

Research Article

The Universal Accessibility Provisions in Hospitals of New Delhi, India

Raja Singh^{1,2}, Laxmi Bohora³, Nirupam Madaan⁴

1. Drexel University, United States; 2. Department of Architecture, School of Planning and Architecture, India; 3. School of Planning and Architecture, India; 4. Hospital Administration at AIIMS, New Delhi, India

Background

In developing countries like India, it has been observed that Persons with Disabilities (PwDs) may have reduced access to health services compared to their counterparts. India is a signatory to the UN Convention on the Rights of Persons with Disabilities (UNCRPD) due to which it has formulated the Rights of Persons with Disabilities Act (RPwDs) 2016 to promote the idea of equality and non-discrimination for persons with disabilities. The study's objective is to identify the present accessibility status of public hospitals in Delhi as per the Rights of Persons with Disabilities Rules, 2017. The study also evaluates government hospitals' compliance with the five-year time limit from the date of enforcement on 15 June 2017, which was imposed by the Central Government to make all existing infrastructure accessible as per the RPwDs Act, 2016- the due date of which expired on 15 June 2022. The Right to Information Act (RTI), 2005 has been used as the primary research tool to obtain information that is accessible under the open public domain. The study's findings showed that most hospitals were aware of the RPwDs Act of 2016, yet only 14 admitted to making all their buildings accessible as per the five-year deadline. The study found that the public hospitals in Delhi have not fully undergone the necessary upgrades to create an accessible and barrier-free environment for persons with disabilities as per the RPwDs.

Aims

The study aims to identify the current status of public hospitals in Delhi regarding compliance with accessibility standards for a barrier-free physical environment, equal opportunities, appropriate information features, and communication on the internet for persons with disabilities as per the RPwDs Act, 2016.

Settings and Design/Methods

The RTI Act of 2005, was used to request information accessible under the open public domain from 32

public hospitals in Delhi regarding compliance with accessibility standards of the built environment, including the provisions of equal opportunities and access to information as per the RPwDs Rules, 2017. Only government hospitals were taken for the study as they fall under the purview of the RTI Act unlike the private hospitals. The main limitation of the study is that the authors have only relied upon verified sources for information accessible under the open public domain as per the RTI Act, 2005 provided directly by the hospital. Future studies to verify the on-ground reality may be performed.

Results

A total of 32 public hospitals in Delhi were approached for the study, and only 26 responded under the RTI Act. After compiling the results, it was identified that 22 hospitals out of 26 were aware of section 45 regarding the time limit of the RPwDs Act, 2016. 14 of the 26 responded to being accessible, while 11 acknowledged being in the process of upgrading their built infrastructure to be accessible. 15 of the 26 responded having PwDs on the payroll, while six responded negatively. Only eight of the 26 hospitals accepted having features for accessible websites, and seven of the 26 answered that they did not have a website at all.

Conclusion

The study disclosed that most hospitals were aware of the RPwDs Act. The majority of the hospitals responded to being compliant with accessibility standards in the built environment. However, only eight responded having accessible websites. This showcases that there is a requirement for improvements in universal accessibility of built environment and information along with the provision of equal opportunities for PwDs in public hospitals.

Correspondence: papers@team.qeios.com — Qeios will forward to the authors

Introduction

The UN has defined accessibility as "giving equal access to everyone," which involves not only providing access to all possible infrastructure but also all the services. Accessible healthcare is not limited to the built infrastructure but also includes the availability of services, access to required information, accessible communication, awareness of specific needs of PwDs, and skills to take care of their needs ^[1]. In 2007, India signed the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) and later ratified the same on October 1, 2007. Being a signatory, India is held by important obligations regarding the implementation of the provisions of the convention, harmonization of the country's laws

with the convention, and preparation of the country's report. The intention of the convention is to protect, promote, and ensure the full and equal enjoyment of all human rights to persons with disabilities, who constitute 2.68 crore, that is 2.21% percent of the persons with disabilities population living in India ^[2]. The census shows that the population of persons with disabilities has increased in the last ten years, with the figure rising from 21.9 million in 2001 to 26.8 million in 2011 ^[2]. Studies have highlighted challenges faced by people with disability in accessing employment opportunities, accessing health care, and suffering from chronic non-communicable diseases ^[3]. Even though persons with disabilities constitute a comparatively small percentage of the country's population, their disabilities should not be regarded as 'objects' of charity but as 'subjects' with rights ^[4]. Hospitals are public buildings with the primary duty to provide services to everyone, but restriction in mobility adds to the limitation of persons with disabilities ^{[5][6]}. In developing countries like India, it has been observed that people with disabilities do not have equal access to healthcare services compared to their counterparts without disabilities ^[7]. But, article no. 25 of UNCRPD stresses that people with disabilities have the right to enjoy the highest attainable standard of health without discrimination based on disabilities. In such cases, the universal design ensures the design of products and environment accessible by all people, to the greatest extent possible, without needing adaptation or specialised design ^[8]. This study attempts to evaluate the accessibility of 32 Delhi government hospitals concerning universal design for people with disabilities in built as well as online platforms ^[9].

