

Accessibility Audit of Footpaths and Public Hospitals in Dhaka (North and South) City Corporation Areas

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Abbreviations and acronyms

BNBC	: Bangladesh National Building Code
BSMMU	: Bangabandhu Sheikh Mujib Medical University
CDD	: Centre for Disability in Development
DMCH	: Dhaka Medical College Hospital
FGD	: Focus Group Discussion
KII	: Key Informant Interview
NITOR	: National Institute of Traumatology and Orthopaedic Rehabilitation
NIMH	: National Institute of Mental Health
OPDs	: Organisations of Persons with Disabilities
OPD	: Outpatient Department
RAJUK	: Rajdhani Unnayan Kartripakkha
UDG	: Universal Design Guideline
UNCRPD	: United Nations Convention on the Rights of Persons with Disabilities

1. Introduction

1.1. Background

The Preamble to the United Nations Convention on the Rights of Persons with Disabilities (CRPD) acknowledges that disability is “an evolving concept”. According to the CRPD, “disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinder their full and effective participation in society on an equal basis with others”¹.

Numerous researchers from the social and health sciences^{2,3} – have identified the role of social and physical barriers in disability. The transition from an individual, medical perspective to a structural, social perspective has been described as the shift from a “medical model” to a “social model” in which people are viewed as being disabled by society rather than by their bodies.

A United Nations survey in 2005 of 114 countries found that many had policies on accessibility, but they had not made much progress⁴. Of those countries, 54% reported no accessibility standards for outdoor environments and streets, 43% had none for public buildings, and 44% had none for schools, health facilities, and other public service buildings.

Reports from countries with laws on accessibility, even those dating from 20 to 40 years ago, confirm a low level of compliance^{5,6,7,8}. A technical survey of 265 public buildings in 71 cities in Spain found that not a single building surveyed was 100% compliant, and another in Serbia found compliance rates ranging between 40% and 60%. There are reports from countries as diverse as Australia, Brazil, Denmark, India, and the United States of similar examples of non-compliance.

¹ UNCRPD. (2006). *Convention on the rights of persons with disabilities and optional protocol*. New York: UN, 2006

² Barnes C. *Disabled people in Britain and discrimination*. London, Hurst, 1991. In WHO (2010), *The World Report on Disability*, in the weblink <https://www.who.int/disabilities/world_report/2011/report.pdf> as accessed on May 2, 2021

³ McConachie H et al. Participation of disabled children: how should it be characterised and measured? *Disability and Rehabilitation*, 2006,28:1157-1164. doi:10.1080/09638280500534507 PMID:16966237 In WHO (2010), *The World Report on Disability*, in the weblink <https://www.who.int/disabilities/world_report/2011/report.pdf> as accessed on May 2, 2021

⁴ Dahlberg L, Demack S, Bambra C. Age and gender of informal carers: a population-based study in the UK. *Health & Social Care in the Community*, 2007,15:439-445. doi:10.1111/j.1365-2524.2007.00702.x PMID:17685989 in WHO (2010), *The World Report on Disability*, in the weblink <https://www.who.int/disabilities/world_report/2011/report.pdf> as accessed on May 2, 2021

⁵ Rogers M, Hogan D. Family life with children with disabilities: the key role of rehabilitation. *Journal of Marriage and the Family*, 2003,65:818-833. doi:10.1111/j.1741-3737.2003.00818.x in WHO (2010), *The World Report on Disability*, in the weblink <https://www.who.int/disabilities/world_report/2011/report.pdf> as accessed on May 2, 2021

⁶ Hartley S et al. How do carers of disabled children cope? The Ugandan perspective. *Child: Care, Health and Development*, 2005,31:167-180. doi:10.1111/j.1365-2214.2004.00464.x PMID:15715696 in WHO (2010), *The World Report on Disability*, in the weblink <https://www.who.int/disabilities/world_report/2011/report.pdf> as accessed on May 2, 2021

⁷ Esplen E. *Gender and care overview report*. Brighton, BRIDGE, Institute of Development Studies, University of Sussex, 2009 (http://www.bridge.ids.ac.uk/reports_gend_CEP.html#Care, accessed 16 June 2009).

⁸ Carmichael F, Charles S. The opportunity costs of informal care: does gender matter? *Journal of Health Economics*, 2003,22:781-803. doi:10.1016/S0167-6296(03)00044-4 PMID:12946459

Improved access and mobility are considered as important factors to facilitate the participation of persons with disabilities in economic and social processes. Action to improve the situation is constrained by the serious shortage of data on the access and mobility needs of persons with disabilities of all ages and elderly people by resource constraints. In order to uphold the rights and dignity of persons with disability, to promote their full participation in national and social activities ensuring their overall welfare and other relevant issues pertaining to them, the Government of Bangladesh enacted “Rights and Protection of Persons with Disabilities Act-2013”.

Article 25 of the UN Conventions on the Rights of Persons with Disabilities (CRPD) specifies access to health as an explicit right for people with disabilities, but primary prevention of health conditions does not come within its scope⁹.

Some reports claim that people who use wheelchairs face a range of physical, social, and economic barriers to regular participation in their communities (e.g. Schonherr et al, 2005; Balbale et al, 2017)¹⁰. The Development Authority of the Capital of the country (RAJUK) has issued an amendment to its “Dhaka Building Construction Act 2008” incorporating the accessible design aspects for buildings. In this situation, a need was felt by BRAC and an assignment was commissioned to Centre for Disability in Development to examine accessibility features in selected hospitals in Dhaka and in selected footpaths and nearby public facilities in North and South City Corporations. Dhaka city is located at 23°42’N 90°22’E on the eastern bank of Buriganga river. It lies in the lower ranges of the Ganges Delta and covers an aggregate territory 306.38 km². Dhaka city is limited by the districts of Manikganj, Tangail, Munshiganj, Rajbari, Narayanganj and Gazipur. Dhaka City Corporation is a self-administering zone that runs the affairs of the city. Dhaka city was established on August 1, 1864 and was upgraded to metropolitan status in 1978¹¹.

1.2. Accessibility Audit

Ensuring access to the built environment is a crucial element in reducing the vulnerability and isolation of persons with disabilities. Architectural accessibility covers infrastructural access to overall areas of accessibility, which create opportunities to gain education and access to health, education services, and to participate in social and recreational activities. Hence, it has a huge impact to the persons with disabilities, to their family and to the society at large. These also increase the costs of participation for persons with disabilities, their families and to the society.

⁹ WHO (2010), The World Report on Disability, in the weblink <
https://www.who.int/disabilities/world_report/2011/report.pdf> as accessed on May 2, 2021

¹⁰ Balbale S, Lones K, Hill J, LaVela S (2017). Examining participation among persons with spinal cord injuries and disorders using photovoice. *The Qualitative Report*; 22(7): 1830–1847.

¹¹ Dhaka City Corporation (DCC). *Municipal Services and Performance*; DCC: Dhaka, Bangladesh, 2013. Available online: <http://www.dncc.gov.bd/site/page/c0b6953f-16d3-405b-85e9-dece13bb98de/%E0%A6%B2%E0%A7%8B%E0%A6%95%E0%A7%87%E0%A6%B6%E0%A6%A8-%E0%A6%93-%E0%A6%85%E0%A6%BE%E0%A7%9F%E0%A6%A4%E0%A6%A8> cited in K M Atikur Rahman and D Zhang (2018), Analysing the Level of Accessibility in Public Urban Green Spaces to Different Socially Vulnerable Groups of People in the weblink <
https://www.researchgate.net/publication/328591043_Analyzing_the_Level_of_Accessibility_of_Public_Urban_Green_Spaces_to_Different_Socially_Vulnerable_Groups_of_People>

1.3. Universal Design Guideline

According to the Article 2 of the UNCRPD “.....Universal design means the design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design”. “Universal design” shall not exclude assistive devices for particular groups of persons with disabilities where this is needed. Whilst demonstrating accessibility, the UNCRPD notes in its Article 9(2) (d) that the state needs to provide in buildings and other facilities open to the public signage in braille and in easy to read and understand forms. The UNCRPD in the Article 4(1) (f) refers to require minimum possible adaptation and the least cost to meet the specific needs of persons with disabilities together with promoting their availability and usage.

1.4. Problem Statement:

Studies revealed that access to health services for persons with disabilities become restricted due to the common barriers, which include infrastructural, social and polity barriers. To explore the overall accessibility in the health sectors, it was essential to conduct accessibility audit in hospitals following national and international policies and guideline, infrastructural accessibility in selected tertiary level hospitals and social aspects towards access to the health services for persons with disabilities, at least in Dhaka city. Inaccessible footpaths, foot overbridge, public toilets, roadside obstacles may also affect negatively to limited mobility and participation restriction.

1.5. Objective of the Accessibility Audit

The main objective of the Access Audit was to identify the accessibility barriers of the facilities (selected footpaths, Public Hospitals, in North and South Dhaka City Corporation) to recommend how to make the infrastructure accessible considering universal accessibility design considerations.

1.6. Scopes and limitation of the Audit

The audit was confined on the important aspects for getting access to health care services in Dhaka, considering the Reach, Entrance, Circulation and Use of any public infrastructure the audit. To get an overall picture of the current gaps in getting access to the health care facilities in Dhaka selected hospitals and important footpaths, public

Audit of the hospitals and footpaths in private hospitals, clinics at various tiers of the country was beyond the scope of the assignment. It was not possible to assess and compare the services provisions in the secondary and primary level health care facilities. It was also not possible to get a difference of services between urban and rural geographical locations. It was also not possible to assess the major barriers by different degrees and types of disabilities.

1.7. Literature Review

Bangladesh is one of the pioneering countries to sign and ratify United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) and subsequently enacted the Rights and Protection of Persons with Disabilities Act in 2013. While Article 9 of UNCRPD affirms that state parties are responsible to promote accessibility, rights and protection of persons with disabilities act (RPPDA) in the sections 16, 32, 34 promises for accessibility in public transport and public infrastructure respectively (RPPDA 2013). RPPDA tries to uphold the rights of persons with disabilities including access to information, transportation, physical environment, communication technology, and accessibility to all services including emergency services.

Rehabilitation services within the public sector were predominantly located within secondary/tertiary institutions in most of the countries including South Africa. These services focused on individual therapy utilising the medical model approach. There has been a shift from delivering health services at tertiary level facilities to primary health care services (Department of Health, Western Cape, 2003). Community Health Centres (CHCs) were designed to offer primary health care services within communities. Community based rehabilitation is widely accepted as a unique option for the rehabilitation of persons with disabilities, need for hospital or centre based services are also essential¹². Persons with disabilities deserve equal access to the hospitals, health care facilities in the areas s/he is residing. K. R. Nischith, M. Bhargava, K. M. Akshaya¹³ in a study reported that out of 67 Primary Health Centres, 57 (85%) PHCs had an accessible pathway and 60 (90%) PHCs had a ramp for wheelchair. Only 25 (36%) PHCs had accessible doors (K. R. Nischith, M. Bhargava, K. M. Akshaya, 2018).

According to Pinto, Köptcke, David, and Kuper, H (2021)¹⁴

“.....Many countries have laws or policies in place that mandate that certain access standards are met in healthcare provision. Accessibility audits can be used for monitoring purposes to understand whether facilities are adhering to certain standards, and a wide variety of tools are available (e.g., Americans with Disabilities Act Checklist, Health Facilities Scotland-Access Audit, National Disability Authority Ireland Access-Handbook). Many of these tools are complex, requiring measurement of slopes of ramps and widths of doors, and so on. Hence, some large-scale accessibility audits have been conducted, and almost all available data on accessibility of healthcare facilities is from high income settings and focusses on physical accessibility alone. Data are lacking from low and middle-income countries (LMICs), and the vast majority of data available is from Brazil. Existing assessments from Brazil show that there are important issues in accessibility of healthcare facilities. However, many of these studies are small, or conducted in specific locations, and so cannot be generalized.’

Likewise, there is a widespread variation in any country including in Bangladesh due to the administrative structure, socio- economic situation, historical back ground, population, facility type and geographical location in the country.

2. Methods and Procedure followed

2.1. Sampling

¹² Kahonde et al. ‘Persons with Physical Disabilities’ experiences of rehabilitation services at Community Health Centres in Cape Town’ 2015
https://www.researchgate.net/publication/280223032_Persons_with_physical_disabilities%27_experiences_of_rehabilitation_services_at_community_health_centres_in_Cape_Town
accessed on January 10, 2022

¹³ Nischith KR, Bhargava M, Akshaya KM. Physical accessibility audit of primary health centers for people with disabilities: An on-site assessment from Dakshina Kannada district in Southern India. *J Family Med Prim Care* 2018;7:1300-3.

¹⁴ Pinto, A.; Köptcke, L.S.; David, R.; Kuper, H. A National Accessibility Audit of Primary Health Care Facilities in Brazil—Are People with Disabilities Being Denied Their Right to Health?. *Int. J. Environ. Res. Public Health* 2021, 18, 2953. <https://doi.org/10.3390/ijerph18062953>

Regarding conducting the accessibility audit of footpaths in North and South Dhaka, the Team will dedicate eight days (four days in North and four days in South Dhaka) for conducting accessibility audits of road and footpath infrastructure with a specific focus on pedestrian accessibility.

2.2. Data collection

The Access Audit Team measured the facilities (footpaths, Public Hospital in North and South Dhaka) using measurement tapes to determine the physical accessibility considering universal accessibility design considerations. Second, the team also captured the accessibility data and perspectives. Third, the Team took informal interviews of the related individual on the spot during access audits. Fourth, the Access Audit Team took photos of the facilities.

1. Desk review of documents
2. Key Informant Interview (phone interview)
3. Focus group discussions
4. Accessibility Audits of footpaths and Road Infrastructure, Public Hospitals located in Dhaka North and Dhaka South city corporation

The Access Audit Team assessed four hospitals in the North (NITOR¹⁵ and NIMH¹⁶) and South (DMCH¹⁷ and BSMMU¹⁸) Dhaka. The team focused on assessing accessibility of the followings (not exhaustive).

- main entrance
- pathways
- Reception/Registration Desk
- Waiting room
- general ward
- Doctor's outdoor consultation room
- pathology room
- staircase & lift
- access to information & use of signage
- toilets
- fire exit routes
- and related facilities

The Audit team conducted accessibility audits of selected part of the road and footpath infrastructure of Gulshan and Mirpur of North Dhaka and Dhanmondi and Malibag of South Dhaka city corporation. The team selected the roads and footpaths from those areas for audit and considered the followings (not exhaustive)-

- Pedestrian walkways
- Curb ramp of the footpaths
- Signage
- Tactile ground surface indicators on footpaths
- Road crossing
- Foot over bridge
- Bus stoppages
- Sitting waiting place for public transport
- Public toilet near road/footpath,
- Related other facilities.

¹⁵ National Institute of Traumatology and Orthopaedic Rehabilitation

¹⁶ National Institute of Mental Health and Hospital

¹⁷ Dhaka Medical College Hospital

¹⁸ Bangabandhu Sheikh Mujib Medical University

2.2.1. Conducting focus group discussion (FGDs) with people with disabilities

There was a plan to conduct Four FGDs of People with disabilities (n=40) to explore the challenges faced by people with disabilities in accessing facilities, including footpaths, Public Hospitals in North and South Dhaka. The discussion captured the participants' recommendations, who were the individuals with various disabilities from four OPDs, including two OPDs from BRAC's network.

2.2.2. Key Informant Interviews to determine the challenges and opportunities

Key Informant Interviews (KIIs) with the following government agencies representatives to explore the universal accessibility challenges and opportunities of the related facilities in North and South Dhaka were carried out.

- Ministry of Housing and Public Works
- Roads and Highways,
- Public Works Division
- Dhaka North and South City Corporation
- Housing and Building Research Institute
- Medical College Administrators
- Activist promoting rights of persons with disabilities

2.3. Data analysis

The data collected from desk review was compiled first. These data were analyzed later through comparable index. To analyze qualitative data the team performed content analysis based on the available data. Data collected using the FGDs and KIIs were analyzed based on the documents and records.

3. Results and Discussion

3.1. Related Policies, Laws, and Acts Review

The team reviewed related national policies, laws, and acts (e.g., Bangladesh National Building Code) to determine gaps and barriers and make the recommendations in line with the policies and codes accordingly.

Laws/ Policies	The Bangladesh National Building Code (BNBC) 2020.	
topic	Gaps	Recommendations
D2. Terminologies D2.1. Definition of persons with disabilities and category	Partially followed the inability parts and perspective of persons with a disability and categorized only four types of persons with disabilities.	which is supposed to follow the Rights and Protection of Persons with Disabilities Act (RPPDA) 2013. The BNBC would categorize persons with disabilities into 12 types following the same RPPDA 2013.
D.2.1. Accessible/ adaptable washroom (p 220)	Accessible/ adaptable washroom refers to a compartment with a water closet, wash basin, grab bars and other essential washroom accessories and with clear floor spaces at fixtures as per provision of this Code which a wheelchair user or any other person with disability can avail with ease and safety.	Related features required for different type of persons with disabilities were missing and needed to be incorporated/ adjusted in the BNBC.
D 3. Provisions For Accessibility D 3.1. Barrier-Free Accessibility	Table 3.D.1: Requirements of Accessibility for Different Occupancies (source: BNBC 2020 p 222) Under the Hospitals, clinics, homes for the aged and Institutions or the physically challenged (D1, D2, and C3) it was mentioned “....All areas intended for access by staff, patients, inmates or public use.”	Provisions for accessibility for all types and degrees of Persons with disabilities in the hospitals need to be considered. The concept of residential care for persons with disabilities was replaced by the Integration and Community Based Inclusive Development approach. Hence, following an inclusive approach in the public hospitals is essential to create hospital/ medical facilities more accessible to all.
D.11 Accessible Ramps	Accessible ramps shall be used to provide connectivity between levels having height difference of more than 150 mm within a facility which are not served by accessible lift facilities. All such ramps shall comply with the provisions of Sections D.4 and D.5.	It is worth noting that an accessible ramp needs to be built in a hospital facility even if there is an accessible lift. This may also be used by all persons without disabilities if there is any need for emergency evacuation, especially during any fire or earthquake when the lifts will not be available to use.
D 24 Accessible Parking Area	Provision for the number of accessible parking was found to be very low.	Although it was mentioned any accessible parking shall not be occupied by vehicles of persons without disability. How and who could monitor was not mentioned.

D.5 Surface Quality of Floor Space	Any change of level in an accessible route shall generally have gradient of at least 1 vertical to 12 horizontal towards the direction of travel. Since for some ambulant disabled persons, steps are convenient and safer to use than ramps, accessibility provision by both ramps and steps should be given.	Considering all categories and degrees, and age of a person with a disability ramp might be a mandatory provision and need to check with international standards on accessibility. The term ambulant disabled persons could be replaced by persons with a disability that needs ambulatory support for movement.
D.1 Scope	The aim of this Appendix is to set out the fundamental design and construction requirements and guidelines for different occupancy types, accessible to persons with permanent or temporary disabilities. The requirements and guidelines should be applicable for all buildings and facilities as shown in Table 3.D.1 for emergency evacuation provisions of Part 4 shall be applicable.	The word temporary disability is a misleading terminology. Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others'. Hence, it may be replaced by the term temporary health condition.
D.6 Approaches	D.6.1 Public Access Ways The minimum unobstructed width of an accessible public access way such as footpath, corridor, foot over bridge, under pass etc. shall be 1200 mm. All such ways shall have a 1500 mm x 1500 mm space per every 30 m of length to facilitate crossing or turning of users. However for pathways with width of 1500 mm or more no additional width shall be required. The minimum access width shall not be encroached by obstruction or protrusion of any kind and shall comply with provisions of Sec D.4.2.	Accessibility in the public access way needs to be considered for all types of disabilities, not only persons with physical disability.
2.4.6 Universal Accessibility	2.4.6.1 All Buildings (except Occupancies G, H, M and J) shall have universal accessibility as per provisions of this Code.	The universal accessibility needs to be followed in all types of occupancies including G, H, M and J. Some of the manufacturing factories may experience any disaster and users of those manufacturing factories may also get injured or sick. They may also need to use the accessible facilities.
D.6.1 Public Access Ways	The minimum unobstructed width of an accessible public access way such as footpath, corridor, foot over bridge, under pass etc. shall be 1200 mm. All such ways shall have a 1500 mm x 1500 mm space per	Accessible public spaces should also consider accessibility for all types of disabilities.

	<p>every 30 m of length to facilitate crossing or turning of users. However for pathways with width of 1500 mm or more no additional width shall be required. The minimum access width shall not be encroached by obstruction or protrusion of any kind and shall comply with provisions of Sec D.4.2.</p>	
<p>Rights and Protection of Persons with Disabilities Act 2013</p>	<p>Section 34 in the RPPDA incorporates accessibility into public infrastructure as much as possible which is also relevant to personal mobility of a PWD. This linguistic vagueness could be specified for further measures to be adapted which are attuned to the UNCRPD.</p>	<p>Specifying a time limit, through issuance of a gazette by the concerned ministry for public and other infrastructures to be made disable friendly to ensure 'personal mobility' and better access to healthcare facilities.</p>
	<p>Section 16 of the RPPDA in Bangladesh demonstrates that access to health services is also a right of a PWD.</p>	

3.2. Barriers to get access to the health and mobility in Dhaka Identified in FGDs

This chapter summarizes the key findings from **focus groups discussions** and key informant interviews carried out in Dhaka during February and April 2021.

The accessibility barriers of four selected tertiary and specialized hospitals and footpaths in both the north and south Dhaka City Corporations were covered during focus group discussions and key informant interviews. The participants were also asked to give any recommendations corresponding to identified barriers. Information collected from the FGDs and KIs were analyzed according to the areas of accessibility, including reach, entrance, circulation, use of the services in the selected hospitals premises and selected footpath.

3.3. Group Composition

Persons with disabilities of varied types and degrees both male and female were identified for FGDs with the support of four Organisations of Persons with Disabilities. Persons with disabilities were invited by the selected OPDs in their premises. The participants were of both genders and represented a wide cross-section of impairments, including; people with physical disability, people with visual impairments, people with hearing impairments, people with a learning difficulty.

The group was formed with at least 4 people along with personal carers, who required support for travelling. One FGD was postponed due to sudden increase of new cases of the COVID-19.

3.3.1. Key issues raised during the focus groups discussions

3.3.1.1 Common barriers to reach to the hospitals premises

The participants were asked to identify their problems regarding their local travels, especially barriers to get access to the hospitals. There was a limitation that many of them visited hospitals in Dhaka to receive services from the outpatient door (OPD). Few of them accompanied by their parents. Common findings include:

Persons with mild, moderate and severe physical disabilities usually face difficulties to travel by public transports. While people having tangible disability do not get attention both by the drivers and conductors, people with non-tangible disabilities also don't get any priority to be seated in their stipulated seats of the public transports.

'I face enormous difficulties if I don't get any seat to sit, as most of the time they do not maintain properly' - a person with a physical disability in an FGD.

"I used to go to the hospital along with my mother by a CNG autorickshaw. Now it has become very difficult to travel locally by CNG Autorickshaw. When I went to the hospital by an Ambulance, I did not face any problem"- A person with a physical disability

Persons with visual impairment commonly face difficulties to hire a rickshaw, as and when required. Sometime they don't get any support to hire a rickshaw.

"I asked someone for his favour to hire a rickshaw for me. All of a sudden he left and I was waiting for the Rickshaw"- A person during FGD with persons with visual impairment.

