture, tactile signage, accessible washrooms, ergonomic workstations, and barrier-free circulation throughout the campus. UDL extends these principles into education by promoting multiple methods of content delivery, learner engagement, and competency assessment.

An inclusive medical institution also requires attitudinal transformation. Faculty members, administrators, healthcare professionals, and fellow students must recognize disability as a dimension of diversity rather than a limitation. Sensitization programmes, disability awareness

workshops, mentorship initiatives, peer support, and inclusive institutional policies foster respectful educational environments that promote dignity, independence, and equal opportunity (14).

Importantly, disability inclusion should not compromise educational standards. Rather, reasonable accommodation enables students with disabilities to demonstrate equivalent competencies through alternative methods while maintaining the rigorous academic expectations necessary for safe medical practice (15).

Legislative and Regulatory Framework (Rpwd Act 2016, NMC Guidelines, WHO)

India has made substantial progress toward inclusive higher education through comprehensive legislative and regulatory reforms. The Rights of Persons with Disabilities (RPwD) Act, 2016 represents the principal legal framework governing disability rights and mandates equal educational opportunities, non-discrimination, accessibility, and reasonable accommodation across educational institutions (16). The Act expanded the recognized categories of disability and requires institutions to eliminate physical and academic barriers that impede equal participation.

Under the RPwD Act, educational institutions are legally obligated to provide barrier-free infrastructure, accessible educational materials, assistive technologies, examination accommodations, and individualized support services. These provisions extend to medical colleges, where accessibility must encompass classrooms, laboratories, libraries, hostels, hospitals, and recreational facilities (17).

The National Medical Commission (NMC) has further strengthened disability inclusion through its Competency-Based Medical Education curriculum and recent recommendations encouraging medical colleges to establish Enabling Units for students with benchmark disabilities (18). These units facilitate identification of educational needs, coordination of reasonable accommodations, faculty sensitization, assistive technology support, grievance redressal, and continuous academic monitoring.

Internationally, the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) recognizes inclusive education as a fundamental human right and obligates member states to ensure equal participation in higher education without discrimination (19).

The convention emphasizes accessibility, individualized support, and reasonable accommodation as essential components of inclusive educational systems.

Similarly, the World Health Organization (WHO) advocates disability-inclusive health systems and recommends strengthening disability competency within health professional education while ensuring accessible educational environments (20). WHO further emphasizes that inclusive medical education contributes to equitable healthcare delivery by increasing representation of persons with disabilities within the healthcare workforce.

The World Federation for Medical Education (WFME) and UNESCO likewise recommend institutional policies promoting diversity, equity, accessibility, learner support, digital inclusion, and educational quality across medical schools (21).

Collectively, these legislative and regulatory frameworks establish disability inclusion not merely as an institutional obligation but as a professional, ethical, and social responsibility that strengthens medical education and ultimately improves healthcare for all.

Importance of Inclusive Medical Institutions:

Inclusive medical institutions represent an essential component of equitable healthcare systems because they ensure that talented individuals are not excluded from medical education solely because of physical barriers. Diversity within the medical profession enriches clinical practice, enhances empathy, improves communication with diverse patient populations, and strengthens patient-centered care (22).

Students with physical disabilities frequently contribute unique perspectives regarding accessibility, rehabilitation, chronic disease management, patient advocacy, and healthcare equity. Their lived experiences often enhance clinical empathy, ethical reasoning, communication skills, and awareness of disability-related healthcare challenges. These attributes align closely with the goals of Competency-Based Medical Education, which seeks to develop compassionate, socially accountable, and patient-centered physicians (23).

Inclusive institutions also foster innovation. Investments in assistive technologies, digital learning platforms, accessible simulation laboratories, ergonomic anatomy facilities, universal design, and adaptive assessment

strategies benefit all learners rather than only students with disabilities. Consequently, accessibility should be viewed as an indicator of educational excellence and institutional quality rather than merely a regulatory requirement.

Ultimately, creating inclusive medical institutions reflects the core values of medicine—equity, dignity, respect, compassion, and justice. By ensuring accessible learning environments, medical colleges prepare a diverse generation of physicians capable of providing inclusive healthcare and advancing health equity in society.