As per the UN Convention on the Rights of Persons with Disabilities, article nine, which focuses on accessibility, it mentions that the state parties shall make the necessary arrangements to secure the rights of persons with disabilities to have equal access to the built environment, transportation, communications, including information and communication's technologies and systems, and other public facilities and services, both in urban and rural areas ^[4]. In this regard, the Government of India initially undertook the amendment of laws such as the Persons with Disability Act, 1995 (PWD Act 1995), which was replaced by the Rights of PWD Act, 2016 (RPWD Act 2016) to comply with the UNCRPD ^[10]. The convention also mandates that state parties create, publish, and oversee the application of minimum standards along with directives for the accessibility of facilities and services accessible to the general public ^[4]. Accordingly, India has designed its guidelines for the public as Harmonized Guidelines and Standards for Universal Accessibility 2021, which succeeds the earlier version of Harmonized Guidelines 2016, covering sensitization of diverse stakeholders regarding the design, planning, and implementation of universal accessibility in the built environment, yet to be notified in the law. Other guidelines, such as

Model Building Bye-Laws, 2016, were prepared for the guidance of the State Governments, Urban Local Bodies, Urban Development Authorities, etc. It features mandated bye-laws for the barrier-free environment on the provisions of the guidelines, which are: i) Guidelines and Space Standards for Barrier Free Built Environment for Disabled and Elderly Person (1998), Central Public Works Department, Government of India (GoI) ^[11], ii) Manual on Barrier Free Environment (2002), O/o the Chief Commissioner for Persons with Disabilities, Ministry of Urban Development, GoI ^[12], iii) National Building Code (2005), Bureau of Indian Standards, iv) National Policy for Persons with Disabilities (2006), Ministry of Social Justice and Empowerment, GoI ^[13], v) Harmonized Guidelines and Space Standards for Barrier Free Built Environment for Persons with Disabilities and Elderly Persons (Draft 2014), Ministry of Urban Development, GoI ^{[14][15]}.

Literature

Limitations are encountered by people with disabilities when they attempt to access healthcare services which directly impact their quality of life ^[16]. In India, studies have reported that persons with disabilities, who constitute nearly 2.21% of the general population, face different obstacles in accessing health care services ^{[2][17]}. Universal access and a barrier-free environment are essential to provide equal opportunities and independent living in an inclusive society ^[18]. However, restrictions of movement in public buildings for people with disabilities, such as wheelchair users, still prevail throughout the world despite accessibility being a legal requirement in many countries ^[19]. Extensive efforts have been introduced to enhance access to health services. One of the most important of these actions was the adoption of the Rights of Persons with Disabilities Act in India in 2016. The Act was an update to the previous statutes, i.e., the Persons with Disabilities Act of 1995, which fixed a time limit of five years for states to make their existing infrastructure accessible. This is critical as simple amendments in building bye-laws do not work for buildings in retrospect. In contrast, in 2016, RPwD Act created an over-and-above requirement for existing buildings, in comparison to the building bye-laws, which apply only to new buildings. The deadline of five years after the enactment of the Act and the subsequent notification of the rules in 2017 has already passed on June 15, 2022. But, a walk outside of our buildings will display that very little has changed in the built environment ^[20]. As observed in the study done regarding disabled facilities in public hospitals in Malaysia, it was reported that most respondents were aware of all the disabled facilities provided at the hospital. However, the audit of the hospitals revealed that the infrastructure needed to be improved for accessibility ^[8]. This demonstrates that although there is public

awareness, there is not enough implementation on the part of public hospitals. One of the notable studies in the Dakshina Kannada district of Southern India reported the situation regarding disability preparedness of primary health care centers in India [17]. It highlighted the status of physical accessibility of primary health care centers in rural areas of Southern India, which did not fulfill the needs of PwDs. These inaccessibility issues are not limited to rural areas but can be seen in urban areas causing hindrance to the movement of persons with disabilities, eventually affecting their access to quality of life. Accessibility is not limited to the built environment but touches upon innovative technologies to leave no one behind as a fundamental approach to universal design [21]. As per the Rights of Persons with Disabilities Rules, 2017, information and communication through online websites should follow the standards specified in the guidelines for Indian Government websites. The documents placed on the website shall be in Electronic Publication (ePUB) or Optical Character Reader (OCR) based pdf [22]. A study by a group of researchers done in India on the evaluation of hospital websites in metro cities of India reported that many Indian hospital websites reported having low accessibility to people with disabilities where their compliance with existing accessibility WCAG 2.0 guidelines was found to be relatively low [18]. These results highlight the stress on PwDs concerning poor communication and information sharing through the internet resulting in inaccessibility to services and lack of opportunities like health services, schools, vocational education programs, and employment opportunities [23]. Under universal access, persons with disabilities should have access to equal opportunities as their counterparts, as mentioned in Section 15.1 in the Rights of Persons with Disabilities Rules 2018, which states that every government establishment shall consider four percent of the total number of vacancies, including vacancies for persons with benchmark disabilities [22]. But recent reports disclose that there has been a constant decline in the employment of Persons with Benchmark Disabilities in Union Government Ministries and Departments since 2018 [24]. The Prime Minister's Office (PMO) revealed in the Lok Sabha that over the course of three years- 2018, 2019, and 2020- the numbers of employed PwDs decreased from 2036, 1709, and 1375, respectively [24]. This highlights the apparent lack of equal opportunities for employment for persons with disabilities, which is also assessed in the study.

The study examines the public hospitals in Delhi to determine whether public hospitals have followed the deadline to be accessible in five years mentioned in the Rights of Persons with Disabilities Act, 2016, which passed on June 15, 2022. The study focuses on examining the status of public hospitals as to whether they are compliant with the standard of accessibility in the built environment and information, including appropriate technologies and systems, and provision of equal opportunities as per the Rights of

Persons with Disabilities Rules, 2017. The study used the RTI Act of 2005 as the main research tool to collect data that is available in the open public domain.