Persons with speech and hearing disability usually face difficulty to communicate with the drivers, conductors and with the auto drivers to make them understand about their destinations.

“I need to write on papers to communicate with the drivers or conductors about my destination, while I travel alone”- A women with speech and hearing impairment during FGD

After having the findings about the reaching out to the hospital premises the second topic discussed was entrance to the premises.

- **Entrances**

The newly built units in the hospitals followed the Bangladesh National Building Code. There were ramps in the old buildings, which did not follow the codes, UDG guideline, etc.

‘We incorporated necessary areas of the Universal Design Guidelines in the National Building Code, it is the Public Works Department, who have to construct any new building following the policy guidelines, The RAJUK also needs to make sure the proper implementation as per the policy and guidelines on accessibility’- An Architect Engineer from the House Building and Research Institute.

Poor management of accessibility features may jeopardise the entire efforts of make the infrastructure accessible following national building code.

In some instances, accessible facilities were found by in the hospitals but were not useable due to poor management, for example, accessible toilets used as a storage facility, boxes blocking the route, etc.

It was found that most of the entrances were made accessible in the hospitals following appropriate measurement of ramp, lift etc. Unfortunately, the reception, assessment bed, signage were not found accessible always (findings are mentioned in details in the next chapter based on assessment checklist and observations by the persons with disabilities) in place. Some retrofitting attempts were made to make the facilities and services more accessible.

‘Reception in the OPD of the Dhaka Medical College Hospital was so high from the ground, I could not manage to ask anything from my wheelchair height’- A person with a physical disability.

‘It was very difficult for me to reach to a particular doctor for consultation due to poor signage’- A person with a low vision.

- **Circulation**

Obtaining services from any hospital, especially in all tertiary level and specialized four sample hospital buildings for a persons with a disability alone is bit difficult. While the service providers always encouraged people with disabilities to be accompanied by anyone from his/ her family or friends. There is overcrowd during the work hour in the outpatient department and emergency units.

The people with low vision and physical disability replied during the FGDs that they faced numerous problems to get access to services due to the poor signage. This took plenty of their time to get any services both in the hospital.

‘Signage (pictorial) in the hospitals are very poor that we have to wait for the support from someone’- a respondent with visual impairment

- **Use**

People with disabilities do not always have the need to be accompanied while they need to visit hospital premises. They replied to have any such services from the hospital authority. Majority of the people with speech and hearing impairment had expressed the same need to have any support system of a sign interpreter at least during their visit period.

“An interpreter is required to reach out the Doctor and to explain my complain to the doctor”- A women with a Speech and Hearing impairment

One of the respondents also mentioned that there should have accessible toilets in every units/ departments of the hospitals or any public buildings. It is mentionable that persons with disabilities get minimum help to find out the fire exit in case of any emergency for emergency evacuation.

“There should not have any obstacle on the stairs so that people with disabilities can use the nearby stairs in case of any emergency”- A respondent of the KII

We know that it is not always possible to create a sustaining chain of movement within a short period. Support from concerned actors and attention of all can only be made gradually. It is important to start working on making the hospitals, footpaths and other public infrastructure accessible and to reflect the whole sequence when designing new buildings or infrastructure and/ or making existing structures accessible.

The focus group discussions also provided an insight into the kinds of access barriers that people with various categories and degrees of disabilities face in their day to day lives and how disabled people experience those barriers, especially to get access to medical services in Dhaka city.

Some of the common barriers experienced by the persons with disabilities include:

- Wait for assistance to get inside the hospital premises
- Lack of space for wheelchairs in circulation routes
- Absence of braille button and/ or sound system and inadequate number of the elevators
- No highlighting on steps
- Many health services are not accessible for persons with disabilities due to the inaccessible environment, policies and negative attitudes

“Persons with disabilities may face difficulties to get access to referral services from specialized hospitals. Adequate facilities are required to get the benefits of referral services. At least some commuter vehicle needs to be available from one hospital to another to offer better services. The operators of those vehicles need to follow some norms” - A respondent of the KII

3.3.1.2. Use of footpath

The issues related to the use of the footpath by people with disabilities was reported to be one of the big challenges of movement in the city.

The use of footpath is difficult due to many reasons including (not limited to):

- obstacles on the footpath,
- height from the road,
- uneven landing,
- parked vehicles on the footpath,
- Vendors and beggars on the footpath
- lack of disability awareness among many of the secondary stakeholders

Over/ continued use of horn by many vehicles on the road create fatigue, which were also highlighted by various categories and degrees of disabilities.

“It is almost impossible for us to walk on the footpath, as we don’t understand if someone asks for a space to go by bicycle, motor cycle”- a low vision person from a group

- Communication barriers, regarding the knowledge and
- Lack of orientation on the use of Appropriate Bangla Sign Language (BSL) and understanding on the need of people with hearing impairments do not receive due respect from the family, community and society.

3.4. Accessibility Audit findings of selected Hospital buildings and footpaths

3.4.1. Findings from Accessibility Audit: BSMMU

Bangabandhu Sheikh Mujib Medical University Hospital (BSMMU) is providing general and specialized medical services as a tertiary level healthcare center. It is operating two OPD (OPD-1 and OPD-2) in two separate buildings. Thousands of patients every day come to the OPDs for specialized doctor’s consultations. The audit team audited the OPD-1 which is a five-storied building. Audit findings, major gaps and possible recommendations are given below:

3.4.1.1. Outside of the hospital

Findings	Gaps	Recommendations
<p>OPD-1 is situated at the left side of the entrance gate after entering Bangabandhu Sheikh Mujib Medical University (BSMMU). This entrance gate is situated on the west side of the hospital compound. There are 5 floors including the ground floor.</p> <p>OPD-1 building is well known among the local people.</p>	<p>OPD-1 is not indicated by signs (panels) and not easily visible and readable.</p>	<p>Appropriate colour contrasted signboard at the main gate and directional signage should be installed considering the following standards:</p> <ul style="list-style-type: none"> • The colour of the characters should contrast with the background (Pic-01, Annexure-1). • Use Capital Letters, Size: 200mm-250 mm • Characters should not be <i>italic</i>, highly decorative, or of other unusual forms, and a sans-serif typeface should be used. • The signage should include pictograms or other visual information (Pic-02, Annexure-1). • The surface of the signage should be non-glare. • Should be identifiable clearly and legibly from an accessible route; at a height within the field of vision preferably 1500mm above the ground level. <p>Install a sign at the accessible entrance with the international accessibility symbol (Pic-03, Annexure-1).</p> <ul style="list-style-type: none"> • Shall be white on the blue background, always face to the right • Size shall be 200mm×200mm to 450mm×450 mm and placed 1500mm above from the ground. <p>Signage may also be used in Bangla font (Pic-04, Annexure-1).</p> <p>The entrance should be connected to an accessible elevator and ramp.</p> <p>(Bangladesh national building code, 2020)</p>

3.4.1.2. Parking

Findings	Gaps	Recommendations
<p>Parking space at OPD-1 only for the staff in the basement of the building.</p> <p>There is a pathway with enough wide, flat, hazards free, smooth and non-slippery (from the parking) to the entrance.</p>	<p>The parking space is not disability-friendly.</p> <p>There are no spaces reserved for people with disabilities.</p> <p>There is no tactile paving of contrasting colour as well as no directional signage indicating towards facilities and services.</p> <p>The lighting is not sufficient and no marking for parking spaces.</p>	<p>It is recommended to alter parking area into an accessible parking.</p> <p>It is recommended to keep at least 1 accessible car parking space.</p> <p>Dimensions: 4800 mm x 3200 mm; Fig-01, Annexure-2 shows an accessible parking stall.</p> <ul style="list-style-type: none"> • The location of car parking for persons with disabilities should be as close to the main entrance as possible/practicable. • The accessible parking bays should lead to an accessible route (e.g., an accessible curb ramp, accessible pathway). • Install a universal signage 1500mm above the ground, clearly marked in a colour that contrasts with the wall. • Post directional signage at every turning of directions (Pic-04, Annexure-1). • Add tactile paving of contrasting colour at pathway indicating towards facilities and services; Fig-02, Annexure-2. • Use paint with an appropriate colour contrast with the ground surface. • A general lighting level of at least 200 lux should be provided. • An appropriate ramp with a 1:20 maximum slope ratio should be added. However, a lift can be an alternative of a ramp. <p><i>(Bangladesh national building code, 2020)</i></p>

3.4.1.3. Entrance

Findings	Gaps	Recommendations
<p>Main Entrance:</p> <p>The entrance ramp is a straight run ramp and is way too steep for wheelchair access, Pic-01.</p> <p>The measurement of the ramp is 4500mm width, 2440mm long.</p>	<p>The main entrance ramp alongside narrow stairs does not meet accessibility standards.</p>	<p>Alter the ramps according to the following universal design considerations: (details on Fig-03, Annexure-2)</p> <p>Recommended slope ratio (1:12) for the straight run ramp at the entrance should be 720 mm:8640 mm.</p>
<p>There is a wheelchair stand on the right.</p>	<p>Inadequate numbers of wheelchairs and inaccessible pathways.</p>	<p>Ensure sufficient numbers of a wheelchair at wheelchair stand along with accessible pathway.</p>
<p>Ramps:</p> <p>The ramp along the right side of the stairs is a</p>	<p>The ramp has no colour contrast handrails and tactile ground surface</p>	<p>According to universal design considerations, the recommended slope ratio of a ramp is 1:12 and width at least 1200mm wide. Add landings at top and</p>

Findings	Gaps	Recommendations
<p>180° turn ramp with 1830mm width and 14325mm long, Pic-03. The slope of the ramp meets the universal design standards. The surface of the ramp slip-resistant and well-drained. It has a handrail on one side and landing at top and bottom and at the change of direction at 5181mm, width of this landing 1463mm and length 3400mm, Pic- 02.</p> <p>Stairs: To enter into the building there are stairs along the paved pathway, with 09 steps. The tread and riser of the steps are respectively 260mm and 180mm (1 to 6), 150mm (7 to 9)</p>	<p>indicators for people with special needs. The tactile ground surface indicators at the top and bottom landings are missing.</p> <p>Stairs do not meet accessibility standards. No colour contrast, handrails, and tactile ground surface indicators at top and bottom landings (Pic-?).</p>	<p>bottom and every change of direction (minimum 1200mm wide x 1500mm long). Details on Fig-05, Annexure-2</p> <ul style="list-style-type: none"> • Add handrails—that are continuous on both sides ~900mm high and that continue onto the top and bottom landings for 300mm before finishing. • Alter ramp surface—that is tactile ground surface indicators— at top and bottom landings for people with difficulty seeing (Fig-04, Annexure-2). • Curbs— on exposed edges (50mm high) <p><i>(Bangladesh national building code, 2020)</i></p> <p>Stairs at the entrance of the building should be modified to accessible stairs considering the following standards: (details on Fig-04, Annexure-2) mentioned below:</p> <ul style="list-style-type: none"> • Width—at least 1200mm wide between the handrails • Steps—that are 150mm high and 300 mm deep • Colour contrast strips on the edge of the step. • Handrails—should be continuous on both sides and at the middle, 900 mm high and circular in section and extend 300 mm beyond the top and bottom steps. • The diameter of 40-45mm will allow for a better grip. The gripping part must be at least 45mm from the edge of any obstruction (e.g., a wall) so that the person can wrap their fingers comfortably around the rail (Fig-5, Annexure-2). • The person must be able to move their fingers/ hands continuously along the rail so there should be no obstructions from rail supports that would mean a person has to remove their hand from the rail.

Findings	Gaps	Recommendations
<p>Entrance Door: The entrance door meets the criteria for manual doors. It has a width of 1463mm, an inside door clear opening of more than 800mm and no threshold. There are 600mm long door handles. The top of the door handles 1220mm and the bottom 830mm from the ground. There is one big structural column and extreme crowd at the entrance, obstructing easy movements.</p>	<p>No signboard like entry/exit at the main entrance, and no maps to display at the main entrance. The entrance door is a glass door and stays open during service time. However, it is heavy and difficult to swing easily. The entrance pathway is not free from obstacles and hazards. Column and other obstacles are not properly colour contrasted. The entrance pathway surface is not non-slip and is well drained.</p>	<ul style="list-style-type: none"> • Colour of handrails must contrast with the background to make them easier to see/locate. • Tactile Ground surface indicators— at the top and bottom landings (Fig-03) • Ground covering—that is non-slip and well-drained. • Landings- at the top and bottom, size of at least width of stairway x 1200mm <p><i>(Bangladesh national building code, 2020)</i></p> <p>The entrance should be well connected by accessible pathways to other accessible facilities such as parking spaces, both indoor and outdoor, local transit bus stops and drop-off areas. Install appropriate colour contrasted signage, pictographs at the main gate and directional signage throughout the hospital complying with section 3.4.1.1. Outside the hospital, page- Presence of one or two staff in the entrance area would helpful for the patients with visual impairment or low vision to find and use different services or facilities easily. Post a floor plan at the entrance. Ensure visually contrast structural columns and other obstacles at the entrance. The black and yellow stripes from floor level to 1500mm height are recommended. Install tactile ground surface indicators on the entrance pathway with appropriate colour contrast. (Fig-02, Annexure-2). Increase light intensity to see signage, surface-level changes, steps and other directions easily for people who have low vision. Alter and maintain entrance pathway non-slip and well-drained.</p> <p><i>(Bangladesh national building code, 2020)</i></p>



Pic-01: Straight run ramp at entrance



Pic-02: 180-degree turn ramp at the main entrance of OPD-1 building



Pic-03: Stairs at the entrance door

3.4.1.4. Information Desk

Findings	Gaps	Recommendations
<p>The information desk counter at the OPD-1 building is clearly visible from the entrance. The counter height is 1219 mm. The floor surface around the desk is level, smooth and non-slippery.</p>	<p>Counter height is not standard for a wheelchair user. Light intensity is very low at the counter area to read all the signage and necessary medical documents comfortably. No facility of sign language interpretation for related patients such as an individual with the deaf. Background noises are also high in this area to hear the conversations clearly. This area is also crowded which obstructs easy movements. There are no sitting arrangements for the patients and visitors on the ground floor. There is no information of the services in easy-to-read and large print format, no provision for sign language interpretation for patients who require it. No priority lane for persons with disabilities, older people, and adults with children, and pregnant women.</p>	<p>The counter should have accessible height with knee clearance space and be marked with an international symbol of accessibility. Alter information counter to a disability-friendly counter comply with section 3.4.1.5. Ticket counter, page- Increase the lighting to a maximum of 11 LPD (w/m^2) (<i>Bangladesh national building code, 2020</i>). Provide Sign Language Training to related staff such as Receptionists, and other medical and healthcare professionals. Materials in easy-to-read format should be available to support communication with patients with cognitive difficulties. For example, different leaflets or booklets (in Bengali) should be available, focusing on the different activities conducted in the facility (such as registration, eye exam, blood test, etc.), an example shown in Pic-10, Annexure-2. Ensure sitting arrangement for patient and attendants, shall comply with 3.4.1.8. Waiting area, page 24. Broadcasting different videos on health care management may reduce loud background noises. Information desks should be located away from potential sources of noise, such as the main entrance doors in buildings, where there is likely to be significant external noise.</p>

3.4.1.5. Ticket counter

Findings	Gaps	Recommendations
<p>There is a Ticket counter at the OPD-1 building which is clearly visible from the entrance and the surface is level, smooth and non-slippery. There are eight identifiable ticket</p>	<p>Counters are not wheelchair user friendly at all.</p>	<p>The counter should have accessible height with knee clearance space and be marked with an international symbol of accessibility. The accessible counter surface should be a maximum of 760 mm above floor level and have clearance to the underside of 700 mm (<i>Guidance on the 2010 ADA standards for accessible design, 2010</i>). The general counter surface should be between 950mm and 1100mm above floor</p>

Findings	Gaps	Recommendations
<p>counters with a height of 1219mm. Pic-04 shown an inaccessible ticket counter for persons with disabilities at the OPD-1 building.</p>	<p>There are no signs at the ticket counter that give priority to older people, and persons (adults and children) with disabilities, and pregnant women. There is a lack of space at the counter area to allow privacy in communications. Light intensity is very low to read the doctor's prescriptions and all other documents comfortably. Background noises are also high in this area to hear the conversations clearly. This area is also crowded which obstructs easy movements. There are no sitting arrangements for the patients and visitors near the ticket counter.</p>	<p>level (<i>Guidance on the 2010 ADA standards for accessible design, 2010</i>). For details please see Fig-06, Annexure-2. Create a priority service delivery system for people with disabilities, older people, and adults with children, and pregnant women. Create a priority lane with appropriate priority signs, an example shown in Pic-12, Annexure-1.</p> <p>Staff training on promoting privacy to communicate with the client may improve the situation. The leading all edge of the counter should visually contrast with the work surface so that it is readily identifiable for the patient with low vision and visual impairments. The glazed screen should be clear and unobstructed. Posters and notices should not stuck the screens as these will obscure visibility and may be visually confusing for people with hearing impairments or people who is lip-reader. Where glazed screens are provided, a voice augmentation system (also called a speech enhancement system or voice transfer system) should be considered. This is likely to benefit everybody, including people with hearing difficulties, as the clarity and volume of speech are often reduced by the presence of a screen. A hearing enhancement system should be provided at all service counters for the people who use a hearing aid, e.g. Audio Induction Loop System. Use Loud speakers at all crowded counter area for the people with low hearing ability.</p>



Pic-04: Ticket counter at OPD-1 building do not meet accessibility standards

3.4.1.6. Pharmacy desk

Findings	Gaps	Recommendations
<p>The medicine counter desk height is 1219 mm.</p> <p>The floor surface around the desk is level, smooth and non-slippery.</p>	<p>Desk height is not wheelchair user friendly.</p> <p>No priority lane for persons with disabilities, older people, and adults with children, and pregnant women.</p> <p>There is no information of the services in easy-to-read and large print format, no provision for sign language interpretation for patients who require it.</p> <p>Light intensity is very low to read all the signage and necessary medical documents comfortably.</p> <p>Background noises are also high in this area to hear the conversations clearly.</p> <p>This area is also crowded which obstructs easy movements.</p>	<p>The recommendations shall comply with section 3.4.1.5. Ticket counter.</p>

3.4.1.7. Report delivery desk

Findings	Gaps	Recommendations
<p>There is a report delivery counter on the ground floor that delivers reports to the patients.</p>	<p>Report delivery counter is not accessible. Too high for a wheelchair user.</p> <p>No priority lane for persons with disabilities, older people, and adults with children, and pregnant women.</p> <p>There is no information of the services in easy-to-read and large print format, no provision for sign language interpretation for patients who require it.</p> <p>This area is also crowded which obstructs easy movements.</p> <p>Light intensity is very low to read all the signage and necessary medical documents comfortably.</p>	<p>Modify report delivery counter to make accessible for all, shall comply with section 3.4.1.5. Ticket counter.</p>

3.4.1.8. Waiting area

Findings	Recommendations
<p>There is no waiting area on the ground floor.</p>	<p>Waiting areas need to be provided for the elderly, people with disabilities, children and pregnant women.</p> <p>Seating should be readily apparent and clearly signed from the service counter or information point.</p> <p>Access to seating should be direct and unobstructed and seats should always be located on a level floor and be positioned where they will not obstruct circulation routes.</p> <p>Should incorporate spaces for wheelchairs and other mobility devices so that they can remain in their mobility devices and sit alongside companions.</p>

Findings	Recommendations												
	<ul style="list-style-type: none"> • Ratio: <table border="1" data-bbox="635 264 1409 533" style="margin-left: 20px;"> <thead> <tr> <th>Capacity of Seating</th> <th>Number of W/C spaces</th> </tr> </thead> <tbody> <tr> <td>4 to 25</td> <td>1</td> </tr> <tr> <td>26 to 50</td> <td>2</td> </tr> <tr> <td>51 to 300</td> <td>4</td> </tr> <tr> <td>301 to 500</td> <td>6</td> </tr> <tr> <td>over 500</td> <td>6, plus 1 additional space for each total seating capacity increase of 100</td> </tr> </tbody> </table> <p>Table 01: The ratio of accessible wheelchair spaces required according to seat capacity</p> <ul style="list-style-type: none"> • Width: A single wheelchair space shall be 915 mm minimum; where two adjacent wheelchair spaces are provided, each wheelchair space shall be 840 mm minimum, as Fig-07, Annexure-2. • Depth: For front or rear entry, the wheelchair space shall be 1220 mm deep minimum and from the side, the wheelchair space shall be 1525 mm minimum, like as Fig-08. <p>A clear Wheelchair accessible mark on the reserved floor space is also necessary (Pic: 14, Annexure-2). Different styles of the seat can be provided within seating areas. This could include fixed seats; moveable seats; seats with and without armrests; and seats with higher backs. It is preferred if all seats have a fixed cushion. The standard height for a seat is typically 450mm. Some seats should be provided with a seat height between 450mm and 475mm as these tend to be more comfortable for people with mobility difficulties. Armrests, positioned approximately 200mm above seat level, are also useful to lean against and assist in getting in and out of the seat. Seats positioned or linked in a row should all be of the same style, such as all with armrests or all without. A mixture of seat styles in a single row can confuse some people with visual difficulties. Ensure priority seats (with clear signage, Pic-13, Annexure-1) for people with disabilities, older people, and pregnant women. (Guidance on the 2010 ADA standards for accessible design, 2010)</p>	Capacity of Seating	Number of W/C spaces	4 to 25	1	26 to 50	2	51 to 300	4	301 to 500	6	over 500	6, plus 1 additional space for each total seating capacity increase of 100
Capacity of Seating	Number of W/C spaces												
4 to 25	1												
26 to 50	2												
51 to 300	4												
301 to 500	6												
over 500	6, plus 1 additional space for each total seating capacity increase of 100												

3.4.1.9. General toilet

Findings	Gaps	Recommendations
<p>There are separate toilets for males and females with clear directional signage at the OPD-1 building. There was no entrance door. A person enters the toilet block through an entrance passage that is 813 mm wide. Then another long passage in between the washbasin and toilets that is</p>	<p>A wheelchair user cannot use this toilet. In every cubicle and at the washbasin screw taps are used. The surfaces of the toilets are slippery and not level. The floor material is not well-drained, waterproof, non-slip and non-glare.</p>	<p>There needs to have an entrance passage of 1200mm; Should connect by an accessible route to an accessible entrance and use directional signage at every changing of direction to an accessible toilet. Water closet/squat toilet shall be appropriate colour contrasted with the background.</p>