Physical Infrastructure and Barrier-Free Campus:

Accessible physical infrastructure forms the cornerstone of inclusive medical education by ensuring that students with physical disabilities can participate independently and safely in all academic, clinical, and extracurricular activities (2,5,16). A barrier-free campus not only fulfills legal obligations under the Rights of Persons with Disabilities (RPwD) Act, 2016, but also reflects the institutional commitment to equity, dignity, and universal accessibility (5).

Medical institutions should adopt the principles of Universal Design (UD), which advocate designing facilities that are usable by all individuals regardless of age, ability, or disability (17,18). Universal Design minimizes the need for subsequent modifications and creates environments that support independent mobility and participation.

Campus accessibility begins with well-planned entrances, pedestrian pathways, ramps, elevators, tactile guidance systems, and designated parking spaces. Ramps should have appropriate gradients, non-slip surfaces, handrails on both sides, and adequate landing areas to facilitate safe wheelchair access. Elevators should include Braille buttons, audible floor announcements, emergency communication systems, and sufficient internal space for wheelchair maneuverability (5,17).

Academic buildings should incorporate wide corridors, automatic doors where feasible, accessible classrooms, ergonomic seating arrangements, adjustable lecture desks, accessible washrooms on every floor, and clearly visible signage. Emergency evacuation plans should specifically address the needs of students with disabilities, including accessible escape routes and trained emergency response personnel (16,17).

Medical colleges should similarly ensure accessibility within hostels, libraries, cafeterias, sports facilities, auditoriums, administrative offices, and transportation services. Hostel accommodations should include accessible rooms, wider doorways, grab bars, wheelchair-friendly bathrooms, emergency call systems, and accessible dining facilities. Barrier-free transportation within large campuses, including wheelchair-accessible shuttle services or battery-operated vehicles, further enhances student mobility and independence (5,16).

Healthcare facilities attached to medical colleges require additional accessibility considerations. Outpatient departments, inpatient wards, operating theatres, diagnostic centres, rehabilitation units, and skill laboratories should provide accessible entrances, examination rooms, adjustable patient examination couches, wheelchair turning space, and accessible diagnostic equipment wherever feasible. Such modifications ensure that students with physical disabilities can participate effectively in clinical teaching and patient care while maintaining educational standards (6,10).

A barrier-free campus therefore serves not merely as physical infrastructure but as a visible manifestation of institutional inclusiveness, social responsibility, and educational excellence.

Academic, Clinical and Anatomy Laboratory Amenities

Providing appropriate academic accommodations is essential for enabling medical students with physical disabilities to achieve competency-based educational outcomes equivalent to their peers (8,9). These accommodations should maintain academic standards while eliminating unnecessary barriers to learning and assessment.

Modern classrooms should incorporate adjustable-height desks, ergonomic seating, accessible podiums, digital presentation systems, lecture recording facilities, and adequate wheelchair circulation space. Flexible seating arrangements enable students with mobility limitations to participate comfortably during lectures, seminars, tutorials, and small-group discussions (17,18).

Assessment accommodations constitute another important component of inclusive education. Depending on individual functional requirements, institutions may provide additional examination time, computer-based

examinations, scribes, adaptive keyboards, speech-recognition software, accessible examination halls, ergonomic seating, and modified practical examination arrangements without altering competency expectations (5,8).

Clinical education requires individualized planning because physical accessibility varies considerably across healthcare environments. Accessible outpatient clinics, inpatient wards, simulation laboratories, operating theatres, intensive care units, and emergency departments facilitate participation during bedside teaching and clinical rotations. Adjustable examination tables, portable ramps, adaptive clinical instruments, and flexible clinical scheduling further support competency achievement (6,10).

Anatomy education deserves particular attention because it involves intensive practical training during the first year of medical education. Traditional dissection halls frequently present accessibility challenges due to fixed-height dissection tables, limited wheelchair maneuverability, and inaccessible museum layouts (12,15).