Need for the Study

With a range of healthcare systems in various parts of the world, it is shown that people with severe disabilities suffer from poor access to healthcare because of cost, transportation, negative attitudes, long waiting lists, and physical barriers ^[1]. In many countries, access for people with disabilities in hospitals is less considered and sometimes taken for granted ^[21]. Barrier-free access in all parts of government, private hospitals, and other healthcare institutions and centers is a right for all. As per section 45 of the Rights of Persons with Disabilities Act, 2016, the time limit of five years from the date of notification imposed by the Central Government for making all existing infrastructure and premises to be accessible has ended on June 15, 2022. The study makes use of a lesser-known methodology, the Right to Information Act of 2005, as the primary research tool to gather authentic information provided by the information officials in the open public domain. The study provides information regarding the status of accessibility in hospitals in Delhi to identify the problem areas within the overall implementation regarding the provision of equal opportunities for persons with disabilities assessed by parameters like the presence of PwDs on payroll and accessible internet websites. The purpose of the study is to offer a glimpse of the accessibility situation in Delhi's government hospitals based on data obtained through the RTI Act and to encourage further investigation into this area regarding all-inclusive accessibility and adherence to accessibility guidelines for both physical buildings and online information websites.

Materials and Methods

The study used the Right to Information Act, 2005, as the primary research tool to acquire data from public-owned hospitals bound to provide the information under the act. The act allows the collection of information that comes under the open public domain where government institutions might be reluctant to provide information; using RTI as a tool to gather information proves to be highly beneficial ^[25].

Only government hospitals were taken up for this study as they are answerable under the RTI Act 2005. The private hospitals were not studied as they don't fall under the purview of the RTI act making them opaque. For the methodology, the first step was to specify the answerable parameters under the RTI Act, 2005. The identified parameters were extracted from the Rights of Persons with Disabilities Act, 2016, in which parameters such as Time Limit, Rules of Accessibility, and others are mentioned ^[22]. Using the RTI

portal, the identified 32 hospitals were requested to share the information regarding the eight parameters, as in Table 1. In order to request information through the RTI Act, the applications are submitted via the RTI portal, which is answered by credible and certified sources of information within the hospitals. After the application is submitted, there are two possibilities: first, the application is acknowledged, and the response is shared. The response can be shared through at least one of the ways—update of the response on the online RTI portal, delivery of response through mail at the residence, or direct online email response to the applicant, as shown in figure 1. The second is that if the application is not answered or the response is unsatisfactory, a first appeal can be filed to the first appellant authority within the provisions of the Right to Information Act, 2005. If the first appeal is not answered or answered unsatisfactorily, one can seek redressal in the form of a second appeal to the Central Information Commission (CIC). The CIC is the second appellate authority that acts as a quasi-judicial body with powers almost equivalent to a civil court. It can instruct the Public Information Officer (PIO) of organizations within its jurisdiction to provide the requisite reply. The information gathered through this method ensures accurate, legal, ethical, and certified information from hospitals in the open public domain.

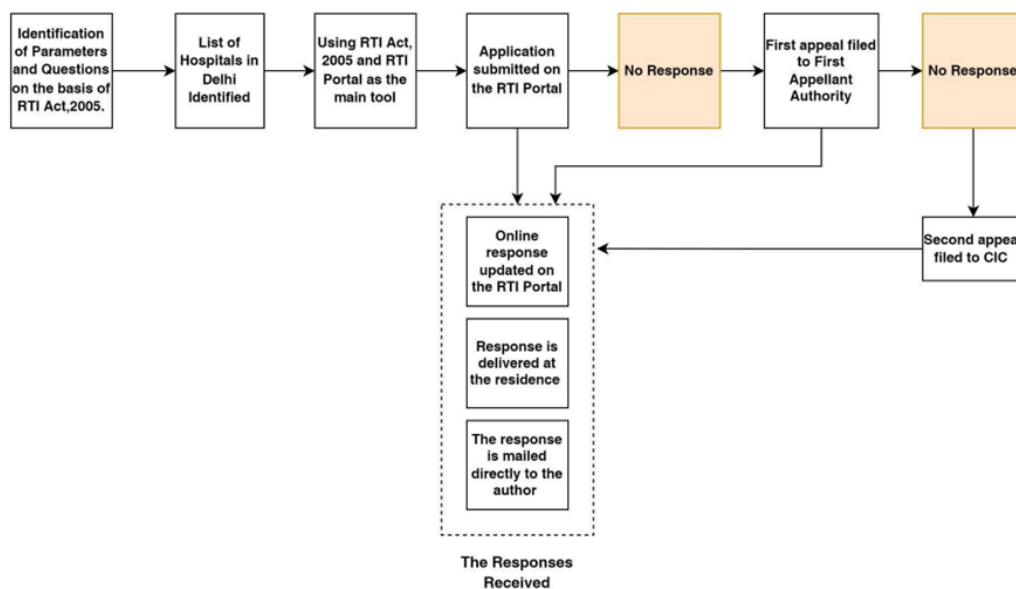


Figure 1. Research methodology adopted for the study

Legend: CIC: Central Information Commission, PIO: Public Information Officer, RTI: Right to Information

The responses to the applications were received by authors over the course of five months (April 2022–August 2022). Some of the applications had to be followed up, and in some cases, appeals had to be filed. A total of 32 hospitals in Delhi were approached for this study, and 26 hospitals have been taken into consideration. The remaining six didn't respond in an apparent violation of the Right to Information Act, 2005. All 32 hospitals are run by the Delhi government ^[9]. The sample size can be justified as per the Survey Monkey sample size calculator— the confidence level is 90% with a margin of error of 10.7%, obtained from the calculator available on the official survey monkey website for calculating margin of error ^[26].