Findings	Gaps	Recommendations
<p>1016 mm wide allows a person to enter the toilets.</p> <p>Female's toilet: The door of the toilet is lightweight, easily swing-able, each 610mm wide and inside doors, there is a clear opening of 559mm. There is a threshold with a 31mm height. Door handles are 1194 mm above the ground.</p> <p>In three separate cubicles, there are two low commodes and one high commode. The room dimension of the toilets is 1473 mm long and 1092 mm wide which is inaccessible for a wheelchair user.</p> <p>In case of a high commode, the height of the toilet pan is 630mm.</p> <p>There is a 400mm clear space in front of the toilet pan, 630mm to the non-wall side and 300mm from the sidewall to the center.</p> <p>Male's toilet: there were three toilet chambers including one toilet with a high commode. The door width of each toilet is 610 mm. Inside doors have a clear opening of 559 mm.</p> <p>Each toilet has 51 mm thresholds at the door. Doors swing easily and open inward. The handles were 1194 mm above the floor. The locks were 1067 mm above the floor.</p> <p>The room dimension of the toilets is 1473 mm long and 1092 mm wide which is inaccessible for a wheelchair user.</p> <p>The running water height in the toilets is 500mm above ground level. Toilets are clear of any obstructions or hazards and there is enough light.</p>	<p>There are no sanitary bins, soap and paper towels in the toilets.</p> <p>The colours of the squat toilet/WC/urinal/washbasin are not properly contrasted with the background.</p> <p>Toilets are not clean and free from strong smells.</p> <p>No functioning emergency alarm with visual and audible signals is installed in the toilet.</p> <p>Inside the cubicles, there were no lights. The diabetic patient faces difficulties collecting urine for a pathology test.</p> <p>Toilet flush systems were mostly nonfunctional.</p> <p>The existing toilets were not built considering the needs of elderly people and persons with disabilities.</p> <p>Lack of universal design standards, the toilets are not usable by all people. Pic-15, 16 and 17 shown the inaccessible toilet facilities at the OPD-1 building.</p>	<p>The towel rail, soap dispenser, waste bin, height should be between 600 mm to 1000 mm; Door: Recommended clear opening 900mm, Fig-12, Annexure-2.</p> <ul style="list-style-type: none"> – Remove door threshold or alter with a slop 1:20 mm; – Door width: 900mm – Placement of door handles and locks within the range of 900mm to 1100mm from the floor level, Lever door handles are recommended over doorknobs; Fig-13, Annexure-2. – Install an audible and visible emergency alarm system. <p>A general lighting level of at least 200 lux should be provided in toilet facilities.</p> <p>Floor surfaces in all sanitary accommodation should be firm, level and slip-resistant when wet and dry.</p> <p>Toilet paper/water—toilet paper and/or water hose/tap facilities located in easy reach of a person seated on the toilet at a height of approximately 800mm from the floor and approximately 100mm back from the front of the toilet pan, Fig: 09, Annexure-2.</p> <p>Keep the toilet clear from any obstructions or hazards. Maintain cleanliness and keep free from strong smells. Alter at least one toilet accessible for wheelchair users. Ensure floor materials are well-drained, waterproof, non-slip, non-glare and level, Pic-09. Toilets shall be locked from inside and released from outside by authorized staff in case of an emergency.</p>



Pic: 05 Pic: 06 Pic: 06
 General toilets do not have grab rails, hand flush, insufficient space to maneuver a wheelchair and not accessible at all

3.4.1.10. Washbasin

Findings	Gaps	Recommendations
<p>There are two separate toilet blocks for males and females and three washbasins inside each toilet block.</p> <p>The height of the washbasins is 813 mm from the ground. There are 76 mm thresholds beneath the basins.</p> <p>Each basin has a twist-type tap. The height of the soap stand is 965 mm above the ground.</p> <p>The bottom edge of the mirror is 1270 mm above the ground.</p>	<p>The space in front of the washbasin is very narrow to move a wheelchair.</p> <p>Mirror, soap and water taps of washbasins are out of reach of wheelchair users as shown in (Pic-19, Annexure-1).</p> <p>Threshold and adjacent support walls under the basins make obstructions in wheelchair movement.</p> <p>Existing water taps are not accessible for all.</p> <p>No colour contrast is present.</p>	<p>Modify at least one washbasin at each toilet block into an accessible washbasin by using considerations shown in Fig-14, Annexure-2.</p> <p>Height: The top of the basin height shall be 850mm maximum and the bottom height of the basin shall be a minimum 680mm from the floor level.</p> <p>Clearance: 200mm minimum knee and 230mm minimum toe clearance.</p> <p>Water tap: Automatic or lever operated.</p>



Pic-08: Washbasins inside the toilet block

3.4.1.11. Accessible toilet

Findings	Recommendations
<p>There are no accessible toilet facilities at OPD-1.</p>	<p>At least one accessible toilet is recommended for every floor of the building.</p> <ul style="list-style-type: none"> • Room Dimensions: 1500mm×1750mm; • Alter entrance passages to 1200mm; <p>Grab bars: two grab bars for each toilet; as shown in Fig-04, and Fig-09, Annexure-2.</p> <ul style="list-style-type: none"> • Diameters: 35mm to 50mm external circular section; • Dimension: grab bar minimum 600mm; • Should have appropriate colour contrasted with the background wall. • Distance from the adjacent wall between 40 to 60 mm; • Height: 850mm to 950mm from floor level; <p>Water closet: Design considerations for water closets are shown in Fig-10, Annexure-2.</p> <ul style="list-style-type: none"> • The Center of the water closet is 460 to 480 mm from the adjacent wall; • Front edge: 750mm away from the rear wall; • Seating height: 450mm to 480mm from the floor level; • Shall add a flush tank as back support; • Flush control: Automatic or lever type shall be placed at the transfer side of the water closet; • Add a waterproof push button or pull cord type emergency call bell should place at a height of 600mm to 650 mm; procedures should be established to ensure that someone will respond and that the person or persons are trained in assisting, Fig-09. • Towel rail, soap dispenser, waste bin, hand dryer and mirror height should be at between 600mm to 1000mm; Fig-09, Annexure-2.

Findings	Recommendations
	<p>Door: Outside swing or sliding with a clear opening 900mm as shown in Fig-12, Annexure-2.</p> <ul style="list-style-type: none"> • Remove door threshold or alter with a slop 1:20 mm; • Door width: 900mm • Placement of door handles and locks within the range of 900mm to 1100mm from the floor level, Lever door handles are recommended over doorknobs; Fig: 13, Annexure-2. • An audible and visible emergency alarm system install outside the toilet is recommended. <p>Accessible toilet shall be locked from inside and released from outside by authorized staff in case of any emergency. Should connect by an accessible route to an accessible entranced and use directional signage at every changing of direction to the accessible toilet. Install international symbols for access and symbols indicating use by males and females, symbols should contrast visually with the background and mounting surface. Tactile signs will assist people with visual difficulties. Pic-18, Annexure-1 Example of signage – Single-sex accessible toilet. A general lighting level of at least 200 lux should be provided in toilet facilities. Floor surfaces should be firm, well-drained, waterproof, level and slip-resistant when wet and dry. Toilet paper/water—toilet paper and/or water hose/tap facilities located in easy reach of a person seated on the toilet at a height of approximately 800mm from the floor and approximately 100mm back from the front of the toilet pan. (<i>Bangladesh national building code, 2020</i>)</p>
No accessible Urinals	<ul style="list-style-type: none"> • At least one urinal shall be of the wall-hung type with a clear floor area of 750mm×1200mm with a level floor plane. • Rim height shall not be more than 400mm from floor level. • Privacy shield on side shall have at least 120mm clearance from the grab bars, shown in Fig-16, Annexure-2. • Install grab bars at both sides as per Fig- 09, Annexure-2. (<i>Bangladesh national building code, 2020</i>)
No Baby changing station	<p>A baby changing station shall be added. Baby changing station should be accessible for all including wheelchair users. A clear ground space shall comply with Fig-20, Annexure-2 for an accessible baby changing station. Size: A clear floor ground space shall be 720mm×1220mm. Height: Between 710mm and 865mm from floor level. Knee and toe clearance: 230 mm and 685 mm above the finish floor or ground. Knee clearance shall be 760 mm wide minimum, Fig-15, Annexure-2. Hand-washing and drying facilities should be provided adjacent to the changing tables, together with nappy disposal bins, and a shelf or table for personal belongings. (<i>Guidance on the 2010 ADA standards for accessible design, 2010</i>)</p>

3.4.1.12. Corridors

Findings	Gaps	Recommendations
<p>There is enough space for wheelchair users, a clear path of 1219mm wide and turning spaces of at least 1524mm. The paths and corridors are free of all obstacles and hazards (boxes, tables, cupboards, etc.) but overcrowded. There are clear signs providing directions to rooms with colour contrast, non-glare, large print and pictures. The surface is stable, flat, non-slip and non-glare.</p>	<p>Obstacles in the corridors are not in contrasting colours e.g. columns of a different colour from the background etc. No visual floor way finding signage and/or tactile paving with colour contrast. Lighting is very low along the paths and corridors. There are no functioning emergency alarms with both visual and audible signals and no clear signage indicating accessible escape routes.</p>	<p>Any obstacles in the corridor area shall be avoided. In case of overhead hanging obstacles, minimum headroom clearance required for an accessible corridor is 2000mm. Obstacles of 100mm or less hanging from the side walls within the circulation space may be exempted. For protrusion, more than 100mm the bottom edge shall not be more than 580mm above from floor level, as shown in Fig: 18, Annexure-2. Increase the lighting to a maximum of 11 LPD (w/m^2). Install an audible and visible emergency alarm system and clear directional signage of accessible escape routes. Install appropriate colour contrasted tactile indicator comply with Fig-03, Annexure-2.</p>
<p>Corridor entrance door at the ground floor of OPD-1 The corridor door meets the criteria for manual doors. It is a light and swing door. It has a width of, 1463mm and inside door clear opening of more than 800mm and no threshold. There are 600mm long door handles. The top of the door handles 1220mm and the bottom 830mm from the ground.</p>		<p>The door meets the accessibility requirements.</p>

Findings	Gaps	Recommendations
<p>Stairs: There are two stairs with the same measurement, one on the right side after entering the building with the lift area. Another Stair with the toilet block. It is 1400mm wide, 160mm high and 200mm deep. There is a handrail at one side of the stair. The height of this handrail is 900mm. There are landings at every 1800mm vertical rise. The length and width of these landings respectively are 2750mm and 1500mm. There are no tactile ground surface indicators at the top and bottom at every landing.</p>	<p>The staircase does not meet accessibility requirements. The stair does not have any appropriate colour contrast and nosing. The handrail on one side is missing. No tactile ground indicators were provided at the top and bottom landings.</p>	<p>At least one stair shall be altered into an accessible stair complying with section 3.4.1.3. Entrance - Stairs, page no..</p>

3.4.1.13. Elevators

Findings	Gaps	Recommendations
<p>There are four elevators at the OPD-1 building none of which are in service. No dimensions could be taken off the lift cars due to that. There is enough space for wheelchair users in the elevator lobby.</p>	<p>No signage or indication is available to inform patients and visitors about the out of order elevators. Data were unavailable!</p>	<p>Install appropriate signage and directional signage. Recommended considerations for an accessible lift are given below:</p> <ul style="list-style-type: none"> • Lobby Dimensions: Minimum 1500mm×1500mm; • Size: An accessible lift car shall be a minimum 1500mm×1725mm; • Clear door opening not less than 900mm; • Horizontal Grab bars on back and side walls shall comply with Fig-04 and Fig-09, Annexure-02; <ul style="list-style-type: none"> ▪ Diameters: 35mm to 50mm external circular section; ▪ Dimension: grab bar minimum 600mm; ▪ Should have appropriate colour contrasted with the background wall. ▪ Distance from the adjacent wall between 40 to 60 mm; ▪ Height: 850mm to 950mm from floor level; • The accessible lift shall have tactile marking and brail on all buttons.

		<ul style="list-style-type: none"> • The floor surface shall be firm, even, slip resistance, stable and contrasting colour with adjacent walls. • Guidelines are shown in Fig-19, Annexure-02. (Bangladesh national building code, 2020)
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3.4.1.14. Outdoor doctor's consultation room and waiting area

Findings	Gaps	Recommendations
<p>The outdoor doctor's consultation room and waiting area is situated on the 2nd floor of the building and onwards, Pic-20, Annexure-01. But the elevators are not functioning. There is an escalator on each floor.</p> <p>There are three types of long benches and waiting chairs in the waiting area of the outdoor doctor's consultation room. The height, depth and back support of wooden long benches are respectively 470mm, 390mm and 410mm. In case of steel-made waiting chairs, these are 370mm, 410mm, 450mm and for plastic-made long waiting chairs these are 390mm, 300mm, 320mm.</p> <p>There are seventeen doctor consultation rooms at the OPD-1 building with equal room dimensions. Every room is 3960mm long and 3660mm wide.</p> <p>There is some room furniture in every room including two tables, one cabinet, one patient examination bed, two doctor chairs and four chairs for patients and</p>	<p>Since the elevator was damaged, the security guards on duty generally lift and lower the wheelchair patients to and from the specified floor with the escalator along with the wheelchair which is very risky.</p> <p>There is no reception counter but a waiting area is present.</p> <p>In the waiting area, there are insufficient numbers of chairs;</p> <p>Nameplate/signboard/directi on isn't there on every door/room/ pathway, any signage or markings that give priority for the people with disabilities, older people, and adults with children, and pregnant women.</p> <p>There is no particular space for wheelchairs in the waiting area.</p> <p>The lighting intensity is also poor so all information cannot clearly be seen.</p> <p>This area is not free from background noises so it is difficult to hear conversations clearly.</p> <p>There are many obstacles/hazards in the waiting area. Especially huge gatherings make any movement difficult for people having any disabilities or using any assistive device.</p> <p>Room furniture does not meet accessibility standards.</p>	<p>A reception counter in this area may be useful for the patient to receive services more easily. The reception area shall comply with section 3.4.1.5. Ticket counter, page no.</p> <p>Alter the waiting area into an accessible waiting area. An accessible waiting area shall comply with section 3.4.1.8. Waiting area, page no.</p> <p>Ensure the waiting area shall have a sufficient number of chairs, directional signage and priority lane for people with disabilities, older people, and adults with children and pregnant women in an appropriate way.</p> <p>Increase the lighting to a maximum of 11 LPD (w/m^2).</p> <p>The presence of a reception counter, presence of one or two staff in this area, ensure sitting arrangement and broadcasting of different videos on health care management may help to reduce the noise level.</p> <p>Obstacles at the entrance route and circulation route shall be removed. Other obstacles/hazards shall be properly contrasted colours with adjacent walls and ground.</p> <p>Provide a minimum clear floor space of 838.2mm by 1219mm next to exam tables so that persons using a wheelchair or other mobility aid can transfer onto the bed, Fig-20, Annexure-02; (<i>"Accessible Health Care ADA National Network", 2021</i>).</p> <p>For easy transfer from a wheelchair to a table a height between 431.8mm to 482.6mm adjustable</p>

Findings	Gaps	Recommendations
<p>attendants, Pic-21, Annexure-01.</p> <p>Every table is 1000mm high and no adequate legroom for wheelchair users.</p> <p>The patient bed is a fixed type of bed with a height 750mm and a width of 600mm.</p>	<p>Bed height is not accessible for a patient, especially a wheelchair user, to transfer from wheelchair to bed.</p>	<p>exam table is recommended, Fig-21, Annexure-02 ("<i>Accessible Medical Examination Tables and Chairs ADA National Network</i>", 2021).</p> <ul style="list-style-type: none"> • Make sure examination rooms provide clear floor space for a person to turn in a wheelchair or scooter comply with Fig: 22, Annexure-02. Turning space: Minimum 1525mm. • Clear floor or ground space: Minimum 760mm by 1220mm;



Pic-20: Outdoor consultation waiting area



Pic-21: Doctors consultation room & patient

3.4.1.15. Pathology room

Findings	Gaps	Recommendations
<p>The Pathology room is situated below the ground floor of the building.</p> <p>The entrance door meets the criteria for accessibility standards. It is a light and swing door. It has a width of 1500mm, an inside door clear opening of more than 800mm and no threshold.</p> <p>There are 600mm long door handles. The top of the door handles 1220mm and the bottom 830mm from the ground.</p> <p>There is enough space for wheelchair users.</p> <p>The entrance is free of all obstacles and hazards (boxes, tables, cupboards etc.) but overcrowded.</p>	<p>The room is not accessible for all.</p> <p>There is a staircase to go to the room but no ramp, lift, or accelerator for the people who need it. The area is severely overcrowded.</p> <p>There is no clear sign providing directions to rooms with colour contrast, non-glare, large print and pictures.</p> <p>Obstacles in the pathology room are not in contrasting colours e.g. columns of a different colour from the background etc.</p> <p>The ward is not free from loud background noise and lack of relevant equipment for people with sensory,</p>	<p>Add a ramp to comply with section 3.4.1.3. Entrance – Ramp, page no.</p> <p>Or add a lift that complies with section 3.4.1.13. Elevators, page no.</p> <p>Alter staircase shall comply with section 3.4.1.3. Entrance - Stairs, page no.</p> <p>A clear sign shall be posted providing directions to rooms with colour contrast, non-glare, large print and pictures.</p> <p>Obstacles in the pathology room shall alter in contrasting colours e.g. columns of a different colour from the background etc.</p> <p>The presence of one staff in this area would helpful for the patients to keep silent and ensure sitting arrangement,</p>

Findings	Gaps	Recommendations
<p>The surface is stable, flat, non-slip and non-glare. There is enough lighting inside the room. There is a pathology counter with a 1220mm height and does not allow a wheelchair user to use the counter comfortably, Pic-23, Annexure-01. There are some tables with no leg room and chairs but no bed for collecting blood samples, Pic-23, Annexure-01. The table height is 750mm.</p>	<p>physical, and intellectual disabilities. There are no functioning emergency alarms with both visual and audible signals and no clear signage indicating accessible escape routes.</p>	<p>broadcasting of different videos on health care management may reduce loud background noises. Install a functioning emergency alarm with both visual and audible signals and also clear signage indicating accessible escape routes. Alter counter or add at least one accessible counter complying with section 3.4.1.5. Ticket counter, page no.</p>



Pic-09: Existing pathology counter

3.4.1.16. *Emergency exit*

Findings	Gaps	Recommendations
<p>However, some fire extinguishers with valid expiration dates are available.</p>	<p>There is no separate emergency exit in this section.</p>	<p>An emergency exit route with the following safety measures is recommended.</p> <ul style="list-style-type: none"> • In case of existing medical facilities, flammable materials shall protect with fire-retardant paint or other forms of fire-insulating, non-combustible materials. • Glass doors and windows shall be fire retardant and shatterproof. • Ceiling tiles and wall and floor finishes (e.g., carpets) shall be fire retardant. • ICUs, accident, emergency units, general wards should be located on the ground floor or first-floor level with dedicated access ramps. (Typically, high-traffic units (e.g., diagnostics) are located on the lower/ground floors.) • Exit routes shall be located as far away from each other as possible so that if one exit route is blocked with smoke or fire, the alternate route can be used. • The hospital shall have flashing lights and audible signals for emergency exits. • The hospital shall have smoke detectors. • Doors shall have minimum width to accommodate a stretcher. (typically, 1.25 m) • Should have access for firefighters to enter the hospital in case of fire. • Proper signage and evacuation maps shall be posted at the hospital's main access points to clearly identify the egress route. • Shall have provisions to evacuate patients with special needs.

3.4.1.17. General Ward, Surgery (Male and Female), 8th Floor, Block-C

Findings	Gaps	Recommendations
<p>The entrance doors meet the accessibility standards. A wheelchair can easily move inside the ward. In this ward, there are 17 patient beds and 1460mm space between beds. These beds are 670mm high and 75mm wide. The room is clean, properly ventilated and obstructions-free. The floor material is non-slip and non-glare and there is enough light inside the ward. There is an attached and separate toilet, shower facility and hand-washing station in the general ward. The door is 685mm wide. In the washbasin station, there are two washbasins with a height of 853mm and appropriate legroom/knee clearance. The toilet door width is 670mm and room length is 1220mm, width 1360mm. The door handle and lock are respectively at a height of 914mm and 762mm.</p>	<p>There is no sign outside of the general ward. There is no provision for family members or attendances. No privacy is maintained in the general ward. The ward is not free from loud background noise. There are no functioning emergency alarms installed with visual and audible signals. No clear signage indicating accessible escape routes available at the general ward. Toilet and shower facilities are not accessible. Lack of relevant equipment for people with sensory, physical and intellectual disabilities.</p>	<p>Install appropriate signage with necessary relevant information. 10% percent patient bed shall have following mobility features:</p> <ul style="list-style-type: none"> • Turning space: Minimum 1525mm • Clear floor or ground space: Minimum 760mm by 1220mm; Fig: 22, Annexure-02. • A height-adjustable bed is recommended or between 508mm to 584.2mm height from the floor to the top of the mattress. <p><i>(Guidance on the 2010 ADA standards for accessible design, 2010)</i></p> <p>Toilet: Alter at least one accessible toilet complies with section 3.4.1.11. Accessible toilet, page no.</p> <p>Bathing room: The bathroom shall have an internal dimension of 1500mmx1500mm.</p> <ul style="list-style-type: none"> • The floor and seat shall be slip-resistant. • Showerheads: Hand-held type with a flexible cord, Fig-23, Annexure-02. • Accessories: Towel rail, soap dispenser, waste bin, mirror and emergency call bell shall be in easy reaching height within 600mm to 650mm from floor level, Fig-09, Annexure-02. <p>Faucet: Shall be automatic or lever-operated and complies with Fig-14, Annexure-02.</p> <p>Washbasin: Shall complies with section 3.4.1.10. Washbasin, page no. and Fig-14, Annexure-02.</p> <p>Noise control:</p> <ul style="list-style-type: none"> • Presence of one or two staff in the ward area • Strictly maintain attendants visiting hours

Findings	Gaps	Recommendations
		<ul style="list-style-type: none"> • Use dimming light at evening and designating sleep hours <p>NB: WHO recommended a noise level of 35dB during the day and 30dB during the night. Ensure availability of the following relevant equipment for people with disabilities:</p> <ul style="list-style-type: none"> • elastic stockings • appliances for colostomies • urinary catheters • pressure-relieving cushions and mattresses • continence pads • wheelchairs and walking aids • hearing aids, e.g. Hearing Loop, headphones, speakers etc. • Vision aids e.g. hand-held magnifiers, strong magnifying reading glasses etc. • Communication aids, etc. <p>Install an audible and visible emergency alarm system and clear directional signage of accessible escape routes.</p>

3.4.1.18. Emergency Unit

Findings	Gaps	Recommendations
<p>The emergency unit is located at gate 05 and block 'D'. Here only two types of patients, (cardiac and orthopedic) get emergency services.</p> <p>There are two selected counters for these two categories of patients. The height of the cardiac counter is 1050mm and this is not comfortable for a wheelchair user, Pic-10 for the Emergency cardiac counter. There are two height-adjustable bed facilities for the cardiac emergency room. There is 600mm free space in between two beds.</p>	<p>This room is not accessible for a wheelchair and long trolley.</p> <p>In the orthopedic emergency section, there are fixed patient examination beds but this bed is not accessible for wheelchair users and long trolley patients.</p> <p>No appropriate footrest is available there.</p> <p>Pic-11 for the orthopedic emergency room.</p>	<p>Emergency unit shall have the following mobility features between both beds:</p> <ul style="list-style-type: none"> • Turning space: Minimum 1525mm • Clear floor or ground space: Minimum 760mm by 1220mm; Fig-20, Annexure-02. <p>Counters shall accessible for all comply with Section 3.4.1.5. Ticket counter, page no.</p>



Pic-10: Entrance of emergency unit



Pic-11: Emergency orthopedic room

3.4.2. Findings from Accessibility Audit: NITOR

National Institute of Traumatology and Orthopaedic Rehabilitation (NITOR) is situated at She-Re bangle Nagar, Dhaka. It is a 500-bed tertiary center, receiving referral patients from all over the country. It has Casualty Department, Outpatient Department and In-patient unit. There is also the Department of Plastic and Reconstructive surgery, Department of Anesthesiology and Department of Physiotherapy and Occupational therapy. Other auxiliary department includes Department of Radiology and Imaging, Department of Pathology, Department of Blood Transfusion, Limb Brace workshop and Social welfare department. Over the last 10 years, there has been a tremendous increase in the number of patients being treated at NITOR.