Inclusive anatomy departments should therefore incorporate height-adjustable dissection tables, wide aisles between workstations, wheelchair-accessible specimen displays, adjustable laboratory benches, ergonomic seating, accessible storage units, and digital projection systems. Virtual dissection tables, three-dimensional anatomical software, digital microscopy, radiological anatomy workstations, and high-resolution anatomy visualization platforms further enhance learning opportunities for students with mobility impairments (10,11,14). Histology laboratories should provide height-adjustable microscopes, digital microscopy systems, computer-assisted image analysis, and virtual slide repositories. Anatomy museums should incorporate accessible display heights, large-print labels, tactile models where appropriate, QR-code-enabled digital descriptions, and audio-assisted learning resources to facilitate independent learning (13).

Simulation laboratories should similarly include adjustable manikins, accessible procedure stations, ergonomic workspaces, and adaptive equipment enabling students to develop procedural competencies safely before entering clinical settings (10).

These educational accommodations promote equal participation while preserving the

rigorous competency standards expected of future physicians.

Digital Accessibility and Assistive Technologies:

Rapid advances in educational technology have significantly expanded opportunities for inclusive medical education. Digital accessibility complements physical accessibility by enabling students with disabilities to access educational resources independently irrespective of location or mobility limitations (10,13).

Learning Management Systems (LMS) should comply with internationally recognized accessibility standards, allowing compatibility with screen readers, voice-recognition software, keyboard navigation, adjustable font sizes, captioned educational videos, and alternative text for images (17,18). Institutions should ensure that lecture notes, assignments, practical manuals, and examination materials are available in accessible digital formats.

Assistive technologies play an increasingly important role in supporting academic performance. Speech-to-text software enables efficient note-taking and documentation for students with upper-limb disabilities, while voice-controlled computer interfaces facilitate navigation of digital educational resources. Adaptive keyboards, alternative pointing devices, eye-tracking systems, ergonomic workstations, and portable digital assistants further enhance educational independence (10,11).

Artificial intelligence (AI) has introduced additional opportunities for personalized learning. AI-powered tutoring systems, adaptive assessments, automated captioning, intelligent search functions, virtual patient simulations, and personalized feedback platforms support self-directed learning while accommodating diverse educational needs (13). Nevertheless, institutions must ensure ethical implementation by safeguarding privacy, maintaining cybersecurity, preventing algorithmic bias, and promoting responsible use of AI in accordance with professional standards.

Telemedicine, virtual classrooms, cloud-based educational repositories, and online simulation platforms also improve accessibility by reducing dependence on physical attendance for selected educational activities. Hybrid learning models permit students recovering from illness or temporary mobility limitations

to maintain academic continuity while meeting prescribed competencies (8,9).

Digital accessibility should therefore be regarded as an integral component of competency-based medical education, ensuring equitable participation while supporting independent, flexible, and lifelong learning.

Student Support Services and Enabling Units

Inclusive medical education extends beyond infrastructure and technology to encompass comprehensive student support services that address academic, psychological, social, and professional needs (5,8,9). Such services facilitate successful adaptation to the demanding medical curriculum while promoting well-being and academic achievement.

Recent recommendations by the National Medical Commission encourage medical colleges to establish dedicated Enabling Units for students with benchmark disabilities (9). These institutional units serve as centralized coordination centres responsible for identifying accommodation needs, facilitating assistive technology, coordinating faculty support, monitoring academic progress, addressing grievances, and promoting disability inclusion across the institution.

Each student should undergo individualized functional assessment rather than disability-based categorization. Accommodation plans should be developed collaboratively with the student, faculty mentors, disability specialists, and institutional administrators to ensure that educational support remains appropriate, individualized, and competency-focused.

Faculty sensitization programmes represent another critical component of successful inclusion. Regular workshops addressing disability awareness, inclusive teaching strategies, communication, Universal Design for Learning, assistive technologies, and legal responsibilities improve faculty confidence in supporting diverse learners (17,18).

Psychological counselling, peer mentoring, career guidance, rehabilitation services, physiotherapy support, stress management programmes, and wellness initiatives further enhance students' educational experiences. Inclusive extracurricular activities, student organizations, leadership opportunities, and community engagement strengthen social integration and professional identity.

Regular accessibility audits, student feedback mechanisms, institutional quality assurance programmes, and continuous policy review ensure sustained improvement in disability inclusion. Ultimately, comprehensive support

services empower students with physical disabilities to achieve their academic potential while contributing meaningfully to the future healthcare workforce.