S.No.	The information sought under the Right to Information Act, 2005, under the Public Domain
1	Who is the senior officer in your organization responsible for matters related to buildings and the implementation of the law and rules related to buildings?
2	Are you aware of section 45 of the Rights of Persons with Disabilities Act, 2016? It mentions the time limit for making existing infrastructure and premises accessible and action for that purpose.
3	Are all the buildings included in your organization, whether on the main campus or any campus, accessible according to the Rights of Persons with Disabilities Rule, 2017 notified on 15th June 2017?
4	As per Chapter VI points 15.1. (a), of the Rights of Persons with Disabilities Rules, 2017, the standard for public buildings has been specified in the Harmonized Guidelines and Space Standards for Barrier-Free Built Environment for Persons with Disabilities and Elderly Persons. Is every building of your organization compliant with the standard? Kindly provide a tabulated list of the buildings and the compliance status.
5	As per Part 2 of Section 45 of the Right of Persons with Disabilities Act, 2016, has your organization prepared or followed any action plan for providing accessibility in your building?
6	Are you aware that as per Section 45 of the Rights of Persons with Disabilities Act, 2016, the time limit for implementation of accessibility in buildings was five years since the notification of the Right of Persons with Disabilities Rules 2017? What is the date by which all the buildings on your campus have been made fully accessible as per the act, rules, and guidelines mentioned above?
7	Does your organization have persons with disabilities on the payroll?
8	Is your website following the standards for making it accessible for persons with disabilities?

Table 1. Information sought under the Right to Information Act, 2005 accessible under the public domain from public hospitals in Delhi

Results

The above methodology was adopted to submit applications and appeals to acquire responses. The data received from the 26 hospitals in Delhi have been compiled and presented in Appendices Table 6. A brief information regarding the responses has been shown in Table 2.

Total No. of Hospitals	Responded	Haven't Responded
32	26	6

Table 2. Total responses tabulated for the study

The information gathered through the RTI Act, 2005, was compiled and tabulated in Table 3. It was found that 22 of the hospitals were aware of section 45 of the Rights of Persons with Disabilities Act of 2016, while the information from the rest four did not reach the authors within the time period. 14 of the 26 hospitals were accessible as per the Rights of Persons with Disabilities Rules, 2017, while only one accepted being inaccessible and 11 admitted being in the process of becoming accessible. Ten hospitals admitted to being compliant with accessibility building standards specified in the Harmonized Guidelines and Space Standards for Barrier-Free Built Environment for Persons with Disabilities and Elderly persons, and 12 were in the process of being compliant with the building standard. For the time limit of five years mandated by Section 45 of RPwDs, 14 of the 26 hospitals had prepared their action plans, and 12 were in the process of having plans made/approved. 15 of the 26 hospitals admitted implementing accessibility in buildings as per the five-years time limit, and eight of the 26 disclosed being in the process of retrofitting their buildings to be accessible. Fifteen of the hospitals stated having people with disabilities on the payroll, and six responded negatively regarding the presence of people with disabilities on the payroll. Out of 26 institutions that responded, eight had accessible websites for people with disabilities, and seven did not provide a fully positive reply.

S.No.	Question	Yes	No	In Process	Didn't Share/Not Applicable
1	Awareness regarding section 45 of the Rights of Persons with Disabilities Act, 2016 concerning the time limit of five years from the date of enforcement, 15 June 2017.	22 84.6 %	0	0	4 15.4%
2	Accessibility of buildings with Rights of Persons with Disabilities Rules, 2017	14 53.8%	1 ^a 3.8%	11 42.4%	0
3	Compliance with accessibility standards for persons with disabilities and elderly people	10 38.4%	0	12 ^b 46.2%	3 11.4%
4	Presence of action plan for providing accessibility	14 53.8%	0	12 46.2%	0
5	Accessibility work done as per time limit	15 57.7%	0	8 30.7%	2 ^c 7.7%
6	Presence of people with disabilities on the payroll	15 ^d 57.7%	6 ^e 23%	0	3 11.4%
7	Accessible websites for people with disabilities	8 30.7%	7 27.2%	3 11.4%	8 30.7%

Table 3. Compilation of the information received from the hospitals through RTI Act, 2005

Legend:

a: As per reply dated 18.05.2022, Dr. Hedgewar Arogya Sansthan responded 'No' regarding accessibility in all the buildings in the organization as per the Rights of Persons with Disabilities Rules, 2017 notified on 15th June 2017.

b and c: Dr. NC Joshi Memorial Hospital responded as per the reply dated 09.06.2022, "As it is an ancient semi-permanent heritage building, so it is not feasible to completely make it fully accessible as per guidelines (new construction in certain areas is not possible), the organization has followed the guidelines to whichever extent is

possible.”

d: Deen Dayal Upadhyaya Hospital responded ‘No’ (as per reply dated 06.05.2022) and ‘Yes’ (as per reply dated 22.04.2022) having persons with disabilities on the payroll.

e: Dr. Baba Saheb Ambedkar Hospital responded ‘Yes’ as per the reply dated 30.04.2022 and ‘No’ as per the letter dated 8.07.2022 having persons with disabilities on the payroll.