3.4.2.1. Outside of the hospital

Findings	Gaps	Recommendations
<p>The hospital area is indicated by panels at its main gate but the entrance is not clearly signed.</p> <p>The parking space is very close to the main entrance.</p> <p>The surface of the car parking space is stable, flat and non-slip.</p> <p>There are two hospital buildings. The new hospital building is just opposite the side of the parking area.</p> <p>There are two straight ramps and one stair to enter the building.</p> <p>The stair does not meet accessibility standards. It has six steps with a width of 4877mm, 178mm height and 396mm depth. The length and width of the landings respectively 5182mmx5182mm, Pic-14.</p> <p>Ramps have a height and width respectively 14021mm and 5182mm. The surface of the ramps is non-slip and well-drained.</p> <p>The entrance door is a swing and glass door that meets most of the criteria for manual doors, Pic-07, Annexure-01.</p> <p>The width of the door is 1737mm with a clear opening of more than 800mm. It has a D-shaped 305mm long handle. The lower half and upper half of the handle respectively 940mm and 1219mm.</p>	<p>There is no reserved parking space for persons with disabilities.</p> <p>There is an open drain beside the main route to the hospital building, Pic-12.</p> <p>There is no tactile indicator of contrasting colour.</p> <p>No directional signage and pictograph indicating emergency and all departments.</p> <p>There is no location map posted at the entrance.</p> <p>The stair does not have appropriate colour contrast at the edge of the stairs, no tactile ground indicators and no handrails, Pic-14.</p> <p>The ramps do not meet accessibility standards. There are no handrails, tactile ground indicators and appropriate color contrast, Pic-15.</p> <p>There are no wheelchairs available for the patients who need them.</p> <p>There is no map or directional signage of the building near the entrance.</p> <p>Incomplete building map.</p> <p>Nameplate/signboard/direction isn't there on every door/room/pathways.</p> <p>Construction work is going on with the less visual explanation.</p>	<p>It is recommended to keep at least one accessible car parking space.</p> <p>Fig-1 shows an accessible parking stall.</p> <p>Accessible parking should comply with 3.4.1.2. Parking, page no.</p> <p>Add tactile indicator at the pathway.</p> <p>Put on signboards at the main entrance.</p> <p>Display the place's name and directions and/or display a map of the building.</p> <p>Alter stairs according to 3.4.1.3. Entrance - Stairs, page 16.</p> <p>Add handrails—should be continuous on both sides and at the middle, 900 mm high and circular in section and extend 300 mm beyond the top and bottom steps.</p> <p>Accessible ramp shall comply with 3.4.1.3. Entrance - Ramps, page 16.</p> <p>Ensure sufficient numbers of the wheelchair at the wheelchair stand along with accessible pathways.</p> <p>Complete the map.</p> <p>Install room name/number on the door of every room and put the direction in front of every pathway.</p> <p>Put signboards where necessary to keep persons with hearing disabilities safe and so that they understand the change of the route too.</p>



Pic-12: New building access route



Pic-13: Drainage is not properly covered



Pic-14: Stair at the main entrance



Pic-15: Ramp at the main entrance

3.4.2.2. Ticket Counters

Findings	Gaps	Recommendations
<p>There is a help desk, Pic-16.; two ticket counters and two cash counters at the reception area in OPD of the new building. Among these counters, there are two separate counters for males and two for females, Pic-17. All these counters are clearly identifiable from the entrance. The height of these counters is 1194mm. The surface is level, smooth and non-slippery.</p>	<p>It is difficult for a wheelchair user for using the counters comfortably. Counters are not accessible at all, Pic-18. There is no knee clearance for wheelchair users. Not enough space at the counter area to allow privacy in communications. No sign and pictograph at the reception that gives priority for persons with disabilities, older people, and adults with children and pregnant women.</p>	<p>It is recommended to make at least one ticket counter, one cash counter and help desk disability friendly. The accessible counter shall comply with 3.4.1.5. Ticket counter, page 21. Create a priority service delivery system for people with disabilities, older people, and adults with children, and pregnant women. Create a priority lane with appropriate priority signs, an example shown in Pic-12, Annexure-01.</p>

Findings	Gaps	Recommendations
	<p>The information on the services at the health centre available is not easy-to-read and large print format.</p> <p>No detailed payment/cost information on the counter.</p> <p>There is no provision of sign language interpretation for patients who require it.</p> <p>Staff at the reception are not oriented on persons with disabilities.</p> <p>There is no sitting arrangement in this area.</p> <p>No one at the help desk, also staffs are unaware of how to communicate with persons with hearing disabilities.</p>	<p>Put a board/sign stating the cost of services/tickets on the counter.</p> <p>Ensure one staff who trained on disability presence at the help desk.</p> <p>Provide Sign Language Training to related staff such as Receptionists, and other medical and healthcare professionals.</p>



Pic-16: The help desk counter is not accessible for a person using wheelchair



Pic-17: No reserved booth for persons with disability, senior citizens were seen in the Ticket & cash counter



Pic-18: Counters are not wheelchair user friendly

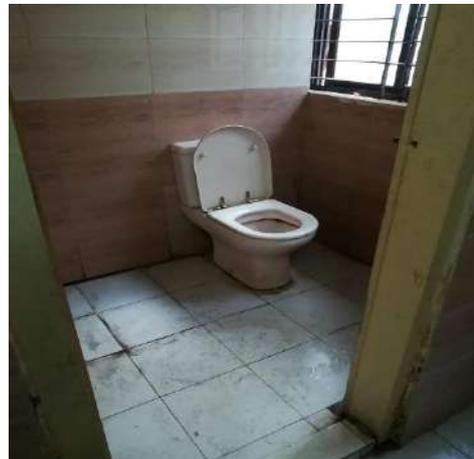
3.4.2.3. Toilet

Findings	Gaps	Recommendations
<p>There are separate toilet facilities for males and females at OPD in the new building but no functioning accessible toilet facilities for persons with disabilities. The toilet is located at the corner of the room.</p> <p>In each toilet, the facility has three toilet cubicles and a separate hand washing area, Pic-19.</p> <p>There are two high commodes and one low commode at every facility.</p> <p>There are three basins in the hand washing area and two urinals at male toilet facilities.</p> <p>Toilet doors open inwards.</p> <p>The main entrance door of every toilet facility is 9144mm wide. There is 8839mm clear inside the door opening. It has a 51mm high threshold. This door is not heavy and swings easily. The door handle is between 1118mm and 1219mm from the floor level. The door lock is 991mm high from the floor level.</p> <p>Every toilet cubicle is 1524mm long and 1219mm wide.</p> <p>Toilet doors can be locked from inside but cannot be released from outside by authorized staff in case of emergency.</p> <p>The height of the water tap and soap dispenser are respectively 260mm and 1219mm.</p> <p>In case of the water closet,</p> <ul style="list-style-type: none"> • Height of the toilet pan 432mm • 610mm clear space in front of the toilet pan. • Clear space to the non-wall side of the pan 914mm 	<p>There is no directional signage indicating the location of the accessible toilet as well as not labeled with appropriate signage.</p> <p>No sign in front of the toilet (male-female)</p> <p>Toilet facilities are not accessible.</p> <p>The floor material is not well-drained, waterproof, non-slip and non-glare.</p> <p>Toilet paper dispenser and flush control are not located within easy reach and easy to use.</p> <p>There is no sanitary bin inside the cubicles.</p> <p>Washbasin does not allow clear knee and toe space for wheelchair users.</p> <p>There are no grab bars in the toilets, urinals and washbasin.</p> <p>The colors of the toilet/urinals/washbasins are not contrasted with the background/floor.</p> <p>There is no functioning emergency call bell inside the toilet.</p> <p>Inside the toilet light intensity is very low.</p> <p>Toilets are not clean and free from strong smells.</p> <p>There is no accessible baby changing station.</p>	<p>Fix appropriate directional signage at every change of direction to the accessible toilet.</p> <p>Put a “male/female” sign where necessary to avoid misunderstanding.</p> <p>Remove door threshold or alter with a slop 1:20 mm.</p> <p>Ensure floor materials are well-drained, waterproof, non-slip, non-glare and level.</p> <p>Toilet paper/water—toilet paper and/or water hose/tap facilities located in easy reach of a person seated on the toilet at a height of approximately 800mm from the floor and approximately 100mm back from the front of the toilet pan, Fig-09, Annexure-02.</p> <p>Water closet/squat toilet/urinals shall be appropriate colour contrasted with the background.</p> <p>Toilets shall be locked from inside and released from outside by authorized staff in case of an emergency.</p> <p>A general lighting level of at least 200 lux should be provided in toilet facilities.</p> <p>It is recommended to make at least one toilet cubicle accessible at each toilet block.</p> <p>An accessible toilet shall comply with 3.4.1.11. Accessible toilet, page-34.</p> <p>Alter at least one urinal accessible, shall comply with 3.4.1.11. Accessible toilet, page-34.</p> <p>Add an accessible baby changing station, shall comply with 3.4.1.11. Accessible toilet, page-34.</p>

Findings	Gaps	Recommendations
<ul style="list-style-type: none"> Distance from the sidewall to the centre of the toilet pan 508mm, Pic-20 <p>Urinals height is 737mm, chamber width and depth are respectively 737mm and 304mm, Pic-21.</p> <p>The rim of the washbasin is mounted at a height of 813mm maximum from the floor. The height of soap dispensers is 864mm. The bottoms of the mirrors are 1168mm and the top 1787mm from the floor level.</p>		



Pic-19: Three cubicles & hand washing space inside the toilet block



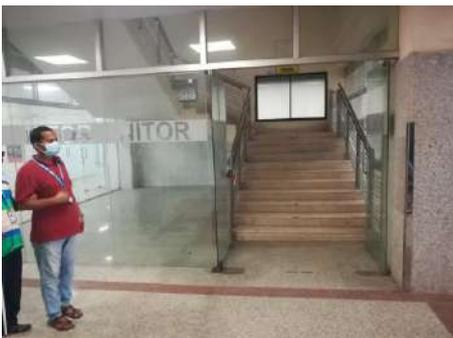
Pic-20: High commode inside the toilet cubicles



Pic-21: Urinals at the male toilet block

3.4.2.4. Corridors

Findings	Gaps	Recommendations
<p>The corridor is 5182mm wide. The surface of the corridors is stable, flat, non-slip and non-glare. Corridors door meet the accessibility requirements. It is a glass-made swing door. This door opens inward and has a clear open space of 1737mm. The door handle is 305mm, D-shape. The handle position is between 965mm to 1270mm from floor level. The stair along the corridor does not meet the accessibility standards, Pic-22.</p> <ul style="list-style-type: none"> • Width: 1829mm • Steps 127mm high and 305mm deep. • No appropriate color contrast • Handrails are continuous, at both sides and 991mm in height. • Landings 1829mm in length and 2134mm in wide. <p>There are ramps alongside the corridors, do not meet the accessibility requirements.</p> <ul style="list-style-type: none"> • Type of ramp: 180-degree turn • Width: 1981mm • No handrails present <p>Landings are present after every 25298mm vertical rise, Length 4816mm and 2896mm width</p>	<p>Corridors are not free from obstacles and hazards. Patients and their attendants are flooring in the corridor. Obstacles are not contrasting colors in the corridor. There are no clear signs and pictographs providing directions to rooms, elevators, and stairs with color contrast, non-glare, large print and pictures. There is no tactile paving with color contrast. Light intensity is low along with the landings and corridors. No functioning audio-visual fire alarms. No clear signage and pictograph indicating accessible escape routes.</p> <p>Some signboards/ directions are handwritten and too small to notice No proper indicators for visually impaired individuals.</p>	<p>Any obstacles in the corridor area shall be avoided. All obstacles shall be appropriate colour contrasted with the background. Use appropriate signage and indications. Signage shall comply with 3.4.1.1. Outside of the hospital, page-12. Install appropriate colour contrasted tactile indicator comply with Fig-03, Annexure-02. Increase the lighting to a maximum of 11 LPD (w/m^2). Install an audible and visible emergency alarm system and clear directional signage of accessible escape routes. Stair shall be altered into accessible stair complying with section 3.4.1.3. Entrance - Stairs, page-15. The ramp shall be altered and comply with 3.4.1.3. Entrance - Ramps, page-15.</p>



Pic-22: Stair alongside the corridor

3.4.2.5. Elevators

Findings	Gaps	Recommendations
<p>There are four elevators in the new hospital building.</p> <p>The length of every lift car is 2235mm and the width 1829mm.</p> <p>The door width is 1295mm.</p> <p>The doors open and close automatically.</p> <p>The height of the call buttons is 1081mm from floor level. Braille language is used for persons with visual impairment, Pic-23.</p> <p>Horizontal grab bars height is 1116mm, Pic-24.</p>	<p>There is no audible and visual indicator for a person with sensory and cognitive impairments.</p>	<p>Install appropriate signage and directional signage to locate elevators and different departments on each floor.</p> <p>Install audible and visual indicators for the person with sensory and cognitive impairments.</p>



Pic- 23: Elevator's control board



Pic-24: Inside lift car

3.4.2.6. General Ward

Landings	Gaps	Recommendations
<p>The general ward is situated on the second floor of the old building. The ward is named by C/D Ward. Male and female wards are separate but same in size and design and opposite to each other.</p> <p>The door of the ward is 965mm wide.</p> <p>The room is free from loud background noise.</p>	<p>There is a sign outside the ward but it does not meet accessibility standards, Pic-25.</p> <p>Inside the room, space is not sufficient to maneuver a wheelchair.</p> <p>The floor material is not non-slip and non-glare.</p> <p>The room is not clear of obstructions and hazards and light is not sufficient.</p>	<p>Install appropriate signage with necessary relevant information, shall comply with section 3.4.1.1. Outside of the hospital, page-12.</p> <p>10% percent patient bed shall have following mobility features:</p> <ul style="list-style-type: none"> • Turning space: Minimum 1525mm • Clear floor or ground space: Minimum 760mm

The total numbers of beds are 42. There is 1219mm space in between beds. All beds are height adjustable. There is an attached toilet facility in each ward. Every toilet block there are four toilet cubicles and four bathing facilities. The main door of the toilet block is 838mm wide, Pic-26. Toilet cubicles door width 610mm and have a 102mm high threshold, Pic-27. Each cubicle is 1219mm×1524mm in dimension. There are four low commodes at each toilet block. Water taps heights are 305mm from the floor level. There is a storage space for stretchers and wheelchairs.

Obstacles in the room are not contrasted in colors. No functioning fire alarms are installed. Privacy is not maintained in these wards.

There is no provision for family members/attendance. There are no sitting arrangements. Toilet and bathing facilities are not accessible at all.

by 1220mm; Fig: 22, Annexure-02.

- A height-adjustable bed is recommended or between 508mm to 584.2mm height from the floor to the top of the mattress.

(Guidance on the 2010 ADA standards for accessible design, 2010)
All facilities at the general ward should be altered and shall comply with section 3.4.1.17. General Ward, page-44.



Pic-25: Hanging directional signage of General Ward



Pic-26: Threshold at the toilet entrance inside general ward



Pic-27: Toilet cubicle inside the general ward

Pic-28: Shower room inside the general ward



3.4.2.7. Outdoor doctor's consultation room and waiting area

Findings	Gaps	Recommendations
<p>Doctor's consultation rooms are situated on the ground floor of the new building. There is a waiting area. This area has 96 total sitting arrangements in three rows of benches. All benches are fixed, Pic-29. Surface level, smooth and non-slippery. There are two categories of consultations room. Room numbers 1 & 2 are reserved for professors and rooms number 3, 4, 5 & 6 are for medical officers. The dimensions of these rooms are 2896mmx3556mm. Rooms 1&2 are comparatively large than other rooms. The door width of rooms 3, 4,5 and 6 is 889mm. These rooms have two chairs, one desk with 152mm knee clearance. There is a height-adjustable bed in every consultation room. There is 1118mm clear space to move in the room.</p>	<p>There is no reception counter. No priority sign in the waiting area that gives priority for people with disabilities, older people, adults with children and pregnant women. No space for wheelchairs. The waiting area is not clear of obstacles and hazards. Some monitors showing videos instead of the serial number.</p>	<p>A reception counter in this area may be useful for the patient to receive services more easily. The reception area shall comply with section 3.4.1.5. Ticket counter, page 21. The outdoor doctor's consultation room and waiting area shall comply with 3.4.1.14. Outdoor doctor's consultation room and waiting area, page-41-42. Display serial number on the monitor along with calling out loud.</p>



Pic-29: No special area was reserved for persons with disabilities

3.4.2.8. Emergency Unit

Findings	Gaps	Recommendations
<p>Emergency unit situated on the ground floor of the old hospital building. There are a stair and a ramp at the entrance of the emergency unit.</p> <p>The stair has 5 steps with 4572mm width and 356mm depth. 1st step's height is 51mm, 2nd to 4th step's height is 114mm and 5th step's height is 152mm, Pic-30.</p> <p>The ramp is 1194mm wide and 4267mm long. The handrail is 965mm high. The landing space's dimension is 5182mmx1194mm, Pic-31.</p> <p>A 2235mm pathway leads to the emergency ticket counter. There are two ticket counters of the same height (1029mm).</p> <p>The entrance of the emergency unit has enough clear space.</p> <p>There are eight emergency bed facilities. All are fixed types of beds and two categories with 559mm and 689mm in height. There is a 559mm gap between two beds, Pic-32.</p> <p>The height of the switchboard is 1651mm.</p> <p>The emergency doctor's room is 864mm wide with 762mm door clearance, Pic-33.</p> <p>There is an emergency X-ray room with a 1397mm door width and 1295mm door clearance.</p> <p>X-ray bed is fixed with a height of 762mm, Pic-34.</p>	<p>The emergency unit is not well signed.</p> <p>No directional signage.</p> <p>The stairs and ramp do not meet accessibility criteria.</p> <p>X-ray bed does not meet accessibility criteria.</p>	<p>Install appropriate signage and directional signage.</p> <p>Alter stairs and ramp, shall comply with section 3.4.1.3. Entrance, page-15.</p> <p>The emergency unit shall comply with section 3.4.1.18. Emergency Unit, page-50.</p> <p>For easy transfer from a wheelchair to a table a height between 432mm to 483mm adjustable exam table is recommended, Fig-21("Accessible Medical Examination Tables and Chairs ADA National Network", 2021).</p>



Pic-30: Stair at emergency entrance



Pic-31: Ramp at emergency entrance



Pic-32: Inside the emergency unit is overcrowded



Pic-33: Some assistance is required for persons with disabilities to get services from the emergency unit



Pic-34: X-ray table is not accessible

3.4.2.9. Pathology Room

Findings	Gaps	Recommendations
<p>The pathology department is situated on the 1st floor of the new hospital building.</p> <p>The door of the pathology department meets the accessibility standards. It is a 1397mm wide sliding door.</p> <p>There is enough space inside the room to maneuver a wheelchair.</p> <p>There is enough light and obstacles are in contrasting colors in the room.</p> <p>The room is free from loud background noise.</p> <p>There is no surface level change in the hallway.</p> <p>All equipment, tables etc. in the pathology room are accessible.</p> <p>There are five sample collection counters with 762mm counter height.</p>	<p>There is no sign outside the room.</p> <p>Floor materials are not non-slip and non-glare.</p> <p>There are no functioning fire alarms with visual and audible signals installed.</p> <p>There is no signage indicating accessible escape routes.</p> <p>The toilet block is not accessible at all, Pic-36.</p> <p>The door threshold is too high.</p>	<p>A clear sign shall be posted providing directions to rooms with colour contrast, non-glare, large print and pictures.</p> <p>Install a functioning emergency alarm with both visual and audible signals and also clear signage indicating accessible escape routes.</p> <p>Remove door threshold or alter with a slop 1:20 mm.</p> <p>It is recommended to make at least one toilet cubicle accessible at each toilet block. An accessible toilet shall comply with section 3.4.1.11. Accessible toilet, page-34.</p>

Findings	Gaps	Recommendations
<p>Every counter is 749mm long and 203mm knee clearance, Pic-35</p> <p>There is a toilet block with three toilet cubicles and a handwashing space with three basins,</p> <p>There is 1219mm available space in between washbasins and toilet cubicles doors.</p> <p>The main toilet block door width is 749mm. There is a 51mm high threshold. The door lock height is 990mm and liver system. Pic-37</p> <p>The switchboard height is 1321mm.</p> <p>Every toilet cubicles dimension is 1219mm×1067mm.</p> <p>Toilet pan height is 432mm.</p> <p>There is 305mm free space at the front, 356mm from the sidewall and 610mm at the non-side wall of the toilet pan.</p> <p>Hand shower height is 915mm.</p>		



Pic-35: No signage of priority lane for persons with disabilities at sample collection counters



Pic-36: Pathology toilet block not accessible for persons using wheelchair



Pic-37: No clear signage at toilet door

3.4.2.10. Fire Exit Routes

Findings	Gaps	Recommendations
<p>There are no fire exit routes. There are fire extinguishers and fire buckets.</p>	<p>All fire extinguishers are already date expired, Pic-38. No emergency guideline is written beside the fire extinguishers/hosepipe as to how to use them, Pic-39. No emergency lights to alert persons with hearing disabilities during the fire.</p>	<p>Put poster/visual guidance on how to use emergency tools besides the tool. Install emergency alerting lights. Emergency Exit shall comply with section 3.4.1.16. Emergency exit, page-47.</p>



Pic-38: More fire extinguishers are required having expiry date and trained staff to use during any emergency



Pic-39: Fire buckets need to be placed and equipped properly

3.4.3. Findings from Accessibility Audit: NIMH

The National Institute of Mental Health (NIMH) is the lead state agency dedicated to the treatment of mental health problems along with mental health policy formation, research, and training of mental health professionals. Audit findings, major gaps and possible recommendations are given below:

3.4.3.1. Outside of the hospital

Findings	Gaps	Recommendations								
<p>The building is indicated by signs (panels) that are moderately visible and legible.</p> <p>There is a parking space for about 35 cars.</p> <p>There is a pathway that is 3926mm wide. The pathway is not free from obstacles. Construction rubbles and materials are lying here and there. The steps of stairs measurements are: 140mm riser, 280mm tread.</p> <p>There is a straight run ramp at the entrance with measurements : 304mm height 1219mm length 812mm width</p> <p>The landing is 1092mm x 1219mm Plinth at 304mm</p> <p>There are no entrance doors as such but an opening of 1219mm, with a collapsible gate.</p>	<p>There are no pictographs that are easily visible and legible.</p> <p>The parking space is not properly designed and designated. There are no spaces reserved for persons with disabilities.</p> <p>The pathway leading from the entrance to the parking space is not paved, is not flat, smooth surface.</p> <p>There is no tactile paving of contrasting colour.</p> <p>There are no handrails, colour contrast, or tactile surface indicators on the entrance stairs.</p> <p>The stairs are uneven and tiles are broken in certain areas.</p> <p>There are no wheelchairs available near the entrance.</p> <p>There is no directional map or signage of the building near the entrance.</p> <p>There is no directional signage and pictograph indicating emergency and all departments.</p> <p>The ramp at the entrance does not meet accessibility standards, Pic-40.</p>	<p>Install appropriate pictographs that are easily visible and legible.</p> <p>Table 02: Size of the pictograph varying with distance:</p> <table border="1" data-bbox="887 622 1410 797"> <thead> <tr> <th data-bbox="887 622 1107 696">Viewing distance (m)</th> <th data-bbox="1107 622 1410 696">Symbol size (mm)</th> </tr> </thead> <tbody> <tr> <td data-bbox="887 696 1107 730">Up to 7.0</td> <td data-bbox="1107 696 1410 730">60x60</td> </tr> <tr> <td data-bbox="887 730 1107 763">7.0 to 18.0</td> <td data-bbox="1107 730 1410 763">100x100</td> </tr> <tr> <td data-bbox="887 763 1107 797">Above 18</td> <td data-bbox="1107 763 1410 797">200x200 to 450x450</td> </tr> </tbody> </table> <p>(Bangladesh national building code, 2020)</p> <p>Install at least one accessible parking space. The parking area shall comply with 3.4.1.2. Parking, page-13.</p> <p>Add tactile paving of contrasting colour at pathway indicating towards facilities and services; Fig 03. Alter pathway surface smooth, flat and non-slip. Remove all obstacles from the pathway.</p> <p>Alter entrance stair to an accessible stair. Accessible stairs shall comply with section 3.4.1.3. Entrance - Stairs, page 16.</p> <p>Ensure enough wheelchairs available near the accessible entrance.</p> <p>Install appropriate building map, directional signage indicating an emergency, accessible facilities and all departments.</p> <p>As there is a lack of space in front of the entrance, it is recommended to install an accessible ramp at the left side of the entrance area, Pic-41. Accessible ramp shall comply with section 3.4.1.3. Entrance – Ramp, page-16.</p>	Viewing distance (m)	Symbol size (mm)	Up to 7.0	60x60	7.0 to 18.0	100x100	Above 18	200x200 to 450x450
Viewing distance (m)	Symbol size (mm)									
Up to 7.0	60x60									
7.0 to 18.0	100x100									
Above 18	200x200 to 450x450									



Pic-40: Inaccessible straight ramp and stairs



Pic-41: Recommended space for ramp

3.4.3.2. Ticket Counter Area

Findings	Gaps	Recommendations
<p>There is a ticket counter cum dispensary with a height of 1194mm.</p> <p>There is enough space on the counter to allow privacy in communications.</p> <p>The information on the services at the health centre available in easy-to-read and large print format.</p> <p>The surface level, smooth and non-slippery.</p> <p>There is enough light so all the information can be seen.</p>	<p>There are no signs or pictographs at the reception that gives priority to people with disabilities, older people, adults with children, and pregnant women.</p> <p>There is no information/help desk in this area.</p> <p>There is no provision for sign language interpretation for patients who require it.</p> <p>There are no chairs available in the waiting area.</p> <p>Signages are abrupt and misleading.</p> <p>Inappropriate font size and color contrast used for the list of medicines board which is difficult to read for people with low vision, Pic-42.</p>	<p>Should have separate ticket counters and medicine counter. The ticket counter and medicine counter shall comply with section 3.4.1.5. Ticket counter, page 21.</p> <p>Create a priority service delivery system for people with disabilities, older people, and adults with children, and pregnant women. Create a priority lane with appropriate priority signs, an example shown in Pic-05, Annexure-1.</p> <p>Set up an information/help desk which shall comply with 3.4.1.4. Information Desk, page 19.</p> <p>Provide Sign Language Training to related staff such as Receptionists, and other medical and healthcare professionals.</p> <p>Set up a waiting area with enough sitting arrangement. Provision for reserve seats (with clear signage, Pic-06, Annexure-01) for people with disabilities, older people, and pregnant women. At least two wheelchairs reserve space; length 1100mm X width 750mm free space for one wheelchair (Fig-06, Annexure-02).</p> <p>Install appropriate signage.</p> <p>Use Capital Letters, Size: 60mm-100 mm. Characters should not be <i>italic</i>, highly decorative, or of other unusual forms, and a sans-serif typeface should be used. The surface of the board should be non-glare. Height within the field of vision preferably 1500mm above from the ground level.</p>



Pic-42: Inappropriate font size which is difficult to read for a person with low vision

3.4.3.3. General toilet at OPD (Ground floor)

Findings	Gaps	Recommendations
<p>There are toilets people can use.</p> <p>The floor material well drained, waterproof, non-slip and non-glare.</p> <p>There is running water in or close to the toilets.</p> <p>The entrance door is 890mm wide. The inside doors a clear opening of 800mm. The handles are placed at 1000 mm. There is a space for ablution.</p> <p>Toilets clear of any obstructions or hazards.</p> <p>There is enough light. The toilets are clean and free from strong bad smells.</p> <p>There are 5 cubicles in total.</p> <p>All toilets have a low pan system.</p> <p>Each cubicle is 1447mmx1092mm.</p> <p>Toilet tap is placed at 500mm.</p> <p>The door lock is placed at 920mm.</p> <p>The door handle is placed at 1000mm</p> <p>The alley between the toilets is 1270mm.</p>	<p>There is no clear directional signage or pictograph indicating the location of the toilets.</p> <p>The toilets cannot be released from outside by authorized staff in an emergency.</p> <p>There are no sanitary bins in the toilets.</p> <p>Soap and paper towels are not provided.</p> <p>There is no washbasin.</p> <p>The colour of the squat toilet is not contrasted with the background.</p> <p>The door has no threshold.</p> <p>The doors don't close properly.</p> <p>There are no door jambs.</p> <p>The toilets are not separated by gender with clear signage.</p> <p>There is not enough light. The toilets are not clean and free from strong bad smells.</p> <p>There is no functioning emergency call bell with a clear sign, pictograph, or writing or pull rope type installed.</p>	<p>Install appropriate directional signage.</p> <p>Alter toilet area according to section 3.4.1.9. General toilet, page 27.</p> <p>Make at least one toilet cubicle accessible at each toilet block, shall comply with section 3.4.1.11. Accessible toilet, page 34.</p> <p>Provide sanitary bins, soap and paper towels.</p> <p>Add washbasin, shall comply with 4, page 33.</p> <p>Install functioning emergency call bell with a clear sign, pictograph.</p>

3.4.3.4. General Ward (Female, 2nd floor)

Findings	Gaps	Recommendations
<p>The door is double swing, 1397mm opening width.</p> <p>There is a nurse's station outside the ward with a counter height of 1219mm.</p> <p>The floor material non-slip and non-glare</p> <p>There is sufficient space inside the room to maneuver for a wheelchair. The rooms are clear of any obstructions or hazards. There are 65 beds in 9 rooms, each consisting of about 7-8 beds. The space in between beds is 483mm. The dimension of the beds are as follows: Width: 914mm; Length: 2032mm; Height:584mm</p> <p>The switchboard is placed at a height of 1321mm.</p> <p>The corridor outside the G.W. is 2209mm wide.</p> <p>There is a toilet facility in the general ward that is common for all. The toilet entrance door is 889mm wide. There are 6 low commodes in this toilet. Each cubicle door is 685mm wide. Each cubicle dimension is 1473mmx1118mm. The corridor inside the toilet is 1193mm.</p> <p>There are bathing facilities inside this toilet.</p>	<p>There is no proper signage outside the general ward.</p> <p>No clear signage and pictograph are indicating accessible escape routes.</p> <p>No privacy maintained in general wards. The rooms are not free from loud background noise.</p> <p>No provision for family members/attendance.</p> <p>There are insufficient spaces in between beds to move wheelchairs. Beds are not accessible, Pic-43.</p> <p>There is no proper seating arrangements/ resting space for attendants.</p> <p>The toilet has no proper lock system.</p> <p>There are no functioning fire alarms with visual and audible signals installed.</p> <p>The rooms are not properly ventilated.</p> <p>There are no washbasins in this toilet.</p>	<p>Install appropriate signage and directional signage outside the general ward, accessible escape routes, and accessible toilets facilities.</p> <p>Alter this ward according to section 3.4.1.17. General Ward, page-44.</p> <p>May add some sitting arrangement/ resting space for attendants in front of the ward.</p> <p>Noise control shall comply with 3.4.1.17. General Ward, page-44.</p> <p>Alter at least one accessible toilet complies with section 3.4.1.11. Accessible toilet, page-44.</p> <p>Ensure enough ventilation inside the ward.</p> <p>An accessible washbasin is recommended to install, shall comply with section 3.4.1.10. Washbasin, page-4.</p>



Pic-43: Insufficient space to move in between beds

3.4.3.5. General Ward (Male, 4th floor)

Findings	Gaps	Recommendations
<p>This ward is ready to service but still not in services.</p> <p>The door opening width is 1803mm.</p> <p>The floor material non-slip and non-glare.</p> <p>There is sufficient space inside the room to maneuver for a wheelchair. The rooms are clear of any obstructions or hazards.</p> <p>There are functioning fire alarms with visual and audible signals installed.</p> <p>There are 24 beds in 2 rooms, each consisting of 12 beds. The space in between beds is 1320mm. The dimension of the beds are as follows: Width: 889mm; Length: 1930mm; Height: 685mm, Pic-44.</p> <p>The switchboard is placed at a height of 1193mm.</p> <p>The corridor outside the G.W. is 2184mm wide.</p> <p>There is a toilet facility in the general ward that is common for all.</p> <p>The toilet entrance door is 889mm wide.</p> <p>There are 2 low commodes and 2 high commodes in this toilet.</p> <p>There are 8 washbasins in this toilet. Their measurements are as follows: Height: 812mm The basins have knee space. Mirror height: 1193mm from floor finish. Mirror top: 1778mm from floor finish. Soap tray height: 965mm.</p> <p>Each cubicle door is 889mm wide. There is a threshold of 76mm. Each cubicle dimension is 1066mmx1448mm, Pic-46.</p> <p>Water closet height: 432mm; W.C to wall space: 254mm W.C to non-wall side: 533mm. W.C front space: 558mm; Hand shower height: 838mm; paper towel height: 737mm.</p>	<p>There are no proper signages outside the general ward.</p> <p>There are no doors installed yet.</p> <p>No clear signage and pictograph are indicating accessible escape routes</p> <p>There is no proper seating arrangements/resting space for attendants.</p> <p>The toilet has an improper lock system (Celt system).</p> <p>Towel rails are not accessible for all, Pic-45.</p>	<p>Install appropriate signage and directional signage outside the general ward, accessible escape routes, and accessible toilets facilities.</p> <p>If authority decide to Install a door in this area, it is recommended to consider following features for an accessible door: At least one operable leap shall allow 900mm clearance. Handles, fasteners, locks etc. shall be manually operable by one hand with ease and shall be within the range of 900 mm to 1100 mm from the floor level. Door handles are recommended over doorknobs.</p> <p><i>(Bangladesh national building code, 2020)</i></p> <p>Train staffs on maintaining patient privacy in general wards.</p> <p>Ensure sitting arrangement/resting space for patient attendants in front of the ward, shall comply with 3.4.1.8. Waiting area, page-24.</p> <p>Alter at least one accessible toilet complies with section 3.4.1.11. Accessible toilet, page-12.</p> <p>Alter at least one bathing cubicle accessible, shall comply with section 3.4.1.17. General Ward, page-44.</p>

Findings	Gaps	Recommendations
<p>The door lock is placed at 2032mm.</p> <p>The corridor inside the toilet is 1193mm.</p> <p>There are bathing facilities inside this toilet block.</p> <p>There are 4 bathing cubicles, each dimension is 1194mmx1092mm.</p> <p>Shower knob height: 1041mm.</p>		



Pic-44: Well decorated male ward



Pic-45: Towel rails are out of reach of a wheelchair user



Pic-46: Threshold at the door of a toilet cubicle

3.4.3.6. Emergency Exit

Findings	Gaps	Recommendations
<p>The hospital has smoke detectors on the new floors.</p> <p>There is access for firefighters to enter the hospital in case of fire.</p> <p>The door width is 838mm; the door press release handle: 1066mm.</p> <p>There are provisions to evacuate patients with special needs.</p> <p>The fire extinguishers are mounted at 1905mm above the floor finish.</p> <p>The width of the corridor leading to the emergency exits is 2133mm.</p> <p>Fire exit door meets accessibility standards, Pic-47.</p> <p>The emergency exit stairs measurements are as follows: Tread: 279mm; Riser:152mm; Width:1219mm; Railing height: 787mm; Railing diameter: 60mm.</p>	<p>In case of fire, existing medical facilities, flammable materials are not protected with fire-retardant paint or other forms of fire-insulating, non-combustible materials.</p> <p>There are no proper signage, pictograph and evacuation maps posted at the hospital's main access points to identify egress routes.</p> <p>The new floors under construction and renovation have provision for effective fire alarms facilities with IPS or battery backup systems but the previously constructed floors don't.</p> <p>Fires extinguishers are out of reach.</p>	<p>Install appropriate signage and directional signage of emergency exit.</p> <p>All existing medical facilities and materials shall protect appropriately according to the guidelines of section 3.4.1.16. Emergency exit, page-47.</p> <p>Proper signage and evacuation maps shall be posted at the hospital's main access points and each floor to identify the egress route.</p> <p>All hospital floors shall have provision for effective fire alarm with flashing light facilities with IPS or battery backup system.</p> <p>Install fire extinguishers within easy reach for a wheelchair user.</p>



Pic-47: Fireproof Emergency exit door

3.4.3.7. Corridors, stairs and elevators

Findings	Gaps	Recommendations
<p>Clear path for corridor: 2594mm The paths and corridors are free of all obstacles and hazards (boxes, tables, cupboards etc.). The surface is stable, flat, non-slip and non-glare. There is enough light along the paths and corridors The entrance doors are collapsible gates, 2235mm wide opening. There are collapsible gate rails raised at 48mm. The handles 1022mm above floor finish. Stair measurements are as follows: Width: 1473mm, Tread: 254mm; Riser: 140mm; No colour contrast; Landings are after 12 steps. Landings: 2895mm (L) X 2997mm (W). There is lighting at every landing. The height of the handrails is 889mm. The gripping spaces are uninterrupted. There is a 90-degree turn ramp measuring: Length: 35052mm; Height: 1524mm; Width: 2108mm, Pic-48. Landings:4800mm (length) x 1854mm (width)</p>	<p>There are no clear signs and pictographs providing directions to rooms with colour contrast, non-glare, large print and pictures. There are no visual floor ways to find signage and pictograph and/or tactile paving with colour contrast. Handrails are continuous, not on both sides. There are no tactile warnings at the bottom and top of the stairs. There are no signs. There are no colour contrast strips. There are no tactile ground surface indicators at every top and bottom landings. The ends of handrails are not properly treated. The handrails are not circular. Visible and audible signals are not provided at each hoist way entrance to indicate which car is answering a call. All elevator hoist way entrances are not raised and Braille floor designations are provided on both jambs. The elevator is not fully accessible.</p>	<p>Use appropriate signage and indications. Signage shall comply with 3.4.1.1. Outside of the hospital, page-12. Install appropriate colour contrasted tactile indicator on the corridors comply with Fig-03. Stair shall be altered into accessible stair complying with section 3.4.1.3. Entrance – Stairs, page-16. This ramp is a good option as an emergency exits for the persons with disabilities. It is recommended to alter ramp handles, surface and lighting, shall comply 3.4.1.3. Entrance – Ramps, page-16. The accessible lift shall have tactile marking and brail on all buttons. Call button shall alter within an accessible reaching height 850mm to 950mm from floor level.</p>

Findings	Gaps	Recommendations
<p>Handrails are circular but obstructed on both sides; Handrails height 1143mm; there are landings at the top and bottom and every change of direction. Call buttons in elevator lobbies and halls are 1219mm above floor finish. Elevator doors open and close automatically. They are provided with a reopening device that will stop and reopen a car door and hoist way door automatically if the door becomes obstructed by an object or person.</p>		

<p>The floor areas of elevator cars provide space for wheelchair users to enter the car, maneuver within reach of controls, and exit from the car. Elevator button 1219mm highest. There is Braille on the buttons. There is a safety grab bar installed inside the car at 990mm in height. The emergency button is at 1575mm.</p>		
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Pic-48: Inappropriate slope ratio of the ramp is difficult to climb a wheelchair user

3.4.3.8. Pathology Unit

Findings	Gaps	Recommendations
<p>The pathology unit is situated on the second floor. The entrance door width is 1397mm but the clear opening width is 914mm. The room has enough space for wheelchair maneuvering. Room furniture includes five wooden chairs with back support and one table. Table height is 787mm and adequate knee clearance.</p>	<p>There is no signage and directional signage which is clearly readable and visible. There is lacking relevant equipment for people with sensory, physical and intellectual disabilities. There are no functioning fire alarms with visual and audible signals installed. There is no signage indicating accessible escape routes. There is no waiting area.</p>	<p>A clear sign shall be posted providing directions to rooms with colour contrast, non-glare, large print and pictures. Install a functioning emergency alarm with both visual and audible signals and also clear signage indicating accessible escape routes. Ensure availability of the following relevant equipment for people with disabilities:</p> <ul style="list-style-type: none"> • Hearing aids, e.g. Hearing Loop, headphones, speakers etc. • Vision aids e.g. hand-held magnifiers, strong magnifying reading glasses etc. • Communication aids, etc.

3.4.3.9. Outdoor Doctor's Consultation and Waiting area

Findings	Gaps	Recommendations
<p>The outdoor doctor's consultation room and waiting area is situated on the ground floor of the building.</p> <p>The surface level is smooth and non-slippery.</p> <p>The lighting intensity is good so all information can clearly be seen.</p> <p>There is a wooden long bench and some fixed plastic waiting chairs in the waiting area of the outdoor doctor's consultation room.</p> <p>The height, depth, length and back support of the wooden long bench are respectively 457mm, 381mm, 1524mm and 483mm. In case of plastic made long waiting chairs height, depth and back support is 406mm, 406mm, and 356mm.</p> <p>There are six doctor consultation rooms. Every room is 3048mm long and 3048mm wide.</p> <p>There is some room furniture in every room including two cabinets, one table and three chairs.</p> <p>Every table is 762mm high with adequate legroom and knee clearance for wheelchair users.</p> <p>There is 965mm free space inside the room.</p>	<p>There is no reception counter but a waiting area is present.</p> <p>In the waiting area there are insufficient numbers of chairs.</p> <p>Signage, nameplates are placed at too high to see and read easily.</p> <p>No signage or markings give priority to people with disabilities, older people, and adults with children, and pregnant women.</p> <p>There is no particular space for wheelchairs in the waiting area.</p> <p>This area is not free from background noises so it is difficult to hear conversations clearly.</p> <p>Huge gatherings make any movement difficult for people having any disabilities or using any assistive device.</p>	<p>A reception counter in this area may be useful for the patient to receive services more easily. The reception area shall comply with section 3.4.5, page 21.</p> <p>Alter the waiting area into an accessible waiting area. The accessible waiting area shall comply with section 3.4.8. Ensure the waiting area shall have a sufficient number of chairs, Directional signage and a priority lane for the people with disabilities, older people, and adults with children and pregnant women in an appropriate way.</p> <p>Install signage, nameplates at 1500mm high from the floor.</p> <p>Ensure sufficient sitting arrangement and broadcasting of different videos on health care management may help to reduce the noise level.</p> <p>Make sure examination rooms provide clear floor space for a person to turn in a wheelchair or scooter to comply with Fig: 22.</p> <p>Turning space: Minimum 1525mm</p>

3.4.4. Findings from Accessibility Audit: DMCH

Dhaka Medical College (DMC) is a government medical college and hospital, located in Dhaka, the capital city of Bangladesh. It is situated in the Bakshibazar area of the city, close to the University of Dhaka and the Bangladesh University of Engineering and Technology. Starting with only one building, DMC now consists of a college building with a new extension, an auditorium, a Nuclear Medicine Centre, male and female dormitories, burn units etc.... scattered on about 25 acres of land. In 34 different departments and 42 wards - 234 doctors, 140 interns, 560 nurses, and 1100 other staff are dedicated to ensure 24-hour health services both indoor and outdoor. The hospital now consists of about 2300 beds with a new academic and hospital building including a bone marrow transplantation facility rendering services to almost 3500 inpatients every day.

3.4.4.1. Outside of the hospital - OPD (Old Building)

Findings	Gaps	Recommendations
The OPD area is not indicated by panels at its main gate.	No directional signage and pictograph indicating emergency and all departments at the main gate. There is no location map posted at the entrance.	Install signboards at the main gate of the OPD. Display the place's name and directions and/or display a map of the building. Signages shall comply with the recommendation No. 3.4.1.1., page 17.

3.4.4.2. Parking

Findings	Gaps	Recommendations
There is a parking area adjacent to the OPD building. The parking area is reserved for doctor's vehicles only. There is a pathway with enough wide, flat, hazards free, smooth, and non-slippery (from the parking) to the OPD entrance.	There are no reserved parking spaces for persons with disabilities. There is no tactile indicator at the pathway from the parking to the entrance of the OPD.	It is recommended to keep at least one accessible car parking space. The dimensions of accessible car parking and related signages shall comply with the recommendation No. 3.4.1.2., page no. 18.

3.4.4.3. Entrance

Findings	Gaps	Recommendations
The entrance is free of obstacles and hazards.	There is no map or directional signage of the building near the entrance.	Install a building map/layout at the entrance of the building. Put signages where necessary to keep persons with hearing disabilities safe and so that they understand the change of the route too.

Findings	Gaps	Recommendations
Stairs: To enter into the OPD there are stairs with five steps with a width of 3000mm, 120mm height, and 250mm depth. The length and width of the landings respectively 1200mmx1200mm.	The stair does not meet accessibility standards. The stair does not have appropriate colour contrast at the edge, no tactile ground indicators at the top and bottom landings, and no handrails.	Alter stairs shall comply with the recommendation No. 3.4.3, page 16. Handrails—should be continuous on both sides and at the middle, 900 mm high and circular in section and extend 300 mm beyond the top and bottom steps.
Ramp: The ramp along the right side of the stairs is a straight run ramp that is 3962mm long, 1500mm in width (slope ratio-1:6). The surface of the ramps is non-slippery and well drained.	The ramps do not meet accessibility standards. There are no handrails, tactile ground indicators, and appropriate color contrast.	Accessible ramp shall comply with the recommendation No. 3.4.4, page 15.
There is a wheelchair stand but not enough wheelchairs available for the patients who need them.		Ensure sufficient numbers of wheelchairs at the stand along with accessible pathways.

3.4.4.4. Information Counter

Findings	Gaps	Recommendations
There is an information counter and clearly identifiable from the entrance. The height of the counter is 864mm. The surface around the counter is level, smooth and non-slippery.	The information counter is not wheelchair user friendly as there is no knee clearance space beneath the counter.	The counter should have accessible height with knee clearance space and be marked with an international symbol of accessibility. Alter information counter to a disability-friendly counter comply with the recommendation No. 3.4.1.5. Ticket counter, page-??.
	No sign and pictograph at the information counter that gives priority for persons with disabilities, older people, and adults with children and pregnant women.	Create a priority service delivery system for people with disabilities, older people, and adults with children, and pregnant women. Create a priority lane with appropriate priority signs, an example shown in pic 12.
	Background noises are also high in this area to hear the conversations clearly.	Information counter should be located away from potential sources of noise, such as the main entrance doors in buildings, where there is likely to be significant external noise.