Table 1. Essential Physical Infrastructure for Barrier-Free Medical Institutions

No.	Infrastructure Component	Recommended Amenities	Educational Benefit
1.	Campus Entrances	Ramps, handrails, automatic doors	Independent campus access
2.	Academic Buildings	Elevators, wide corridors, accessible classrooms	Equal participation in teaching
3.	Washrooms	Wheelchair-accessible toilets with grab bars	Safety and independence
4.	Hostel Facilities	Accessible rooms, bathrooms, emergency call systems	Comfortable residential life
5.	Library	Accessible reading areas and workstations	Independent learning
6.	Transportation	Accessible campus vehicles and reserved parking	Improved mobility
7.	Clinical Areas	Accessible OPDs, wards, examination rooms	Inclusive clinical training
8.	Emergency Facilities	Accessible evacuation routes	Enhanced safety

Table 2. Academic and Assistive Amenities for Medical Students with Physical Disabilities

No.	Domain	Recommended Facilities	Expected Outcome
1.	Classroom Teaching	Adjustable desks, recorded lectures, accessible seating	Improved classroom participation
2.	Anatomy Education	Adjustable dissection tables, virtual anatomy, digital microscopy	Enhanced practical learning
3.	Clinical Training	Accessible simulation labs, adaptive equipment	Competency-based clinical skills
4.	Assessment	Extra time, computer-based exams, assistive devices	Fair competency assessment
5.	Digital Learning	Accessible LMS, captioned videos, e-books	Flexible and independent learning
6.	Assistive Technologies	Speech-to-text, adaptive keyboards, voice recognition	Improved academic performance
7.	Student Support	Faculty mentoring, counselling, Enabling Unit	Better academic success and well-being
8.	Library Services	Digital journals, audiobooks, accessible software	Equal access to learning resources

Figure 1. Components of a Barrier-Free Medical Institution

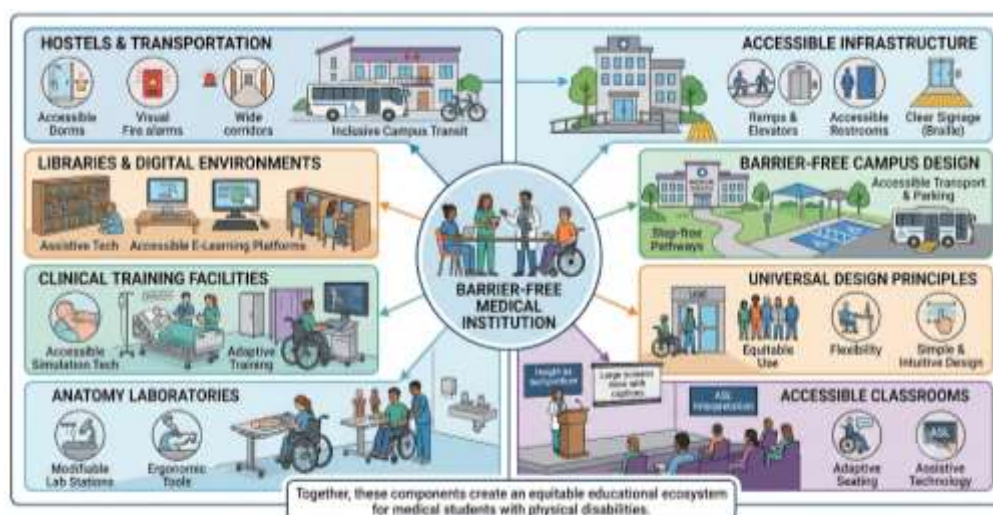


Figure 2. Integrated Support Framework for Medical Students with Physical Disabilities



Challenges

Creating an inclusive medical institution for students with physical disabilities requires more than accessible buildings; it demands sustained institutional commitment, policy implementation, faculty engagement, technological adaptation, and continuous quality improvement. Although legislative reforms and educational policies have significantly strengthened disability inclusion, several challenges continue to affect equitable participation in medical education (5,8,9). One of the major challenges is the variability in institutional infrastructure. Many older medical colleges were constructed before accessibility standards became mandatory and therefore lack ramps, elevators, accessible washrooms, barrier-free circulation spaces, adjustable laboratory furniture, and wheelchair-friendly hostel facilities (5,16).