Four of the hospitals also responded to upgrading under the Accessible India Campaign, which are Satyawadi Raja Harishchander Hospital Narela, Babu Jagjiwan Ram Memorial Hospital Jahangirpuri, Sanjay Gandhi Memorial Hospital Mangolpuri, and Bhagwan Mahavir hospital at Pitampura regarding retrofitting works to make infrastructure accessible by persons with disabilities. This showcases the attempt of the government to make public hospitals accessible, but only four out of 26 reported being under the campaign, and out of four, only one that is Satyawadi Raja Harishchander Hospital— was found to have responded to all the parameters positively.

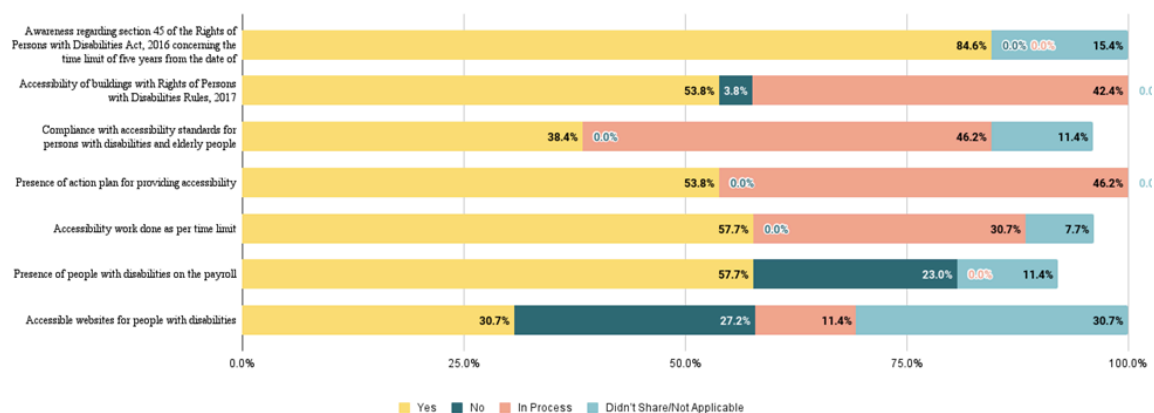


Figure 2. Chart showing percentage response of the questions responded to by the hospitals

Source: Authors

Time Limit: Table 4 highlights the status of accessibility as per section 45 regarding the time limit for making public infrastructure accessible and compliant with the building standards, which has passed its five years limit on 15 June 2022. The study highlighted that 14 of the 26 hospitals had prepared action plans for providing accessibility as per Section 45 of the Rights of Persons with Disabilities Act, 2016, and

12 of the 26 were designing/approving their action plans. Only five hospitals out of 12 provided a specific date of completion, while the rest seven replied as action under process. It displays the apparent lack of transparency regarding the status of accessibility disguised as 'under preparation.'

	Hospitals with an action plan in the process	Status	Response received on	Remarks
1	Acharya Shree Bhikshu Govt. Hospital	Yes. The work is in progress (Ref.: Agreement No.: 18/EE/HMD(SW)/M-123/PWD/2021-22)	29.04.2022	Date of Completion: 31.08.2022
2	Attar Sain Jain Hospital	Continuous efforts are being made in this direction	04.05.2022	It doesn't inform the specific date of completion
3	Bhagwan Mahavir Hospital	Work is expected to be complete by December 2022	09.05.2022	Date of completion: December 2022
4	Chacha Nehru Children's Hospital	Estimate sent to DGHS, F-7, Kakardooma, Shahdara, Delhi Vide Letter No. 23(61)/SE/ H-II/PWD/2019-20/744-H, dated 09.07.2019	06.06.2022	It doesn't inform the specific date of completion
5	Shri Dada Dev Matri Avum Shishu Chikitsalya	The existing building of the hospital is fully accessible, and the extension of the hospital building is in progress, which will be fully accessible after completion.	12.05.2022	The accepted date of completion is 30.09.2022 for the extension of the hospital.
6	Dr. B.S.A Hospital	Under this division, hospitals are being made accessible according to the Right of Persons with Disabilities Rules, 2017	08.07.2022	It doesn't inform the specific date of completion
7	Dr. Hedgewar Arogya Sansthan	It is under planning process being new construction is to be conducted.	18.05.2022	It doesn't inform the specific date of completion
8	Janakpuri Super Specialty Hospital	Some more work facilities for persons with disabilities have already been projected to Higher Authorities for provisioning of the work and will be implemented if the work is sanctioned and funds are made available by the Higher Authorities	13.05.2022	It doesn't inform the specific date of completion

	Hospitals with an action plan in the process	Status	Response received on	Remarks
9	Lok Nayak Hospital	Most buildings under this office updated accessibility accordingly up to 80%, and the remaining works related to accessibility will be done in the next five months.	02.05.2022	Date of completion: 02.10.2022
10	Maulana Azad Institute of Dental Sciences	Most buildings under this office updated accessibility accordingly up to 70%, and the remaining works related to accessibility will be done in the next six months.	02.05.2022	Date of completion: 02.11.2022
11	Rajiv Gandhi Super Specialty Hospital	The estimate for providing facilities/ infrastructure for persons with Disability was submitted to DGHS.	18.06.2022	It doesn't inform the specific date of completion
12	Jag Pravesh Chandra Hospital	The building of JPCH is partly accessible according to the rights of persons with disabilities rules 2017. Efforts for making the building fully accessible are in progress, and estimates are submitted for sanction. As & when the sanction is received, the work will be completed.	23.04.2022	It doesn't inform the specific date of completion

Table 4. Compilation of the information received from the hospitals regarding the status of their action plans

Legend: DGHS: Directorate General of Health Services, JPCH: Jag Pravesh Chandra Hospital

Persons with Disabilities on payroll: It was found that 15 out of 26 hospitals responded to having persons with disabilities on the payroll. It was reported that six hospitals responded negatively to having persons with disabilities on the payroll, as shown in Table 5. Even though the positive response is higher, however, there needs to be an improvement in providing equal opportunities to persons with disabilities.