3.4.4.5. Ticket Counters

Findings	Gaps	Recommendations
<p>There are several ticket counters for different health services at the OPD. Not a single counter is disability friendly.</p>	<p>The height of the all counters are inaccessible for person with disabilities especially for wheelchair user.</p>	<p>The counter should have accessible height with knee clearance space and be marked with an international symbol of accessibility. The accessible counter surface should be a maximum of 760mm above floor level and have clearance to the underside of 700mm (<i>Guidance on the 2010 ADA standards for accessible design, 2010</i>). The general counter surface should be between 950mm and 1100mm above floor level (<i>Guidance on the 2010 ADA standards for accessible design, 2010</i>). For details please see Fig-06, Annexure-2.</p>
	<p>No sign and pictograph at the counters that gives priority for persons with disabilities, older people, and adults with children and pregnant women.</p>	<p>Create a priority service delivery system for people with disabilities, older people, and adults with children, and pregnant women. Create a priority lane with appropriate priority signs, an example shown in Pic-12, Annexure-1.</p>
	<p>The information on the services at the health centre available is not easy-to-read and large print format. No detailed payment/cost information on the counter.</p>	<p>Put a board/sign stating the cost of services/tickets on the counter. Ensure the presence of trained personnel at the help desk.</p>
	<p>Background noises are also high in this area to hear the conversations clearly.</p>	<p>Use Loud speakers at all crowded counter area for the people with low hearing ability.</p>
<p>The waiting area is not well defined. There are some chairs in the corridor area. The number of chairs is insufficient. Available seating is fixed with a seating height of 510mm-530mm.</p>	<p>There is no proper sitting arrangement in this area.</p>	<p>The waiting area shall comply with the recommendation No. 3.4.12, page-41-42.</p>

3.4.4.6. Toilet

Findings	Gaps	Recommendations
<p>We visited a toilet facility at the X-ray department. There are two toilet cubicles both are low commode. There was flowing water at the toilet floor and can't be accessed by anyone. Data measurements of toilet facilities could not be performed due to environmental challenges.</p> <p>Toilet doors open inwards.</p>	<p>There is no directional signage indicating the location of the accessible toilet as well as not labeled with appropriate signage.</p> <p>No sign in front of the toilet indicating male and female.</p> <p>Toilet facilities are not accessible.</p> <p>The floor material is not well drained, waterproof, non-slippery, and non-glare.</p> <p>There is no toilet paper dispenser and flush control.</p> <p>There is no sanitary bin inside the cubicles.</p> <p>There are no grab bars in the toilets.</p> <p>The colors of the toilets are not contrasted with the background/floor.</p> <p>Inside the toilet light intensity is very low. Toilets are not clean and free from strong smells.</p>	<p>Add appropriate directional signage at every changing of direction to the accessible toilet.</p> <p>Put a "male/female" sign where necessary to avoid misunderstanding.</p> <p>Remove door thresholds.</p> <p>Ensure floor materials are well drained, waterproof, non-slip, non-glare, and level, Pic-09.</p> <p>Toilet paper/water—toilet paper and/or water hose/tap facilities located in easy reach of a person seated on the toilet at a height of approximately 800mm from the floor and approximately 100mm back from the front of the toilet pan, Fig: 09.</p> <p>Water closet/squat toilet/urinals shall be appropriate colour contrasted with the background.</p> <p>Toilets shall be locked from inside and released from outside by authorized staff in case of an emergency.</p> <p>A general lighting level of at least 200 lux should be provided in toilet facilities.</p> <p>It is recommended to make at least one toilet cubicle accessible at each toilet block. An accessible toilet shall comply with the recommendation No. 3.4.10, page-34.</p> <p>Install at least one urinal accessible, shall comply with the recommendation No. 11.1, page-35.</p>

3.4.4.7. Corridors

Findings	Gaps	Recommendations
<p>The corridor is enough wide. The surface of the corridors is stable, flat, non-slip, and non-glare.</p>	<p>Corridors are not free from obstacles and hazards. Patients and their attendants are flooring in the corridor.</p>	<p>Any obstacles in the corridor area shall be avoided.</p> <p>All obstacles shall be appropriate colour contrasted with the background.</p>

<p>The stair along the corridor does not meet the accessibility standards.</p> <p>No appropriate color contrast handrail is continuous, at one side.</p> <p>There is enough light intensity along with the landings and corridors.</p>	<p>Obstacles are not indicated with contrasting colors in the corridor.</p> <p>There are no clear signs and pictographs providing directions to rooms with color contrast, non-glare, large print, and pictures.</p> <p>There is no tactile paving with color contrast.</p> <p>No functioning audio-visual fire alarms.</p> <p>No clear signage and pictograph indicating accessible escape routes.</p> <p>Some signboards/ directions are handwritten and too small to notice</p> <p>No proper indicators for visually impaired individuals.</p>	<p>Use appropriate signage and indications. Signage shall comply with the recommendation No. 1; page-12.</p> <p>Install appropriate colour contrasted tactile indicator comply with Fig-03, page no.?.</p> <p>Install an audible and visible emergency alarm system and clear directional signage of accessible escape routes.</p> <p>Stair shall be altered into accessible stair complying with the recommendation No. 3.4.3, page-16.</p> <p>Install room name/number on the door of every room and put the direction in front of every pathway.</p>
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3.4.4.8. Elevators

Findings	Gaps	Recommendations
<p>We have found elevators are under construction.</p>	<p>There is no elevator in operation in OPD</p>	<p>Install appropriate signage and directional signage elevators.</p> <p>Install audible and visual indicators for the person with sensory and cognitive impairments.</p> <p>Recommended considerations for an accessible lift are given below:</p> <ul style="list-style-type: none"> • Lobby Dimensions: Minimum 1500mm×1500mm; • Size: An accessible lift car shall be a minimum 1500mm×1725mm; • Clear door opening not less than 900mm; • Horizontal Grab bars on back and side walls shall comply with Fig-04 and Fig-09, Annexure-02; <ul style="list-style-type: none"> ▪ Diameters: 35mm to 50mm external circular section; ▪ Dimension: grab bar minimum 600mm; ▪ Should have appropriate colour contrasted with the background wall.

		<ul style="list-style-type: none"> ▪ Distance from the adjacent wall between 40 to 60 mm; ▪ Height: 850mm to 950mm from floor level; • The accessible lift shall have tactile marking and brail on all buttons. • The floor surface shall be firm, even, slip resistance, stable and contrasting colour with adjacent walls. • Guidelines are shown in Fig-19, Annexure-02. <p>(Bangladesh national building code, 2020)</p>
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3.4.4.9. General Ward

Findings	Gaps	Recommendations
<p>We have visited ward no. 114 & 115 situated on the ground floor of the OPD building. The ward is indicated by the signages of the Urology ward and Orthopedic surgery ward.</p> <p>The door of the wards is wide enough. It has 1270mm of width which meets the universal accessibility standard.</p> <p>The room is not free from loud background noise.</p> <p>The total numbers of beds are 21. There is 305mm space in between beds. All beds are fixed.</p> <p>There is an attached toilet facility in each ward.</p>	<p>Space between each bed is not sufficient to maneuver a wheelchair.</p> <p>There are no signages of bed numbers and no specific beds for people with disabilities as well.</p> <p>The room is not clear of obstructions and hazards and light is not sufficient. Obstacles in the room are not contrasted in colors.</p> <p>No functioning fire alarms are installed.</p> <p>Privacy is not maintained in these wards.</p> <p>There are no sitting arrangements beside the beds.</p> <p>Toilet and bathing facilities are not accessible at all.</p>	<p>Install appropriate signage with necessary relevant information, shall comply with the recommendation No. 01, page-12.</p> <p>10% percent patient bed shall have following mobility features:</p> <ul style="list-style-type: none"> • Turning space: Minimum 1525mm • Clear floor or ground space: Minimum 760mm by 1220mm; Fig: 22. • A height-adjustable bed is recommended or between 508mm to 584.2mm height from the floor to the top of the mattress. <p>(Guidance on the 2010 ADA standards for accessible design, 2010)</p> <p>All facilities at the general ward should be altered and shall comply with the recommendation No. 3.4.13, page-44-45.</p>

3.4.4.10. Outdoor doctor's consultation room and waiting area

Findings	Gaps	Recommendations
The doctor's consultation rooms are situated on the 1st floor of the	No priority sign in the waiting area that	The outdoor doctor's consultation room and waiting

<p>building. There are Child specialists, Gynecologists, and Surgery, three different consultation services are provided.</p> <p>There is a waiting area and reception counter for every consultation service. Total sitting arrangements are not sufficient for the patient and visitors.</p> <p>Surface level, smooth and non-slippery.</p>	<p>states about giving priority to people with disabilities, older people, adults with children, and pregnant women.</p> <p>No space for wheelchairs.</p> <p>The waiting area is not clear of obstacles and hazards.</p>	<p>area shall comply with Section 3.4.12, page-41-42.</p> <p>Add Displaying serial number on the monitor along with calling out loud.</p>
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3.4.4.11. Emergency Unit

Findings	Gaps	Recommendations
<p>Every department has a separate Emergency unit. There is a ramp at the entrance of the emergency unit.</p> <p>The entrance of the emergency unit has enough clear space.</p>	<p>The location of the Emergency unit is not well indicated with signage and indicators.</p> <p>No directional signage.</p> <p>The ramp does not meet accessibility criteria.</p>	<p>Install appropriate signage and directional signage.</p> <p>Alter stair and ramp, shall comply with Section 3.4.3, page-15-16.</p> <p>The emergency unit shall comply with Section 3.4.16, page 49-50.</p>

3.4.4.12. Pathology Room

Findings	Gaps	Recommendations
<p>The door of the pathology department meets the accessibility standards. It is a 1370mm wide door with 1270mm clear space.</p> <p>There is a sign outside the room.</p> <p>There is enough space inside the room to maneuver a wheelchair.</p> <p>There is enough light and obstacles are in contrasting colors in the room.</p> <p>The room is free from loud background noise.</p> <p>There is no surface level change in the hallway.</p> <p>All equipment, tables etc. in the pathology room are accessible.</p>	<p>Signs do not meet accessibility standards. Floor materials are not non-slip and non-glare.</p> <p>There are no functioning fire alarms with visual and audible signals installed.</p> <p>There is no signage indicating accessible escape routes.</p> <p>No accessible toilet block.</p> <p>The door threshold is too high.</p>	<p>A clear sign shall be posted providing directions to rooms with colour contrast, non-glare, large print, and pictures.</p> <p>Install a functioning emergency alarm with both visual and audible signals and also clear signage indicating accessible escape routes.</p> <p>It is recommended to make at least one toilet cubicle accessible at each toilet block. An accessible toilet shall comply with section 3.4.10, page-34.</p>

3.4.4.13. *Emergency Exit Routes*

Findings	Gaps	Recommendations
<p>There are no emergency exit routes.</p> <p>There are fire extinguishers and fire buckets.</p>	<p>No emergency guidelines are written beside the fire extinguishers/hose pipe as to how to use them.</p> <p>No emergency lights to alert persons with hearing disabilities during the fire.</p>	<p>Put poster/visual guidance on how to use emergency tools besides the tool.</p> <p>Install emergency alert lights.</p> <p>Replace all expired fire extinguishers.</p> <p>Emergency Exit shall comply with section 3.4.14, page 46-47.</p>

3.5.1. Findings from Accessibility Audit: Footpath at Gulshan-1, Dhaka North City Corporation

3.5.1.1. Footpath from DCC Market to Roundabout:

Findings	Gaps	Recommendations
<p>The height of the footpath is 330mm, Pic-40.</p> <p>The footpath width is 2438mm but usable walking space is 1219mm due to obstructions.</p> <p>There is directional tactile paving of 609mm.</p> <p>Some of these landings are 1219mm x1524mm at an average.</p> <p>There is one crossing, where the island was cut through unparallelled to the landing on the footpath.</p> <p>Footpaths are being used by two-wheeled vehicles, causing obstruction and safety hazards to the pedestrians.</p> <p>There are no curb ramps on footpaths on this side, Pic-42.</p> <p>There are no railings at the roadside of the pathway.</p> <p>One bus stoppage is there, which is used by the street food vendors as their kitchenette, Pic-43.</p> <p>There is no foot over bridges in this area.</p>	<p>There is no slope or landing from street level. The pathway width does not meet with the standard of a one-way wheelchair clearance due to obstructions such as tea stalls on the right side of the 2438mm footpath (Pic-41), taking up almost half of the footpath space. In some cases, the walk-able space is just 990mm due to those obstructions. Changes in levels are not at all detectable since slopes and ramps are missing.</p> <p>The tactile ground surface indicators of contrasting colour for detection of slight/drastric changes in levels are inconsistently placed. In case of slopes, the surfaces are not well-drained and non-slip.</p> <p>There are no proper indications, signage, or pictographs on the roadside and no indications (zebra crossing) in case of nodes and road crossings.</p> <p>There is no proper signal control and traffic control in case of crossings, nodes and no provision for auditory alerts or proper signage for traffic control systems.</p> <p>The signage of the bus stoppage is placed too high from the ground level, doesn't contrast with the background and the letters and pictograph</p>	<p>1.1. Ramps are recommended at a street crossing, road islands, road dividers and entrance of any public buildings where height difference between levels are more than 150mm within the facilities. All of such ramps shall comply with section 3.4.1.3. Entrance. Or, shall comply with Fig- 01, Annexure-??.</p> <p>1.2. Curb ramp: For less than 150 degree differences, curb ramps are recommended. Curb ramps shall strictly located within the pedestrian area and follow the guidelines, Fig-06 & Fig-07, Annexure-02.</p> <ul style="list-style-type: none"> • Should be kept within the pedestrian part of the circulation route and should not protrude within the vehicular area. For unavoidable protrusion, the curb ramp shall be contrasted with flared side. A flared side shall not stepper than 1:10, Fig-05, Annexure-02. • Gradient: Shall follow table-I; • Width: Minimum 900mm • Surface: Well-drained, Slip-resistance, have a detectable warning surface indicator and directional indicator with contrasting colours, see Fig-2 & Fig-3, Annexure-02. <p>1.3. Tactile Paving: The tactile ground surface indicators of contrasting colour for detection of slight/drastric changes in levels shall consistently place to assist persons with visually impaired. Fig-04, Annexure-02 shows the use of both directional and warning tactile indicators at the footpath. Provide tactile indicators from footpath and accessible parking to the specific ticket counter, waiting for the area, accessible toilet and other service facilities, arrival and departure platforms, and exits.</p> <p>1.4. Width: Footpaths shall be of sufficient width to provide the pedestrian need of the facility, comply with table-I;</p>

Findings	Gaps	Recommendations
	<p>are not visible clearly either, Pic-44.</p> <p>The lighting is insufficient to ensure the visibility and safety of pedestrians.</p> <p>There are no public toilets in this area.</p>	<p>page 47. Remove all obstructions from footpaths. The clear space shall be at least 1m to 1.25m.</p> <p>1.5. Signage: All accessible facilities including accessible parking, accessible routes, toilet, bus stoppage, road crossing, entry and other accessible services for the person with disabilities shall clearly display the symbol of access at the road front.</p> <p>A symbolized figure on a wheelchair and a contrasting plain square background shall be white on a blue background and always face to the right, shown as Pic-06. More details about signage are given in section 3.4.1.1. Outside of the hospital, pages 1-2.</p> <p>1.6. Continuous social awareness programs: Provide Training to traffic police may help to obey traffic signals pedestrians.</p> <p>An accessible pedestrian signal (APS) may help, it is a device that communicates information to pedestrians about the street crossing through audible tones and vibrotactile surfaces. Ensure sufficient lighting to ensure visibility and safety of pedestrians.</p> <p>1.7. Install road railing: Road rail shall be slip-resistance, free of sharp or abrasive gripping within a range of 850mm to 950mm from the floor.</p> <p>Shall have a continuous gripping surface with an appropriate colour contrast with the background.</p> <p>Diameter: 35mm – 50mm circular section</p> <p>1.8. Bus stoppage: Remove all obstructions from passengers waiting shall comply with section 3.4.1.8. Waiting area, page-16. The aisle for movement shall be not less than 1200mm.</p> <p>Add an accessible ticket counter shall comply with section 3.4.1.5. Ticket counter, page-11.</p> <p>1.9. Public toilet: Provide male and female separate public toilet facilities with at least one accessible toilet shall comply with section 3.4.1.11. Accessible toilet, page-34.</p> <p><i>(Bangladesh national building code, 2020)</i></p>



Pic-40: Footpath is too high



Pic-41: No ramp, the footpath is not accessible



Pic-42: No curb ramp to use footpath with a walker



Pic-43: Bus stoppage used by street food vendors



Pic-44: Signage placed too high, inappropriate colour contrast with the surroundings

Table I: Recommended minimum width of pedestrian walkway based on frequency of use.

Peak pedestrian frequency	Width of walkway	Width for street furniture and plantation	Total recommended width
Pedestrian user per minuet	(m)	(m)	(m)
Up to 60	2.5	1.5	4
Above 60 to 80	3.25	1.5	4.75
Above 80 to 100	4.0	1.5	5.5
Above 100	5.0	1.5	6.5

(Bangladesh national building code, 2020)

3.5.1.2. Footpath from Roundabout to Hatirjheel

Findings	Gaps	Recommendations
<p>Once we reach the beginning of the footpath, there is a landing 1372mm x 1829mm after a slight and gradual slope from street level.</p> <p>The height of the footpath is 330mm.</p> <p>The footpath width varies from 1829mm to about 3048mm in some cases.</p> <p>There is directional tactile paving of 609mm.</p> <p>Changes in levels are moderately easily detectable since there are slopes and ramps.</p> <p>The tactile ground surface indicators of contrasting colour for detection of slight/drastring changes in levels are present.</p> <p>The landings are 1219mm x 1524mm at an average.</p> <p>There are zebra crossings in case of nodes and road crossings with appropriate colour contrast and proper transitions between the footpaths to the zebra crossings.</p> <p>One impromptu bus stoppage is there where buses usually stop and people gather in lines to access the service. There is a wooden table used as a ticketing counter with 762 mm in height. Neither seating nor waiting area is available since it is a make-shift bust stop and not a proper one.</p>	<p>The pathway width does meet the standard of a one-way wheelchair clearance.</p> <p>There are obstructions such as trees on the walkway, and electric poles in some places.</p> <p>There are some gratings on this side of the footpaths that are properly covered but the spacing (opening width) 58mm are not according to the standard, Pic-45.</p> <p>The gratings have elongated openings, and are not placed so that the long dimension is perpendicular to the dominant direction of travel. This disrupts the movement of wheelchairs.</p> <p>In case of slopes, the surfaces are not well-drained and non-slip.</p> <p>There are no proper indications, signage, or pictographs on the roadside.</p> <p>There is no proper signal control and traffic control in case of crossings, nodes and no provision for auditory alerts or proper signage for traffic control systems.</p> <p>Footpaths are being used by two-wheeled vehicles and even parked cars, causing obstruction and safety hazards to the pedestrians.</p> <p>There are no curb ramps on footpaths and no gratings or curb ramp between street and divider cut through on this site, Pic-46.</p>	<p>2.1 Pathway width shall comply with 1.4; page 42.</p> <p>2.2. Remove obstructions or alter walkway with appropriate warning signage and directional signage complies with 1.3; page 42 and unavoidable obstacles shall properly colour contrast with the background. Ensure footpath is not using any other purpose like parking vehicles, tea stalls, or vendors shop.</p> <p>2.3. Gratings: Shall be at the same level and aligned perpendicular to the direction of travel. The gap shall not be more than 12mm in any direction.</p> <p>2.4. Install appropriate signage, shall comply with 1.5; page 42.</p> <p>2.5. Ensure proper traffic control system is working, APS is recommended. Details are in section 1.6; page 43.</p> <p>2.6. Alter an accessible bus stop, shall comply with section 1.8; page 43.</p> <p>2.7. Add curb ramps between the level change of road divider cut through; shall comply with 1.2; page 42.</p>



Pic-45: Grating in the middle of tactile indicator



Pic-46: No gratings or curb ramp between street and divider cut through

3.5.2. Footpath from Gulshan-2 towards Gulshan-1:

Findings	Gaps	Recommendations
<p>The height of the footpath is 305mm.</p> <p>The footpath width varies from 2134 mm to about 3353 mm in some cases.</p> <p>There is directional tactile paving of 609mm.</p> <p>There are some gratings on this side of the footpaths that are properly covered.</p> <p>Changes in levels are moderately easily detectable since there are slopes and ramps. For level changes that are greater than 1/2", there are proper ramps that meet standards.</p> <p>The tactile ground surface indicators of contrasting colour for detection of slight/drastric changes in levels are present. Some of the landings are 2133mm x 2438mm at an average.</p> <p>Signage is placed 1803mm from ground level.</p> <p>There are zebra crossings in case of nodes and road crossings with appropriate colour contrast and proper transitions between the footpaths to the zebra crossings.</p>	<p>There are no proper indications, signage, or pictographs on the roadside.</p> <p>There are no turning indicators in case of walkway turns.</p> <p>Traffic signals are not obeyed by pedestrians in any case.</p> <p>Construction work is going on with less visual explanation or can cause a safety hazard.</p> <p>Wrong signage is placed which can cause severe disruption.</p> <p>The spacing opening width of the grating is 50 mm, not according to the standard.</p> <p>The gratings have elongated openings, and are placed so that the long dimension is perpendicular to the dominant direction of travel.</p> <p>There are no curb ramps on footpaths on this side.</p> <p>There are no railings at the roadside of the pathway.</p> <p>In case of slopes, the surfaces are not well-drained and non-slip.</p>	<p>3.1. Shall post proper signage, indications and pictograph, comply with 1.5; page 42. Alter wrong signage with the appropriate one.</p> <p>3.2. Provide appropriate turning indicators.</p> <p>3.3. Ensure traffic signals are obeyed; recommended considerations are given in 1.6; page 43.</p> <p>3.4. Ensure appropriate clear and visible warnings with safety information near the construction site.</p> <p>3.5. All gratings shall comply with 2.3; page 49.</p> <p>3.6. Place railings at the roadside of the footpath comply with 1.7; page 43.</p> <p>3.7. Ensure slopes are well designed; shall comply with 1.2; page 42.</p>

3.5.3.1 Footpath of Link Road:

Findings	Gaps	Recommendations
<p>The heights of the footpaths vary from 254mm to 203mm.</p> <p>The footpath width varies from 1524 mm to about 1828 mm in some cases.</p> <p>The tactile ground surface indicators of contrasting colour for detection of slight/dramatic changes in levels are not present.</p> <p>Some of the landings are 1828mm x 1828mm at an average.</p>	<p>There are no proper indications, signage, or pictographs on the roadside.</p> <p>Traffic signals are not obeyed by pedestrians in any case.</p> <p>There is no directional tactile paving.</p> <p>There are no gratings on this side of the walkways.</p> <p>There are no turning indicators in case of walkway turns.</p> <p>Construction work is going on with less visual explanation or can cause a safety hazard.</p> <p>Wrong signage is placed which can cause severe disruption.</p> <p>Changes in levels are not at all detectable since slopes and ramps are missing. In case of slopes, the surfaces are not well-drained and non-slip.</p>	<p>4.1. Install proper signage, indications and pictograph, comply with 1.5; page 42.</p> <p>4.2. Ensure that traffic signals are obeyed by pedestrians; recommended considerations are given in 1.6; page 43.</p> <p>4.3 Install directional tactile paving; shall comply with 1.3; page 42.</p> <p>4.4 In case of any height more than 150mm Ramp is recommended. Accessible ramp shall comply with 1.1; page 42.</p> <p>4.5 Any level change less than 150mm, curb ramp is recommended. Details of curb ramp are given in section 1.2; page 42.</p>

3.5.3.2. Public Toilet (DNCC Market South Side)

The audit team has only taken the data of the toilets of the female block. It was not possible to take the data of the male toilets due to the non-cooperation of the caretaker.