Retrofitting these buildings often requires substantial financial investment and long-term institutional planning.

Accessibility within teaching hospitals presents additional difficulties. Clinical learning environments involve outpatient departments, wards, emergency units, operation theatres, intensive care units, diagnostic laboratories, and community health centres, many of which remain inadequately accessible for students with mobility impairments (6,17). Clinical competency should therefore be achieved through individualized reasonable accommodations rather than exclusion from learning opportunities.

Faculty awareness represents another important challenge. Although medical educators are experts in their respective disciplines, many have limited formal training regarding disability inclusion, Universal Design

for Learning (UDL), reasonable accommodation, and assistive technologies (8,9). Inadequate understanding may inadvertently create barriers during teaching, assessment, and clinical supervision. Continuous faculty development programmes are therefore essential for promoting inclusive educational practices.

Assessment of competency within Competency-Based Medical Education (CBME) also requires careful consideration. Students with physical disabilities should be evaluated against the same competency standards while being provided appropriate accommodations such as additional time, adaptive equipment, accessible examination stations, computer-assisted assessments, or modified examination environments (8,9). Recent NMC guidance emphasizes evaluation based on functional competency with reasonable accommodation rather than disability percentage alone.

Digital accessibility has improved considerably but remains inconsistent across institutions. Learning management systems, virtual classrooms, online examinations, anatomy software, and institutional websites may not always comply with recognized accessibility standards. Students using assistive technologies frequently encounter difficulties with inaccessible digital content, incompatible software, and poorly designed educational resources (10–13).

Attitudinal barriers remain equally significant. Students with disabilities may experience stigma, unconscious bias, low expectations, or misconceptions regarding their professional competence (2–4). Creating an inclusive institutional culture therefore requires disability sensitization programmes for faculty, healthcare professionals, administrative staff, and students.

Recent directives by the National Medical Commission requiring every medical college to establish an Enabling Unit represent an important step toward institutionalizing disability support. These units function as centralized mechanisms for coordinating reasonable accommodation, academic support, clinical accessibility, and grievance redressal for students with benchmark disabilities.

Future Perspectives

Future medical institutions should transition from providing isolated accommodations to establishing comprehensive inclusive educational ecosystems based upon Universal Design, digital accessibility, competency-based

education, and individualized learner support (8,18).

Infrastructure planning should integrate accessibility from the design stage rather than relying upon subsequent modifications. Newly established medical colleges should incorporate barrier-free classrooms, anatomy laboratories, simulation centres, libraries, hostels, teaching hospitals, recreational facilities, and transportation systems that comply with national accessibility standards (5,17).

Assistive technology will play an increasingly important role in medical education. Artificial intelligence (AI), speech-recognition systems, adaptive learning platforms, wearable assistive devices, robotics, virtual reality, augmented reality, digital anatomy applications, and intelligent simulation systems can substantially enhance educational participation for students with physical disabilities (10,12,13). These technologies should, however, complement—not replace—direct clinical and laboratory experiences.

Universal Design for Learning should become an integral component of CBME. Multiple methods of content delivery, learner engagement, competency assessment, and reflective learning will improve educational accessibility for all students while maintaining rigorous professional standards (25).

Faculty development should receive equal priority. Regular workshops addressing disability inclusion, accessible teaching strategies, assistive technologies, communication skills, inclusive assessment, and legal responsibilities will improve institutional capacity to support diverse learners (26).

The recently mandated Enabling Units should evolve into multidisciplinary centres integrating academic mentoring, rehabilitation services, psychological counselling, assistive technology support, career guidance, accessibility audits, research, and policy implementation. Such coordinated services will strengthen educational outcomes while promoting independence and professional identity among students with disabilities.

Future research should evaluate the effectiveness of accessibility interventions, digital assistive technologies, inclusive anatomy education, adaptive clinical training models, and long-term professional outcomes of physicians with disabilities. Evidence generated through such studies will guide

policy refinement and institutional best practices.