S.No.	Hospitals	Response
1	Dr. N.C Joshi Memorial Hospital	Yes
2	Guru Gobind Singh Govt. Hospital	Yes
3	Guru Nanak Eye Center	Yes
4	Guru Teg Bahadur Hospital	Yes. The number of employees is 09.
5	Jag Pravesh Chandra Hospital	Yes
6	Janakpuri Super Specialty Hospital	Yes
7	Lal Bahadur Shastri Hospital	Yes. The number of employees is 03.
8	Maharishi Valmiki Hospital	Yes. The number of employees is 02.
9	Attar Sain Jain Hospital	Yes
10	Babu Jagjiwan Ram Memorial Hospital	Yes
11	Bhagwan Mahavir Hospital	Yes
12	Nehru Homeopathic Medical College and Hospital	Yes
13	Ram Tula Ram Memorial Hospital	Yes
14	Sanjay Gandhi Memorial Hospital	Yes
15	Satyawadi Raja Harishchander Hospital	Yes
16	Shri Dada Dev Matri Svum Shishu Chikitsalaya	Yes

Table 5. Compilation of the information received from the hospitals regarding the presence of PwDs on the payroll

Provision of accessible website: It was found that eight out of 26 hospitals responded to having an accessible website. It was reported that seven hospitals responded negatively to having accessible websites for persons with disabilities.

Discussion

Even though the majority of the hospitals acknowledged having knowledge regarding the RPwDs Act of 2016, concerning the five-year time limit, there was a lack of implementation in upgrading buildings and infrastructure to be compliant with accessible building standards. While there are limited studies in parts of India to rate the improvement in accessibility, a case study in the US found that after the enforcement of International Disability Acts, the compliance rates for entrance increased from <50% to 100% in the USA over the course of 16 years ^[19]. The annual report of the Department of Empowerment of Persons with Disabilities 2021-22 informs regarding the number of buildings and institutions audited and upgraded for accessibility but fails to specify the status of improvement with respect to actual numbers. When observed in the present study, only four of the 26 hospitals reported being under the campaign, and only one responded to being accessible as per RPwDs Act, 2016 and RPwDs ^[22]. Accessibility can be defined as the strength and degree to which PwDs are provided for and enabled to live independently and participate in all aspects of life ^[27]. An audit report of 2012 of disability access of public utility buildings located on the campus of All India Institute of Speech, and Hearing located in Mysore, Karnataka, reported poor accessibility for persons with disabilities ^[27]. Similarly, one of the studies conducted in the Dakshina Kannada district of Southern India described the state of primary healthcare facilities' readiness for people with disabilities in India. ^[17]. However, with the COVID-19 pandemic, it becomes pertinent to highlight that the pandemic strained healthcare services significantly where hospitals reported that the pandemic increased the disparities in access to care and health outcomes ^[28]. Moreover, the shift of focus from services, accessibility, quality, and quantity of services changed during the pandemic, which might have been one of the causes of the inadequate upgrade of structures as per RPwDs Act.

Improving accessibility in public hospitals will increase the access of persons with disabilities and decrease issues regarding universal accessibility. However, as disclosed in the World Bank Report regarding India's commitments to people with disabilities and their outcomes, India's implementation capacity was found to be poor in areas that are responsible for improving the situation of disabled people ^[29]. Also, the lack of comparable studies within the country makes it difficult to compare the accessibility status of public hospitals ^{[22][17]}. Hence, this study aims to provide a base for future research on accessibility for persons with disabilities in public hospitals.

Conclusion

The study focused on finding the accessibility standards of public hospitals concerning the Rights of Persons with Disabilities Rules, 2017, regarding the five-year time limit fixed in the Rights of Persons with Disabilities Act, 2016. The study revealed that even though the awareness of the Act was high among the majority of the hospitals that responded, only ten acknowledged being compliant with the building standard. This shows an apparent failure to follow the standards and rules specified in the Act. The findings also revealed a fairly low level of accessibility on digital platforms, with just eight out of 26 hospitals showing inadequate information and communication for people with disabilities online. The study was done to assess the status of accessibility after the deadline of five years imposed by the Central Government to make all public buildings accessible as per the RPwDs Act 2016. After the deadline was completed on 15 June 2022, the findings proved that only 14 out of 26 had prepared the action plan for providing accessibility in their buildings, while 12 answered as being under process with no specific date of completion mentioned except for five hospitals. 15 out of 26 hospitals responded to have made their buildings accessible as per the time limit of five years mentioned in the Rights of Persons with Disability Act, 2016. The results highlight that compliance with accessibility standards as per the five-year time limit is not considered critical in public hospitals in Delhi.