Findings	Gaps	Recommendations
<p>The toilet is clearly labeled with signage of Male, Female, and Accessibility.</p> <p>There are two cubicles in the Female block. The entrance door is 750 mm wide. The cubicle door is 580 mm.</p> <p>The door has a threshold (raised surface) of 14 mm.</p> <p>The handles between 762 mm above the finish floor or ground.</p> <p>The toilet door can be locked from inside.</p> <p>The toilet door can be released from outside by authorized staff in case of emergency.</p> <p>Inside the toilet, the corridor space is 965mm, Pic-48.</p> <p>The floor material is well-drained, waterproof, non-slip and non-glare.</p> <p>A toilet paper dispenser and/or bidet shower and flush control located within easy reach and easy to use.</p> <p>The height of the toilet pan is 406mm, 304mm clear space in front of the toilet pan. Clear space to the non-wall side of the pan 762mm.</p>	<p>There is not clear directional signage indicating the location of the toilet in the surroundings of Gulshan-1.</p> <p>The toilet is inaccessible since the entrance is not properly designed for visually impaired or wheelchair users.</p> <p>There are three poorly constructed steps each 200mm wide at the entrance, Pic-47.</p> <p>The toilet has a heavy swing door that opens inwards, Pic-49.</p>	<p>5.1 Install appropriate directional signage.</p> <p>5.2 Alter stair to comply with section 3.4.1.3. Entrance-Stairs, page 5.</p> <p>5.3 Install an accessible ramp to comply with section 3.4.1.3. Entrance-Ramps, page 53.</p> <p>5.4 Ensure accessible toilet facilities to comply with section 3.4.1.11. Accessible toilet, page 23.</p>

Findings	Gaps	Recommendations
<p>There is a washbasin in the corridor. The rim of the washbasin is mounted at a height of 838mm from the floor. The washbasin does allow knee space. The tap is mounted at a height of 1016mm. The mirror is placed 990mm above the floor finish. The switchboards are placed 1168mm above the floor finish. The hand soap dispenser is placed at 1016mm. The tissue dispenser is placed 609mm from the floor finish. The toilet is clean and free from strong smells.</p>		



Pic-47: Toilet with inaccessible entrance



Pic-48: Narrow toilet corridor



Pic-49: Heavy door at toilet

3.5.4. Findings from Accessibility Audit: Footpath at Mirpur-10, Dhaka North City Corporation

3.5.4.1. Footpath from Mirpur 10 towards Mirpur 2:

3.5.4.1.1. Footpath/Pedestrian walkway

Findings	Gaps	Recommendations
<p>The height of the footpath is 254mm approximately. The footpath width is 4267mm but usable walking space is 1524mm due to obstructions. There is some signage placed 2260mm above ground level, Pic-04. Footpaths are being used by two-wheeled vehicles, causing obstruction and safety hazards to the pedestrians. There is one foot over bridge in this area.</p>	<p>There is no slope or landing from street level to footpath level. Changes in levels are not at all detectable since slopes and ramps are missing. The surfaces are broken, not tiled and not well-drained and non-slip, Pic-05. The pathway width does not meet with the standard of a one-way wheelchair clearance due to obstructions such as posts, stalls, tables, gas meters, wires, broken bricks, electric towers on the right side of the footpath, taking up almost half of the footpath space. In some cases, the walk able space is just 1524mm due to those obstructions, shown in Pic-01 & Pic-02. There is no directional tactile paving. The footpath is not tiled. There are no gratings. There are no curb ramps on footpaths on this side. There are no railings at the roadside of the pathway.</p> <p>There is no proper bus stand in this area. There are no public toilets in this area. There are no proper indications, signage, or pictographs on the roadside and no indications (zebra crossing) in case of nodes and road crossings. There is no proper signal control and traffic control in case of crossings, nodes and no provision for auditory alerts or proper signage for traffic control systems. Traffic signals are not obeyed by pedestrians in any case. The lighting is insufficient to ensure the visibility and safety of pedestrians.</p>	<p>1.1. Ramps are recommended at a street crossing, road islands, road dividers and entrance of any public buildings where height difference between levels are more than 150mm within the facilities. All of such ramps shall comply with section 3.2, page-5 of BSMMUH recommendations. Or, shall comply with Fig- 01; page 47.</p> <p>1.2 Curb ramps are recommended for level changes less than 150mm height shall comply with 1.2; page 42.</p> <p>1.3 Surface well-drained, Slip-resistance, have a detectable warning surface indicator and directional indicator with contrasting colors, shall comply with 1.2; page 42.</p> <p>1.4 Footpath wide shall comply with 1.4; page 42.</p> <p>1.5 Signage shall comply with section 3.4.1.1. Outside of the hospital, pages 1-2.</p> <p>1.6 Directional tactile paving shall comply with 1.3; page 42.</p> <p>1.7 Gratings shall comply with 2.3; page 49.</p> <p>1.8 Roadside railing shall comply with 1.7; page 43.</p> <p>1.9 Bus stoppage: should be accessible for the person with disabilities.</p> <ul style="list-style-type: none"> • Shall have a waiting area, sign and symbol, accessible routes. • Accessible parking area • Accessible ticket counter • Accessible toilet <p>1.10 Accessible traffic system shall comply with 1.6; page 43.</p> <p>1.11 Ensure sufficient lighting to improve visibility and safety of pedestrians.</p>



Pic-52: Obstacles on the footpath restricts movement



Pic-51: No tactile paving



Pic-53: Signage is not placed within eyesight



Pic-54: No curb ramp or slope in level changes

3.5.4.1.2. Foot Over bridge

Findings	Gaps	Recommendations
<p>There is a Foot-over-bridge in the vicinity. There is an uneven pathway, broken towards the foot over bridge. There are 25 stairs and then mid-landing. In a single flight of stairs, the riser heights and tread widths are not uniform. Tread: 266 mm or 279 mm. Riser: 114mm or 127mm. The height of the handrails is 940mm. The handrail is extended 200mm at the end. Mid-Landing after 25 steps measures 1880mmx1500mm. The width of the stairway is 1400mm. There are light fixtures at every landing. The staircase is prone to accumulating water. The bridge circulation space is 1500mm. Ground coverings are not non-slip and well-drained.</p>	<p>Stairs are uneven, broken and poor maintenance. Pic-55 The stairs are not properly constructed and can cause tripping. Handrails are interrupted by posts at intervals. Handrails are obstructed after the landing which may cause disruption. Pic-56 There are no detectable warnings at the stairs. Gripping spaces are interrupted. Ends of handrails are not properly treated. The handrails are not circular. The handrails are not continuous along both sides of the stairs. There are nosing. There are no color contrast strips on the nosing. No tactile indicators at the nosing. There are no tactile ground surface indicators at every top and bottom landings. There are no proper signage/ indicators for visually impaired individuals. Even though there are 8-10 light fixtures on the foot over bridge, the lighting is insufficient for the nighttime. Huge crowd collision while climbing the stairs. The landings after 25 steps on a single flight can cause exhaustion and are not standard. The foot over bridge is not “one way up” and “one way down” and it is not possible to ensure this to avoid a severe collision.</p>	<p>2.1 Alter an accessible pathway shall have</p> <ul style="list-style-type: none"> • Width— 1500mm • Gradient/slope—should be less than 1:20 • Cross slope—should be less than 1:50 • Surface—should be smooth, level, nonslip • Obstruction-free—obstructions should not be present in the path of travel, i.e., not within the width of the pathway and not present below a height of 2000mm. (Watch out for low branches or signs) • Dropped curb ramps—should be present at road junctions where there is a change in level. • Tactile ground surface shall comply with 1.3; page 42. • Drainage—the water should not pool on pathways. <p>2.2 Stairs shall comply with section 3.3; pages 5-6. 2.3 Install appropriate signage shall comply with section 3.4.1.1. Outside of the hospital, pages 1-2. Ensure sufficient lighting in the foot over bridge.</p>



Pic-55: Handrail is not continuous and landings are missing



Pic-56: Tactile directional indicators are missing, floor materials are not appropriate as well

3.5.4.2. Footpath from Mirpur 2 towards Mirpur 10 (from Mirpur 2 to Mirpur College):

3.5.4.2.1. Footpath/Pedestrian walkway

Findings	Gaps	Recommendations
<p>The height of the footpath is 280mm approximately. The footpath width is 4570mm. There is 610mm directional tactile paving. The footpath is being properly constructed with tiles and proper color contrast. Construction of footpath is going on. Pic-57 Existing trees are being treated properly and are mostly on the roadside that is creating a buffer from the roads as well as giving immense shade to the pedestrians. Proper slopes ramps are being constructed. Changes in levels are not at all detectable since slopes and ramps are being constructed. For level changes that are greater than ½”, there are proper ramps that meet standards. The tactile ground surface indicators of contrasting color for detection of slight/drastric changes in levels are present. In case of slopes, the surfaces are well-drained and non-slip.</p>	<p>There is 610mm directional tactile paving which at times get disrupted by the existing trees in the footpath. This will disrupt walkability. There are no proper indications, signage, or pictographs on the roadside as of yet. There are no gratings as of yet. Traffic signals are not obeyed by pedestrians in any case. There are curb ramps on footpaths on this side that is in process. There are no railings at the roadside of the pathway. Existing trees are being treated properly but are obstructing the tactile paving. Pic-58 Signages are not placed as yet. There are no curb ramps on footpaths on this side. There are no zebra crossings in case of nodes and road crossings with appropriate color contrast and proper transitions between the footpaths to the zebra crossings. There are no railings at the roadside of the pathway.</p>	<p>3.1 Ramps are recommended at a street crossing, road islands, road dividers and entrance of any public buildings where height difference between levels are more than 150mm within the facilities. All of such ramps shall comply with section 3.4.1.3. Entrance, page-5. Or, shall comply with Fig- 01, page 47. 3.2. Curb ramps are recommended for level changes less than 150mm height shall comply with 1.2 Curb ramp, page 42. 3.3. Signage shall comply with section 3.4.1.1. Outside of the hospital, page 01. 3.4. Directional tactile paving shall comply with 1.3, page 42. 3.5. Gratings shall comply with 2.3, page 49. 3.6 Roadside railing shall comply with 1.7, page 43. 3.7 Accessible traffic system shall comply with 1.6, page 43.</p>



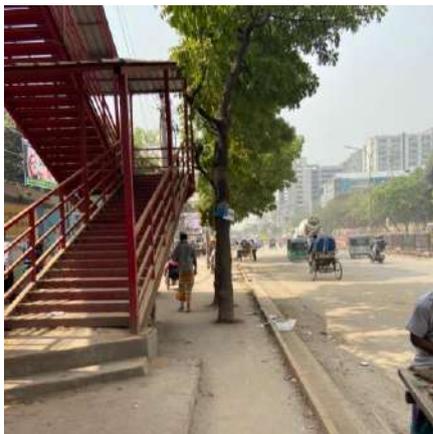
Pic-57: Footpath constructions ongoing



Pic-58: Tactile indicators interrupted due to street plantation

3.5.4.2.2. Foot over bridge (in front of Janata housing)

Findings	Gaps	Recommendations
<p>There is a Foot-over-bridge in the vicinity. There is an uneven pathway, broken towards the foot over bridge that measures 1066mm. Pic-59 There are 23 stairs and then mid-landing. The stair is dog-legged. Pic-60 On a single flight of stairs, the riser heights and tread widths are not uniform. Tread: 280mm or 264mm Riser: 100mm or 152mm There are no detectable warnings at the stairs. There is no nosing. The handrails are not continuous along both sides of the stairs. Gripping spaces are interrupted. Ends of handrails are not properly treated. Height of the handrails 1066mm The handrails are not circular. Mid-landing after 23 steps and 26 steps before the main landing. Mid-landing measures 3454mmx1600mm. The width of the stairway is 1500mm. There is no tactile ground surface indicator at every top and bottom of landings. There are light fixtures at every landing. There are no proper signage/ indicators for visually impaired individuals The staircase is prone to accumulating water The bridge circulation space is 2640mm. Ground coverings are not non-slip and well-drained</p>	<p>Stairs are uneven, broken and poor maintenance. The stairs are not properly constructed and can cause tripping. Handrails are interrupted by posts at intervals. Handrails are discontinued after the landing which may cause disruption. Even though there are 8-10 light fixtures on the foot over bridge, the lighting is insufficient for the nighttime. Huge crowd collision while climbing the stairs. The landings after 25 steps on a single flight can cause exhaustion and are not standard. The foot over bridge is not one way up” and one way down” and it is not possible to ensure this to avoid a severe collision.</p>	<p>4.1. Alter an accessible pathway shall comply with 2.1, page 62. 4.2. Stairs shall comply with section 3.4.1.3. Entrance - stairs, page-6. 4.3. Install appropriate signage shall comply with section 3.4.1.1. Outside of the hospital, page-6. 4.4. Ensure sufficient lighting on the over bridge.</p>



Pic-59: Foot over bridge do not have appropriate connecting routes



Pic-60: Initial steps are too high

3.5.4.3. Footpath from Mirpur 2 towards Mirpur 10 (from Mirpur College to Mirpur 10):

3.5.4.3.1. Footpath/Pedestrian walkway

Findings	Gaps	Recommendations
<p>The height of the footpath is 254mm approximately. The footpath width is 4267mm but usable walking space is 1524mm due to obstructions. There is no directional tactile paving. The footpath is not tiled. There are no gratings. Footpaths are being used by two-wheeled vehicles, causing obstruction and safety hazards to the pedestrians. There are no curb ramps on footpaths on this side. There are no railings at the roadside of the pathway. There is no proper bus stand in this area. There is one foot over bridge in this area.</p>	<p>There is no slope or landing from street level. The pathway width does not meet with the standard of a one-way wheelchair clearance due to obstructions such as posts, stalls, wires, broken bricks, electric towers on the roadside of the footpath, taking up almost half of the footpath space. In some cases, the walk able space is just 1524mm due to those obstructions. Changes in levels are not at all detectable since slopes and ramps are missing. The surfaces are broken, not tiled and not well drained and non-slip. There are some signages placed 2260mm-2270mm above ground level. There are no proper indications, signage, or pictographs on the roadside and no indications (zebra crossing) in case of nodes and road crossings. There is no proper signal control and traffic control in case of crossings, nodes and no provision for auditory alerts or proper signage for traffic control systems. Traffic signals are not obeyed by pedestrians in any case. The lighting is insufficient to ensure the visibility and safety of pedestrians.</p>	<p>5.1. Ramps are recommended at a street crossing, road islands, road dividers and entrance of any public buildings where height difference between levels are more than 150mm within the facilities. All of such ramps shall comply with section 3.4.1.3. Entrance - Ramps, page-6. Or, shall comply with Fig- 01, page 47. 5.2. Curb ramps are recommended for level changes less than 150mm height shall comply with 1.2 Curb ramp, page 42. 5.3. Surface: Well-drained, slip-resistance, have a detectable warning surface indicator and directional indicator with contrasting colors, shall comply with 1.2, page 42. 5.4. Footpath wide shall comply with 1.4, page 42. 5.5. Signage shall comply with 3.4.1.1. Outside of the hospital, page-6. 5.6. Directional tactile paving shall comply with 1.3, page 42. 5.7. Gratings shall comply with 2.3, page 49. 5.8. Roadside railing shall comply with 1.7, page 43. 5.9. Bus stoppage: should be accessible for the person with disabilities. <ul style="list-style-type: none"> • Shall have a waiting area, sign, symbol, and accessible routes; • Accessible parking area; • Accessible ticket counter; • Accessible toilet Accessible traffic system shall comply with 1.6; page 43. 5.10. Ensure sufficient lighting to improve visibility and safety of pedestrians.</p>

3.5.4.3.1. Foot over Bridge (in front of Purnima Hotel)

Findings	Gaps	Recommendations
<p>There is a Foot-over-bridge in the vicinity. There is an uneven pathway, broken towards the foot over bridge.</p>	<p>Stairs are uneven, broken and poor maintenance. The stairs are not properly constructed</p>	<p>6.1. Alter an accessible pathway shall have <ul style="list-style-type: none"> • Width— 1500mm • Gradient/slope—should be less than 1:20 </p>

Findings	Gaps	Recommendations
<p>There are 22 stairs and then mid-landing.</p> <p>On a single flight of stairs, the riser heights and tread widths are not uniform. Tread: 254mm or 264mm, Riser: 100mm or 177mm.</p> <p>There are no detectable warnings at the stairs.</p> <p>There are no signs.</p> <p>The handrails are not continuous along both sides of the stairs.</p> <p>Gripping spaces are interrupted.</p> <p>Ends of handrails are not properly treated.</p> <p>Height of the handrails 1160mm. The handrails are circular.</p> <p>Mid-landing after 22 steps and 30 steps before the main landing. Mid-landing measures 1520mmx1168mm.</p> <p>The width of the stairway is 1168mm.</p> <p>There is no tactile ground surface indicator at every top and bottom of landings.</p> <p>There are light fixtures at every landing.</p> <p>There are no proper signage/ indicators for visually impaired individuals.</p> <p>The staircase is not prone to accumulating water.</p> <p>The bridge circulation space is 2640mm.</p> <p>The bridge circulation and continuation of railing is obstructed by the box in Pic-61.</p> <p>Ground coverings are not non-slip and well drained</p> <p>The foot over bridge is one way up” and one way down”</p>	<p>and can cause tripping.</p> <p>Handrails are interrupted by posts at intervals.</p> <p>Handrails are discontinued after the landing which may cause disruption.</p> <p>Even though there are 8-10 light fixtures on the foot over bridge, the lighting is insufficient for the nighttime.</p> <p>Huge crowd collision while climbing the stairs.</p> <p>The landings after 25 steps on a single flight can cause exhaustion and is not standard.</p>	<ul style="list-style-type: none"> • Cross slope—should be less than 1:50 • Surface—should be smooth, level, nonslip • Obstruction-free—obstructions should not be present in the path of travel, i.e., not within the width of the pathway and not present below a height of 2000mm (watch out for low branches or signs). • Dropped curb ramps—should be present at road junctions where there is a change in level. • Tactile ground surface shall comply with 1.3; page 42. • Drainage—the water should not pool on pathways. <p>6.2. Stairs shall comply with section 3.4.1.3. Entrance - stairs, page-6.</p> <p>6.3. Install appropriate signage shall comply with section 3.4.1.1. Outside of the hospital, page-6.</p> <p>6.4 Ensure sufficient lighting.</p>



Pic-61: Obstruction on handrails

3.5.4.3.2. Public Toilet

Findings	Gaps	Recommendations
<p>There is a public toilet facility but it is inaccessible since the entrance is not properly designed for visually impaired or wheelchair users.</p> <p>The toilet is clearly labeled with signage (Male and female)</p> <p>The entrance door is 900 mm wide.</p> <p>The cubicle door is 660 mm.</p> <p>The door has a threshold (raised surface) 76 mm, Pic-64.</p> <p>The handles 1117 mm above the finish floor or ground.</p> <p>The lock is 1016mm above floor finish</p> <p>The toilet door can be locked from inside.</p> <p>The toilet door can be released from outside by authorized staff in case of emergency.</p> <p>Inside the toilet, the corridor space is 1016mm.</p> <p>The floor material is well drained, waterproof, non-slip and non-glare.</p> <p>The cubicle size is 1270mm x 1143mm</p> <p>A toilet paper dispenser and/or bidet shower and flush control located within easy reach and easy to use.</p> <p>The height of the commode is 457mm. 380mm clear space in front of the toilet pan.</p> <p>Clear space to the non-wall side of the pan 685mm</p> <p>Space from pan to the wall is 152mm.</p> <p>There is a washbasin.</p> <p>The rim of the washbasin is mounted at a height of 914mm from the floor.</p> <p>The washbasin does allow knee space.</p> <p>The tap is mounted at a height of 1016mm.</p> <p>The mirror is placed 1193mm above the floor finish.</p> <p>There is a bathing cubicle measuring 1270mm x 1143mm.</p> <p>The hand soap dispenser is placed at 1016mm.</p> <p>The tissue dispensers are placed 600mm from the floor finish.</p> <p>The toilet is clean and free from strong smells.</p> <p>In case of male toilets, the urinal is mounted at 736mm above floor finish.</p>	<p>There are three poorly constructed steps each 177mm high and 250mm wide at the entrance, Pic-63.</p> <p>There are no ramps.</p> <p>The threshold is too high and inconvenient.</p> <p>There is no clear directional signage indicating the location of the toilet</p> <p>The toilet has a heavy swing door that opens inwards.</p>	<p>1.1. Install appropriate directional signage.</p> <p>1.2. Alter stair with section 3.4.1.3. Entrance - stairs, page-6.</p> <p>1.3. Install an accessible ramp comply with 1.1; page- 42.</p> <p>1.4. Alter existing toilet facilities with section 3.4.1.9. General toilet, page-16.</p> <p>1.5. Install at least one accessible toilet facility to comply with section 3.4.1.11. Accessible toilet, page-23.</p> <p>1.6. Alter the entrance door into an accessible door shall comply with section 3.4.1.3. Entrance – Entrance Door, page-16.</p>



Pic-63: Entrance of public toilet is not accessible



Pic-64: The door has a threshold that restricts a wheelchair

3.5.5. Findings from Accessibility Audit: Footpath at Dhanmondi-27, Dhaka South City Corporation

3.5.5.1. Footpath from Rapa Plaza to Bangladesh Eye hospital

3.5.5.1.1. Footpath/Pedestrian walkway

Findings	Gaps	Recommendations
<p>The pathway width is sufficient for a three-way pedestrian movement. The height of the footpath is 254mm approximately. The sloped landings were missing at many of the approaching roads towards Bangladesh Eye hospital. The footpath width is 3658mm. Footpaths are being used by two-wheeled vehicles, causing obstruction and safety hazards to the pedestrians, Pic-66. The presence of trees, poles, T&T switch boxes, manholes, etc.... on the footpaths, which creates barriers for easy movements using wheelchair or white canes. There is one foot over bridge in this area. There is directional color contrasted tactile paving in the footpaths. The lighting is sufficient to ensure the visibility and safety of pedestrians. There is no bus stand in this area.</p>	<p>There is no slope or landing from street level to footpath level, Pic-65. Changes in levels do not at all meet accessibility standards. Most of the slope length is the same 2133mm, but the height varies between 254mm to 518mm. The pathway width does not meet with the standard of a one-way wheelchair clearance due to obstructions such as posts, stalls, tables, wires, broken bricks, on the footpath, taking up almost half of the footpath space, shown in Pic-67 & Pic-68. Gratings do not meet accessibility standards. There are no curb ramps on footpaths on this side. There are no railings at the roadside of the pathway. There are no public toilets in this area. There are no proper indications, signage, or pictographs on the roadside and no indications (zebra crossing) in case of nodes and road crossings. Islands are not cut through on street level at the road crossing. It has the following dimensions height 152mm, 1829mm wide and 1524mm length. There is no curve ramp for easier accessibility. There is no zebra crossing with appropriate color contrasted and no accessible transition between the footpath and zebra crossing. There is no proper signal control and traffic control in case of crossings, nodes and</p>	<p>1.1. Ramps are recommended at the street crossing, road islands, road dividers and the entrance of any public buildings where height differences between levels are more than 150mm within the facilities. All of such ramps shall comply with section 3.4.1.3. Entrance - Ramps, page-15. 1.2. Curb ramps are recommended for level changes less than 150mm height shall comply with 1.2; page- 52. 1.3. Surface: Well drained, Slip-resistance, have a detectable warning surface indicator and directional indicator with contrasting colors, shall comply with 1.2; page- 52. 1.4. Footpath wide shall comply with 1.4; page 52. 1.5. Signage shall comply with section 3.4.1.1. Outside of the hospital, page-12. 1.6. Directional tactile paving shall comply with 1.3; page-52. 1.7. Gratings shall comply with 2.3; page-58. 1.8. Roadside railing shall comply with 1.7; page-53. 1.9. Accessible traffic system shall comply with 1.6; page-53. 1.10. Zebra crossing shall appropriately color contrasted and should have accessible transition through a curb ramp between the footpath and zebra crossing. Those footpaths should be constructed as the even</p>