Ultimately, inclusive medical education should be recognized as a marker of institutional excellence. Medical colleges that successfully integrate accessibility, diversity, innovation, and competency-based education will produce physicians better equipped to serve increasingly diverse patient populations and promote equitable healthcare.

CONCLUSION

Inclusive medical education represents both a legal obligation and an ethical imperative. Students with physical disabilities possess the potential to become competent physicians when provided with accessible infrastructure, reasonable accommodations, assistive technologies, and supportive educational environments.

The Rights of Persons with Disabilities Act, 2016, Competency-Based Medical Education curriculum, National Medical Commission guidelines, and international recommendations from WHO, UNESCO, and WFME collectively advocate equitable participation, accessibility, and non-discrimination within medical education.

Barrier-free campuses, accessible anatomy departments, adaptive simulation laboratories,

digital learning platforms, assistive technologies, inclusive clinical training, and individualized assessment strategies enable students with disabilities to achieve prescribed competencies while maintaining academic standards. Recent NMC initiatives establishing Enabling Units further strengthen institutional responsibility for providing coordinated academic and clinical support to students with benchmark disabilities.

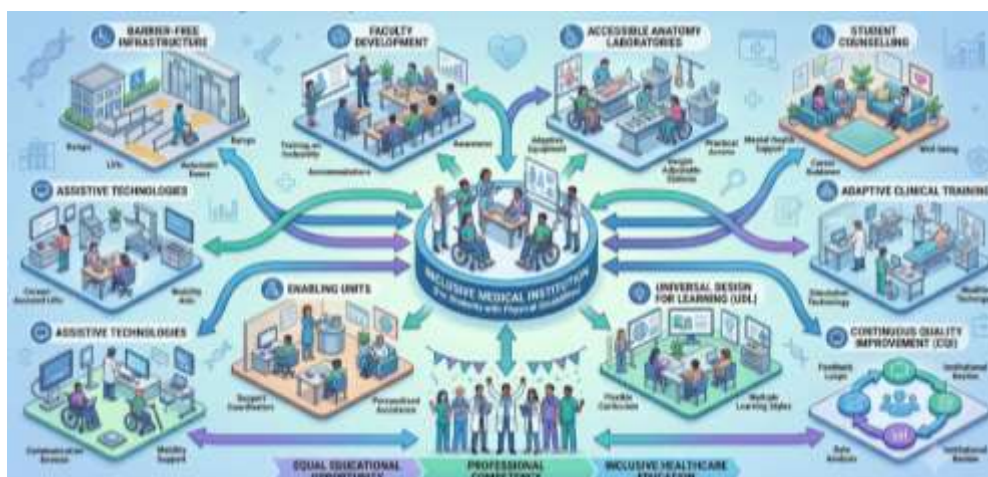
Future medical institutions should embrace Universal Design, competency-based education, digital accessibility, and inclusive educational policies as integral components of institutional quality rather than regulatory compliance alone. Investments in accessibility benefit not only students with disabilities but also faculty, healthcare professionals, patients, and society.

An inclusive medical institution ultimately reflects the core values of medicine—equity, dignity, compassion, respect, justice, and social accountability. By creating accessible learning environments, medical colleges contribute to a more diverse healthcare workforce and strengthen the capacity of future physicians to provide equitable, patient-centered healthcare.

Table 3. Challenges and Future Strategies for Inclusive Medical Institutions

No.	Challenge	Impact	Recommended Strategy
1.	Inaccessible infrastructure	Restricted mobility	Universal Design and barrier-free campus planning
2.	Limited faculty awareness	Inconsistent accommodations	Regular faculty development programmes
3.	Clinical accessibility	Reduced participation during postings	Accessible clinical environments and individualized accommodations
4.	Digital accessibility gaps	Unequal access to online learning	WCAG-compliant digital platforms and assistive technologies
5.	Financial constraints	Delayed infrastructure improvement	Dedicated accessibility funding and phased implementation
6.	Attitudinal barriers	Discrimination and reduced inclusion	Disability sensitization and awareness programmes
7.	Limited student support	Academic and psychosocial difficulties	Functional Enabling Units and multidisciplinary support services
8.	Monitoring and evaluation	Variable implementation	Regular accessibility audits and institutional quality assurance

Figure 3. Comprehensive Model of an Inclusive Medical Institution



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