The studies highlighted that even though the awareness is high, there is a lack of implementation within public hospitals, which ultimately hinders persons with disabilities. To provide equitable opportunities and independent life in an inclusive society, universal access and a barrier-free environment are crucial. Therefore, it is recommended that continuous audits or recurring inspections of public infrastructure by individuals with disabilities or organizations for people with disabilities must be mandated as per policies to ensure that accessibility criteria are being met or maintained. The need for a universally accessible, barrier-free environment for people with disabilities must be continually brought to the attention of state governments and institutions in order to provide them with equal opportunities, increase their access to resources, and enable them to become contributing members of society. A change in the mindset is necessary to ensure that policymakers approach building designs not accessible to a few but as an empowerment for all.

Notes

Acknowledgments

The authors gratefully acknowledge Delhi State Cancer Hospital's detailed response regarding their building complex and its compliance with Harmonized building guidelines. The detailed response reflected the accessible design intentions in its implementation. The authors also appreciate the responses from the CIC and PIO, who provided information accessible in the public domain through the RTI Act 2005.

Conflict of Interest

The authors declare that they have no competing interests.

Non-requirement of ethics clearance for this study

No visitor, staff member, or employee was contacted personally for this study. This study relied on information accessible in the open public domain through the Right to Information Act, 2005. The request for information was made through an online portal under an appropriate section of the Act, and the information was supplied. The public hospitals have signed and verified the submitted information. Only information that is not personal or third-party information of any individual may be provided under the terms of the Right to Information Act, 2005. Information concerning any human being is thus forbidden. The 'Indian Council of Medical Research: National Ethics Guidelines for Biomedical and Health Research involving Human Participants' prohibits the use of material that is in the public domain and does not include any human subjects ^[30]. It further goes on to specify that the ethical scopes are only applicable to studies involving human participants, which is not true for this study. This study does not require Institutional Review Board or an equivalent Ethics Committee approval in accordance with the aforementioned scope. The same is stated by the authors.

Authors Contributions

- Author-1: R.S.: Conceptualization, Data Curation, Formal Analysis, Project administration, Investigation, Supervision, Writing- review & editing, Writing- original draft
- Author-2: L.B.: Methodology, Visualization, Writing- original draft, Writing- review & editing
- Author-3: N.M: Review, Validation

Appendices

Table 6. The compilation of the data received from Public Hospitals in Delhi. (Available in excel, see *Supplementary data*)

S.No.	Title	Delhi State Cancer Hospital			
1	Main Entrance	Yes	No	Not Applicable	Remarks
a	Is the main entrance of the building accessible?	✓			
b	Are there any steps at the entrance?	✓			
c	Do the steps have a handrail?			✓	Only two steps
2	Ramps	Yes	No	Not Applicable	Remarks
a	Is there a ramp next to the stairs?	✓			
3	Parking	Yes	No	Not Applicable	Remarks
	Are there accessible parking facilities?	✓			
	Handrails	Yes	No	Not Applicable	Remarks
	Are the handrails painted in contrasting colors to be easily indefinable?			✓	Being stainless steel railing
	Resting Facilities	Yes	No	Not Applicable	Remarks
	Where there are large spaces, resting facilities provided at 30 meter of intervals?			✓	Centrally located Atrium Area may be utilized as resting place.

Table 7. Brief data provided by Delhi State Cancer Hospital sharing a glimpse of compliance status with respect to Harmonized guidelines and Space Standards for Barrier Free Built Environment for Persons with Disabilities and Elderly persons

References

1. ^{a, b}Accessibility Standards for Healthcare: Ministry of Health and Family Welfare . MoHFW (ed): Government of India , New Delhi; 2022. <https://main.mohfw.gov.in/sites/default/files/Accessibility%20Standard%20for%20Healthcare%20%281%290.pdf>.
2. ^{a, b, c}Government of India: Persons with Disabilities (Divyangjan) in India – A Statistical Profile: Ministry of Statistics and Programme Implementation. MOSPI (ed): Government of India, New Delhi; 2021. http://www.nhfdc.nic.in/upload/nhfdc/Persons_Disabilities_31mar21.pdf
3. ^ΔGudlavalleti, M.V.S., John, N., Allagh, K. et al. Access to health care and employment status of people with disabilities in South India, the SIDE (South India Disability Evidence) study. *BMC Public Health* 14, 1125 (2014). <https://doi.org/10.1186/1471-2458-14-1125>
4. ^{a, b, c}UN General Assembly: Convention on the Rights of Persons with Disabilities : resolution / adopted by the General Assembly. (2007). Accessed: 21.8.2022: https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_61_106.pdf
5. ^ΔPhaholthep C, Sawadsri A, Bunyasakseri T: Evidence-based research on barriers and physical limitations in hospital public zones regarding the universal design approach. *Asian Social Science*. 2017, 13:133. 10.5539/ass.v13n4p133
6. ^ΔVarma T, Tripathi H, Prabhakar K, et al.: Evaluation of public infrastructures and transportation accessibility for people with disabilities in Ahmedabad city. *Indian Journal of Physiotherapy and Occupational Therapy – An International Journal*. 2017, 11:12. 10.5958/0973-5674.2017.00028.4
7. ^ΔKarami Matin B, Kamali M, Williamson HJ, et al.: The predictors of access to health services for people with disabilities: a cross sectional study in Iranian context. *Medical journal of the Islamic Republic of Iran*. 2019, 33:125. 10.34171/mjiri.33.125
8. ^{a, b}Ministry of Urban Development : Ministry of Housing and Urban Affairs: Harmonised Guidelines and Space Standards for Persons with Disabilities and Elderly. CPWD (ed): Government of India, New Delhi; 2022. https://cpwd.gov.in/Publication/HG2021_MOHUAN.pdf
9. ^{a, b}List of Delhi Government Hospitals. (2022). Accessed: 9/22/2022: http://health.delhigovt.nic.in/wps/wcm/connect/doit_health/Health/Home/Hospitals/.