Findings	Gaps	Recommendations
	<p>no provision for auditory alerts or proper signage for traffic control systems.</p> <p>Blind tracks are not consistent. Whenever there is an interruption, the blind track is disrupted and continued as a partial track, Pic-68.</p>	<p>surface like the rest of the footpaths.</p> <p>To ensure the track, it should be planned before hand by identifying the interruptions and design accordingly.</p>



Pic-65: No slope or curb ramp



Pic-66: Vehicles parking on the footpath



Pic-67: Wires and large grating



Pic-68: Obstacles on the footpath do not have any color contrast

3.5.5.2. Footpath from Bangladesh eye hospital to Rapa plaza

3.5.5.2.1. Footpath/Pedestrian walkway

Findings	Gaps	Recommendations
<p>Renovation works are ongoing.</p> <p>After getting down from the bus it is very challenging for a visually impaired person to easily get the footpath. Because there was no indication or any landmark to get in touch with the footpath at Dhanmondi Dhaka.</p> <p>Before starting any sub roads on the left or right hand side there are no planned indications or tracks for the visually impaired persons to understand the change.</p> <p>Unplanned construction materials are kept on the footpath and change the dimension of the road to walk safely. Sometimes the gates and entrances of some buildings have captured the portions of footpaths that act as barriers to walk safely.</p> <p>Unplanned car parking and hawkers shops restrict the movement of persons with visual impairments.</p> <p>The height of the footpath with main roads is not at the same level everywhere which is a barrier at the time of climbing or getting down the footpaths.</p> <p>Unplanned drainages also create problems for the visually impaired persons at the time of walking on footpaths.</p> <p>The pathway's width is sufficient for a three-way pedestrian movement.</p> <p>The height of the footpath is 305mm approximately.</p> <p>The footpath width is 3902mm.</p>	<p>There is no slope or landing from street level to footpath level.</p> <p>Changes in levels do not at all meet accessibility standards. Most of the slope lengths are between 1829mm to 2438mm, and the height is 305mm almost the same for most of the cases.</p> <p>There are no curb ramps on footpaths on this side.</p> <p>The pathway width does not meet with the standard of a one-way wheelchair clearance due to the police box, electric post, etc. taking up almost two-third of the footpath space, shown in Pic-69.</p> <p>Footpath renovation works are going on without proper safety measures, manholes coverings are open and not protected Pic-70. Dust and garbage block the footpath at one side, Pic-71.</p> <p>There are no railings at the roadside of the pathway.</p> <p>There are no public toilets in this area.</p> <p>There are no proper indications, signage, or pictographs on the roadside and no indications (zebra crossing) in case of nodes and road crossings.</p> <p>Islands are not cut through on street level at the road crossing. It has the following dimensions height 152mm, 2438mm wide and 1524mm length. There is no curve ramp for easier accessibility.</p> <p>There is no zebra crossing with appropriate color contrasted and no accessible transition</p>	<p>2.1. The height of the footpath from the main road should be assuring friendly for all. Rams are recommended at a street crossing, road islands, road dividers and entrance of any public buildings where height differences between levels are more than 150mm within the facilities. All of such ramps shall comply with section 3.4.3 page-15.</p> <p>2.2. Surface: Well drained, Slip-resistance, have a detectable warning surface indicator and directional indicator with contrasting colors, shall comply with 1.2; page-52.</p> <p>2.3. Footpath wide shall comply with 1.4; page 52. Unauthorized car-parking hawkers shop or keeping any heavy objects on the footpaths should be avoided and strict monitoring should always continue by Govt officials.</p> <p>2.4. Signage shall comply with section 3.4.1.1. Outside of the hospital, page-12.</p> <p>2.5. Directional tactile paving shall comply with 1.3; page 52.</p> <p>2.6. Gratings shall comply with 2.3, page 58.</p> <p>2.7. Roadside railing shall comply with 1.7, page-53.</p> <p>2.8. Accessible traffic system shall comply with 1.6, page-53.</p> <p>2.9. Curb ramps are recommended for level changes less than 150mm height shall comply with 1.2, page- 52.</p> <p>2.10. Zebra crossing shall appropriately color contrasted and should have</p>

Findings	Gaps	Recommendations
<p>There is no foot over bridge in this area.</p> <p>There is directional tactile paving.</p> <p>The lighting is sufficient to ensure the visibility and safety of pedestrians.</p> <p>There is no bus stoppage in this area.</p>	<p>between the footpath and zebra crossing.</p> <p>There is no proper signal control and traffic control in case of crossings, nodes and no provision for auditory alerts or proper signage for traffic control systems.</p>	<p>accessible transition through a curb ramp between the footpath and zebra crossing.</p> <p>There should be a connecting landmark between the bus stop and footpaths to ensure easy movement of persons with visual impairment.</p>



Pic-69: Police box on the footpath



Pic-70: Manhole is not protected



Pic-71: Dust and garbage block the entire footpath

3.5.5.3. Foot over bridge at Dhanmondi-27 crossing

Findings	Gaps	Recommendations
<p>There is a Foot-over-bridge in the vicinity which is connected with a pathway that is enough wide, non-slippery towards the foot over bridge, Pic-72.</p> <p>There are 21 stairs and then mid-landing, Pic-73.</p> <p>In a single flight of stairs, the riser heights and tread widths are not uniform.</p> <p>Tread: 254mm, Riser: 165mm.</p> <p>The handrails are box shape. The height of the handrails is 1143 mm.</p> <p>Mid-Landing after 21 steps measures 1727mmx1219mm.</p> <p>The width of the stairway is 1219mm.</p> <p>There are light fixtures at every landing.</p> <p>The staircase is prone to accumulating water.</p> <p>The signage height of the bus stoppage under the foot over bridge is 2134mm from the ground, Pic-74.</p> <p>The signage height of the foot over bridge is 2337mm from the ground.</p>	<p>The stairs are not properly constructed and can cause tripping, Pic-72.</p> <p>Handrails are interrupted by posts at intervals, Pic-73.</p> <p>Handrails are obstructed after the landing which may cause disruption, Pic-72.</p> <p>There are no detectable warnings at the stairs.</p> <p>Gripping spaces are interrupted. Ends of handrails are not properly treated. The handrails are not circular. The handrails are not continuous along both sides of the stairs.</p> <p>There are nosing. There are no color contrast strips on the nosing.</p> <p>There are no tactile ground surface indicators at every top and bottom landings.</p> <p>There are no proper signage/ indicators for visually impaired individuals.</p> <p>The landings after 21 steps on a single flight can cause exhaustion and are not standard.</p> <p>There is a bus stoppage but no Accessible passenger waiting, public toilet.</p> <p>After getting down from the bus it is very challenging for a visually impaired person to easily get the foot path.</p> <p>Because there was no indication or any landmark to get in touch with the foot path at Dhanmondi, Dhaka.</p>	<p>3.1 Accessible pathway shall have</p> <ul style="list-style-type: none"> • Obstruction-free—obstructions should not be present in the path of travel, i.e., not within the width of the pathway. • Tactile ground surface shall comply with 1.3; page-52. Landmarks should be set up at least before some yards of starting the foot-over bridge. <p>3.2 Stairs shall comply with section 3.4.1.3. Entrance, page-16. Appropriate handrail should be set up at both sides of the foot-over bridges. Install detectable warnings at stairs.</p> <p>3.3 Install appropriate signage shall comply with section 3.4.1.1. Outside of the hospital, page-12.</p> <p>3.4 Bus stoppage: Add a passengers waiting shall comply with section 3.4.1.8. Waiting area, page-14. The aisle for movement shall be not less than 1200mm.</p> <p>3.5 Add an accessible ticket counter shall comply with section 3.4.1.5. Ticket counter, page-10.</p> <p>3.6 Add an accessible ramp in this area in the junctions of the road and footpath. The ramp shall comply with section 3.4.1.3. Entrance, page-15.</p> <p>3.7 Provide male and female separate public toilet facilities with at least one accessible toilet shall comply with section 3.4.1.11. Accessible toilet, page 23.</p>



Pic-72: Stairs should be close risers



Pic-73: Foot over bridge do not have appropriate handrails



Pic-74: Signage of bus stoppage is at too high

3.5.6. Findings from Accessibility Audit: Shantinagar to Malibag Chowrasta

3.5.6.1. Footpath/Pedestrian Walkway

Findings	Gaps	Recommendations
<p>The width of the footpath is 2134 mm (min) to 2743 mm (max). There is tactile ground surface across the footpath. The height of the footpath from the road level is 305 mm.</p> <p>The footpath is occupied by street shops. The electric posts, T&T boxes, and bike parking is also creating obstructions, pic-2 & Pic-03.</p> <p>In case of slopes, the surfaces are well drained and non-slip.</p> <p>No gratings but there is a manhole cover across the footpath.</p> <p>The opening width of the gratings of the manhole cover did not maintain standard but they are placed as such so that the long dimension is perpendicular to the dominant direction of travel.</p> <p>Changes in levels are not easily detectable.</p> <p>There is tactile ground surface at level changes between the footpath but did not maintain universal standard, pic-3.</p> <p>There is tactile ground surface at level changes between the footpath but did not maintain</p>	<p>There is no slope or landing from street level, pic-01.</p> <p>Changes in levels are not at all detectable since slopes and ramps are missing. The basement parking ramp has moved onto the footpath without any warning.</p> <p>The tactile ground surface indicators of contrasting color for detection of slight/dramatic changes in levels are inconsistently placed.</p> <p>There are level changes between the footpaths and the adjacent shops but there are no level change indicators at the edge of the footpaths which is very risky for an individual with disabilities.</p> <p>There are no proper indications, signage or pictographs on the roadside and no indications (zebra crossing) in case of nodes and road crossings. The colour already faded.</p> <p>There is no proper signal control and traffic control in case of crossings, nodes and no provision for auditory alerts or proper signage for traffic control systems. Traffic signals are useless (damaged).</p> <p>There are no maps showing directions and road connections that are aiding easier walk-ability.</p> <p>There is cut through at the street crossing but not at street level. The height of the</p>	<p>1.1 Ramps: are recommended at street crossing, road islands, road dividers and entrance of any public buildings where height difference between levels are more than 150mm within the facilities. All of such ramps shall comply with the section 3.4.3 page-15.</p> <p>1.2 Curb ramps is recommended for level changes less than 150mm height shall comply with 1.2; page 52.</p> <p>1.3. Surface: Well drained, Slip-resistance, have a detectable warning surface indicator and directional indicator with contrasting colors, shall comply with 1.2; page 52.</p> <p>1.4. Signage shall comply with section 1; page 12.</p> <p>1.5. Directional tactile paving shall comply with 1.3; page 52.</p> <p>1.6. Gratings shall comply with 2.3; page 58.</p> <p>1.7. Roadside railing shall comply with 1.7; page 53.</p> <p>1.8. Accessible traffic system shall comply with 1.6; page 53.</p> <p>1.9. Zebra crossing shall appropriately color contrasted and should have accessible transition through a curb ramp between the footpath and zebra crossing.</p> <p>1.10. Bus stoppage: Add a bus stoppage, should be accessible for person with disabilities.</p> <ul style="list-style-type: none"> • Shall have a waiting area, sign and symbol, accessible routes. • Accessible parking area • Accessible ticket counter • Accessible toilet <p>1.11. Install at least one accessible toilet facility comply with section 11; page 23 (Accessible Toilet) of BSMMUH recommendations.</p>

universal standard. The colour of the tactile surface already faded.

There are no curb ramps on footpaths on this side, slope ratio of level changes are in between 1:4 to 1:6.

There are no railings at the roadside of the pathway.

cut-through is 254 mm high from the street level.

There is no curb ramp. There is no proper indication for easier accessibility.

Traffic signals are not obeyed by pedestrians at any cases.

The lighting is insufficient to ensure visibility and safety of pedestrians.

There are no public toilets in this area.

There is no foot over bridges in this area.

Remove all obstructions like street shops, electric posts, T&T boxes, and bike parking from the footpath.

Add maps showing directions and road connections that are aiding easier walk-ability.

Ensure sufficient lighting for visibility and safety of pedestrians.



Pic-1: There is no slope or landing from street level



Pic-2: Vendors Shop, electric posts creating obstructions



Pic-3: Tactile indicators are interrupted by the electric posts and manhole covers

3.5.6.2. Footpath: Malibag Chowrasta to Mouchak crossing

Findings	Gaps	Recommendations
<p>The pathway width is sufficient for a three way pedestrian movement. The width of the footpath is 2134 mm (min) to 2743 mm (max). There is a tactile ground surface across the footpath.</p> <p>The height of the footpath from the road level is 305 mm.</p> <p>The footpath is occupied by street shops. The electric posts are also creating obstructions.</p> <p>No gratings, but there is a manhole cover across the footpath. The opening width of the gratings of the manhole cover did not maintain the standard.</p> <p>There is tactile ground surface at level changes between the footpath but did not maintain the universal standard. In some places on the footpath is lined with bricks instead of a manhole cover that can injure anyone.</p> <p>The colour of the tactile surface already faded. In some places on the footpath, the continuation of the tactile ground surface is absent, pic-4 & pic-5.</p> <p>The lighting is sufficient to ensure</p>	<p>In case of level changes that are greater than ½”, there are no proper ramps that meet standards. Existing slope ratios are 1:4 to 1:6.</p> <p>There are no curb ramps on footpaths on this side.</p> <p>Changes in level are not easily detectable. Changes in levels do not at all meet accessibility standard, pic-07.</p> <p>Gratings do not meet accessibility standards.</p> <p>There are no railings at the roadside of the pathway.</p> <p>There are no public toilets in this area.</p> <p>There are no proper indications, signage or pictographs on the roadside and no indications (zebra crossing) in case of nodes and road crossings. There are no ground indicators or signage posted to warn people that there is a slope towards the basement parking.</p> <p>There are no maps showing directions and road connections that are aiding easier walk-ability.</p> <p>There is no zebra crossing with appropriate color contrasted and no accessible transition between the footpath and zebra crossing.</p> <p>There is no proper signal control and traffic control in case of crossings, nodes and no provision for auditory alerts or proper signage for traffic control systems.</p> <p>There is cut through at the street crossing but not at street level. The height of the cut-through is 254 mm high from the street level. There is no curb ramp.</p>	<p>2.1. Ramps: are recommended at street crossing, road islands, road dividers and entrance of any public buildings where height difference between levels are more than 150mm within the facilities. All of such ramps shall comply with the section 3.4.3 page-15.</p> <p>2.2 Curb ramps is recommended for level changes less than 150mm height shall comply with 1.2; page 52.</p> <p>2.3 Surface: Well drained, Slip-resistance, have a detectable warning surface indicator and directional indicator with contrasting colors, shall comply with 1.2; page 52.</p> <p>2.4 Signage shall comply with section 1; page 12.</p> <p>3.6. Directional tactile paving shall comply with 1.3; page 52.</p> <p>3.7. Gratings shall comply with 2.3; page 58.</p> <p>3.8. Roadside railing shall comply with 1.7; page 53.</p> <p>3.9. Accessible traffic system shall comply with 1.6; page 53.</p> <p>3.10. Zebra crossing shall appropriately color contrasted and should have accessible transition through a curb ramp between the footpath and zebra crossing.</p> <p>Remove all obstructions like street shops, electric posts, T&T boxes, and bike parking from the footpath.</p> <p>Add maps showing directions and road connections that are aiding easier walk-ability.</p> <p>3.11. Add a bus stoppage, should be accessible for person with disabilities.</p>

Findings	Gaps	Recommendations
visibility and safety of pedestrians. Footpath is blocked with iron posts to stop vehicles using footpath, Pic-6.	There is no proper indication for easier accessibility. There is no bus stand in this area.	<ul style="list-style-type: none"> • Shall have a waiting area, sign and symbol, accessible routes. • Accessible parking area • Accessible ticket counter • Accessible toilet



Pic-4 & pic-5: The continuation of the tactile around surface is absent



Pic-6: Footpath is blocked with post lead to pass wheelchairs impossible;



Pic-7: Curb ramp is missing in level changes;

4. Conclusion and recommendations

Accessibility was emphasized by including it in the eight general principles of the Article 3 of the UNCRPD.¹⁹ Considering the Sustainable Development Goals (SDGs), the targets set by the Government of Bangladesh on a sustainable and resilient path, which should leave no one behind.²⁰ Bangladesh as one of the pioneering countries to sign and ratify to the UNCRPD and including the Optional Protocol. Policies and legislations were enacted reflecting the aspirations of the UNCRPD. However, policy implementation to ensure access to the built environment has not been given priority to retrofit the old infrastructure, including in the hospital premises. Accessibility audits in selected Hospitals and Footpaths revealed that there is an urgent need to identify the most effective ways of enforcing laws and regulations to ensure accessibility in the built environment.

The differences in the social and political environment across countries make different approaches to implementation processes necessary. Furthermore, experience has shown that a combination of different approaches relating to the individual stages of development proved to be the most efficient strategy. Below are some of the elements that can be followed in Bangladesh like many countries.

Advocacy and public awareness raising

In many societies, prevailing misconceptions and prejudices about disability result in negative attitudes towards persons with disabilities and also their families. A first step towards access to the built environment and greater social inclusion of persons with disabilities is the change of such attitudes and perceptions within society. The level of negative attitude and stigma can be effectively decreased through public awareness.

Persons with disabilities and the civil society organizations, including organisations of persons with disabilities (OPDs) play a major role in promoting awareness on their needs as a citizen of the country like others. They are also the best to tell policy makers, planners and implementing agencies about the existing situation in the environment, policy and in the society, which keep them away from getting access to services including health care.

Effective advocacy comprises many different strategies, which may include the provision of evidences and materials to utilize in the face-to-face meetings with key persons, the involvement of the mass media, the conduction of "access-audits" for buildings or for any national awareness campaigns. Another crucial element may also be the provision of training and education on infrastructural accessibility, as it is often the case in low and middle income countries, including Bangladesh that decision making depends on authorities, who may not be aware of the exact situation.

- Concerned Ministry should be aware, in the cabinet meetings. They need to be trained first. There should have a support system to provide advisory as identified the need for the capacity building of statutory authority.
- Media may play a major role bringing the issue with focus for policy amendment.
- By putting a signboard (digital) in the hospitals comprising important messages, may increase persons with disabilities to get access to services.
- Signage should be there (that should not hidden by any poster) indicating any hospital from one kilometer radius.

¹⁹ <https://www.un.org/disabilities/documents/convention/convoptprot-e.pdf>

²⁰ Economic and Social Commission for Asia and the Pacific, Accessibility for All: Good practices of accessibility in Asia and the Pacific to promote disability- inclusive development, Bangkok: Social Development Division, 2016, p. 10 < https://www.unescap.org/sites/default/d8files/knowledge-products/Accessibility_for_%20All_2016.pdf >, accessed on 2 May 2021

- Floor plan should be in place in the public/ private infrastructure, including in the hospitals

Formulation of policies and legislations

Many countries have already formulated policies and legislations following international conventions, standards on inclusion of persons with disabilities. Policies are legislations supplement to the respective government to achieve unmet targets and goals of the SDGs and international commitments. Adjustment in the legislations may assist the Government to specify what various stakeholders can and cannot do to achieve the goals of a policy involving a variety of legal instruments. Hence, the right of persons with disabilities to access the built environment can most effectively be ensured by enacting any related policy or legislation on accessibility.

However, major obstacles remain to translate such instruments into the provision of accessible buildings and facilities. Key impediment to providing inclusive buildings in low-income countries is mainly inadequate monitoring and enforcement of compliance with existing accessibility legislations. Again, the lack of financial resources imposes a barrier towards the implementation of accessibility legislations. Government of Bangladesh may find it difficult to allocate funding for accessibility requirements within a short term target.

Specifying a time limit, through issuance of a gazette by the concerned ministry for public and other infrastructures to be made disable friendly to ensure 'personal mobility' and better access to healthcare facilities.

Securing of financial resources

Access to financial resources to implement improved access to the built environment for persons with disabilities need to be identified. Availability of funds may be a major barrier in promoting access to the built environment, especially in the public hospitals and other infrastructure (footpath, toilets, foot- overbridge, etc.).

It is evident that costs for ensuring accessibility in buildings and facilities are less when these features are already incorporated in the design phase instead of being renovation/ reconstruction to existing buildings. However, low cost improvements, e.g., installation of ramps or signage can bring unpredictable benefits to persons with disabilities. However, most interesting to funders and financiers might be the fact.

Participation of persons with disabilities

The importance of a participatory process is to define the requirements and features to be incorporated into the design, in which persons with disabilities can express their own needs.

Persons with disabilities or local Disability Organisations may be notified prior to the planning, designing of any public building or facility to ensure meeting the appropriate needs of persons with disabilities. They may need to follow any standard guideline to monitor before and after construction of any public building, including hospitals.

Planning and implementation of accessibility strategy

There is a demand to develop strategies and plans for the implementation of accessible infrastructure, including public building (e.g., hospitals) footpaths, public toilets aiming at the maximum effectiveness considering resources. The struggle of many countries towards visible implementation despite having legislative frameworks on accessibility in place highlights the need for proper implementation strategies and plans.

Concluding remarks

There needs to have a strong commitment to accessibility of healthcare services. To ensure that data collection and accountability systems needs to be in place. The existing national monitoring framework in healthcare sector in Bangladesh may include assessment of accessibility of facilities by all including persons with various degrees and types of disabilities. Considering the barriers commonly faced by Persons with disabilities getting into, moving around and using the facilities of public buildings, especially hospitals/ clinics, a range of features need to be considered in the designing, construction and management of the facilities. The designers need to ensure the building including facilities in the hospital premises are properly designed. The departments to be engaged in construction of the buildings and facilities need to ensure that every design elements are being implemented considering the Universal design guidelines.

Finally the manager of the hospitals/ clinics and similar facilitates should ensure that the premises are designed to be accessible and that accessibility is maintained properly²¹.

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²¹ https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjfnIKZkbj1AhXdzGZ59CigQFnoECAoQAQ&url=https%3A%2F%2Fwww.hse.ie%2Feng%2Fservices%2Fyourhealthservice%2Faccess%2Fnatguideaccessibleservices%2Fnatguideaccessibleservices.pdf&usg=AOvVaw0IFl49MafTG_wnbopSDZjn accessed on Dec 21, 2021.