10. ^aMath SB, Gowda GS, Basavaraju V, Manjunatha N, Kumar CN, Philip S, Gowda M: The Rights of Persons with Disabilities Act, 2016: Challenges and opportunities. Indian J Psychiatry. 2019, 61:.
11. ^aGuidelines and Space Standards for Barrier-Free Built Environment for Disabled and Elderly Person Guidelines. CPWD, Ministry of Urban Affairs & Employment: India; 1998. <https://cpwd.gov.in/publication/aged&disabled.PDF>
12. ^aManual on Barrier Free Environment. Chief Commissioner for Persons with Disabilities, Ministry of Urban Development, GoI: India; 2002. <https://cdn.nic.in/SJ/PDFFiles/GuidelinesIndia.PDF>
13. ^aNational Policy for Persons with Disabilities. Ministry of Social Justice and Empowerment, GoI: India; 2006. <https://disabilityaffairs.gov.in/upload/uploadfiles/files/National%20Policy.pdf>
14. ^aHarmonized Guidelines and Space Standards for Barrier-Free Built Environment for Persons with Disabilities and Elderly Persons (Draft 2014), Ministry of Urban Development, GoI. India; 2014. <https://cpwd.gov.in/publication/harmonisedguidelinesreleasedon23rdmarch2016.pdf>
15. ^aMinistry of Urban Development: Model Building Bye-Laws (MBBL)- 2016. Ministry of Urban Development (ed): Government of India, New Delhi; 2006. <https://mohua.gov.in/upload/uploadfiles/files/MBBL.pdf>
16. ^aWorld Health Organization: World Report on Disability. WHO (ed): WHO, Geneva, Switzerland; 2011. <http://www.who.int/publications/i/item/9789241564182>.
17. ^{a, b, c, d}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. Journal of Family Medicine and Primary Care. 2018, 7:1300-1303. 10.4103/jfmpc.jfmpc_177_18
18. ^{a, b}Kaur, D. Dani, G. Agrawal: Evaluating the accessibility, usability and security of hospitals websites: an exploratory study. IEEE. 2017, 674-680. 10.1109/CONFLUENCE.2017.7943237
19. ^{a, b}Welage N, Liu KPY: Wheelchair accessibility of public buildings: a review of the literature. Disabil Rehabil Assist Technol. 2011, 6:1-9. 10.3109/17483107.2010.522680
20. ^aDisability act deadline ignored. (2022). Accessed: 11.08.2022: <https://www.newindianexpress.com/opinion/s/editorials/2022/jun/20/disability-actdeadline-ignored-2467573.html#:~:text=...>
21. ^{a, b}Talib YA, Abdul Ghani NI, Ismail K, et al.: The provision of the disabled facilities in public hospitals. MAT EC Web of Conferences. 2016, 66:8. 10.1051/mateconf/20166600081
22. ^{a, b, c, d, e}The Rights of Persons with Disabilities Act, 2016. Gazette of India, New Delhi; 2016. <https://legislative.gov.in/sites/default/files/A2016-491.pdf>.
23. ^aKumar SG, Roy G, Kar SS: Disability and rehabilitation services in India: issues and challenges. Journal of Family Medicine and Primary Care. 2012, 1:69-73. 10.4103/2249-4863.94458

24. ^a, ^bOfficial Data Shows Central Govt Jobs for Disabled Persons Have Declined Since 2018. (2022). Accessed: 10.8.2022: <https://thewire.in/government/government-jobs-for-persons-with-disabilities..>
25. [^]Singh R: RTI for Research: Using the Right to Information Act, 2005 for Research in India. Sandeep Kaur (BooksBonanza): New Delhi, India (ed) , New Delhi; 2020. 10.5281/zenodo.6088938
26. [^]Margin of error calculator (n.d) Accessed: 9/22/2022: <https://www.surveymonkey.com/mp/margin-of-error-calculator/>
27. ^a, ^bVenkatesan, S., Jayakaran, G.T., Purusotham, P., & Rafi, M. (2012). Disability access audit of public service facilities. *Journal of All India Institute of Speech and hearing*, 31, 190-201
28. [^]U.S. Department of Health and Human Services: Hospitals Reported That the COVID-19 Pandemic Has Significantly Strained Health Care Delivery. 2021.
29. [^]O'Keefe, Philip B: People with Disabilities in India: From Commitments to Outcomes. Human Development Unit South Asia Region (ed): World Bank Group, Washington, D.C; 2009.
30. [^]ICMR: Indian Council of Medical Research : Indian Council of Medical Research: National Ethics Guidelines for Biomedical and Health Research Involving Human Participants. ICMR (ed): Indian Council of Medical Research , New Delhi; 2017. https://ethics.ncdirindia.org/asset/pdf/ICMR_National_Ethical_Guidelines.pdf.

Supplementary data: available at <https://doi.org/10.32388/M7E7KE.2>

Declarations

Funding: No specific funding was received for this work.

Potential competing interests: No potential competing interests to declare.