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‘Telehealth for all’: capitalising on the power of virtual healthcare for persons with disability in India

Sarah Jameel
Sarah.j@prasho.org

Sustainable Health Outcomes Foundation
GVS Murthy
Sustainable Health Outcomes Foundation, LSHTM Hyderabad
Emma George
University of Adelaide
Lalit Yadav
University of Adelaide
Vardharajan Srinivasan
The George Institute for Global Health
Jayme Wearn
University of Melbourne
Shailaja Tetali
India Institute of Public Health
Oommen John
The George Institute for Global Health
Nathan Grills
University of Melbourne

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Abstract

Introduction:
Virtual health care holds significant potential to advance inclusive healthcare for persons with disabilities in India, supporting the World Health Organization's goal of Universal Health Coverage. However, individuals with disabilities often face barriers to accessing virtual healthcare due to a lack of disability-inclusive infrastructure, technology, and operational support, which further limits equitable service delivery.(1)

This study aimed to investigate the experiences of persons with disabilities and their caregivers regarding virtual healthcare services in India. The focus was on assessing the accessibility, availability, acceptability, and quality (AAAQ) of these services.

Methods:
Data were collected through 20 in-depth interviews and five focus group discussions with persons with vision, hearing, physical, and intellectual disabilities, as well as their caregivers, across geographically diverse regions of India. Participants were recruited using a snowball sampling method, and thematic analysis was applied to identify key patterns and barriers.

Results:
The findings revealed that while virtual healthcare platforms offered convenience and reduced travel burdens for persons with disability, significant barriers persisted. Challenges included limited accessibility of digital platforms for screen readers, inconsistent availability of sign language interpreters, and insufficient disability-specific training for healthcare providers. Public platforms like eSanjeevani remained underutilized due to low awareness and usability issues.

Discussion:
This study emphasizes the need for disability-inclusive design and service delivery in virtual healthcare systems. Key recommendations include targeted training for healthcare staff, accessibility audits of virtual platforms, and policy reforms ensuring affordability and awareness of public virtual care services. Strengthening these areas can support equitable access to virtual healthcare.

Introduction

Virtual health care is vital for promoting inclusive healthcare for persons with disabilities in India and advancing Universal Health Coverage (UHC). (2, 3)However, the lack of accessible technology, infrastructure, trained staff, and the high cost of inclusive platforms continues to hinder its equitable implementation. (4)

To inform this research, a comprehensive scoping review was conducted to investigate the virtual health care landscape for persons with disabilities in India. (5)This review found that there was limited research on the barriers faced by persons with disabilities in accessing these technologies, thus impeding the ability of virtual care service providers to plan and roll out accessible and equitable health care for persons with disabilities. (6)

At a practice level, the National Telemedicine Service eSanjeevani online OPD (outpatient department) is a free virtual care initiative established by the Ministry of Health and Family Welfare in 2020. (7) In a forthcoming paper by this paper's authors, data was extracted from quantitative non-identifiable demographic information from over 5 million eSanjeevani appointments, demonstrating that users with disability are significantly underrepresented in use of telehealth platforms in India. If these digital systems are to contribute to UHC, it is critical to purposively and effectively include persons with disabilities so that universal coverage is assured.(8, 9)

Given the importance of virtual health care for people with disability, this research aims to investigate how this existing mainstream virtual health care platform in India currently includes people with disabilities and to explore in qualitative depth the ways in which it can be strengthened

Methodology

This study adopted the Availability, Accessibility, Acceptability, and Quality (AAAQ) framework to assess the inclusivity of virtual health care services for persons with disabilities. (10)(11) The AAAQ framework evaluates health systems across four key dimensions, helping identify gaps and strengths to promote equitable and inclusive service delivery.

Accessibility refers to the ease with which individuals with disabilities can reach and effectively use virtual care services, considering not just physical access but also digital usability, affordability, and the ability of caregivers to assist when needed. Availability pertains to the actual presence and timely provision of virtual healthcare services, inclusive platforms, and necessary technology or equipment that individuals require to engage in care. Acceptability highlights whether these services are ethically and culturally appropriate, respecting individual dignity, ensuring patient privacy, and being sensitive to life-cycle and dependency-related needs, such as when caregivers mediate access. Finally, quality addresses the standard and responsiveness of services, including how well consultations are conducted, whether platforms accommodate diverse needs (e.g., visual, hearing, cognitive), and whether staff are adequately trained to support inclusive care. Together, these dimensions help identify systemic strengths and gaps in virtual care delivery for people with disabilities.

Topic guides were developed specifically for this study based on the AAAQ framework to capture participant experiences related to usability, access, satisfaction, and engagement. (10, 11)

To understand user experiences, 20 in-depth interviews (IDIs) and five focus group discussions (FGDs) were conducted. Topic guides were developed based on the AAAQ framework to capture participant experiences related to usability, access, satisfaction, and engagement. Interviews were customized based on participants' prior virtual care usage.

Participants included individuals with vision, hearing, physical, and intellectual disabilities, along with their caregivers. Both users and non-users of virtual care platforms were included to provide diverse perspectives. Participants were recruited through snowball sampling by leveraging networks with healthcare providers and disability-focused NGOs. Eligibility was limited to adults with disabilities and their caregivers.

Participants were selects from geographically diverse regions of India, from the states of Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, and Uttarakhand. The age range for participants spanned between 18 and 54 years.

The details of participants based on disabilities and users versus non-users are included in the following Table 1:

Table 1
Participant details

Groups	Disability types	IDIs	FGDs	Male	Female
Users	Vision impairment	6	3	8	1
	Hearing impairment	-	3	2	1
	Physical impairment	1	3	4	-
	Total (Users)	**7**	**9**	**14**	**2**
Non-users	Vision impairment	7	1	4	4
	Physical impairment	1	8	5	4
	Intellectual disability	-	-	-	-
	Total (Non-users)	**8**	**9**	**9**	**8**
Caregivers of Persons with Disabilities	**Vision impairment**	1	-	1	-
	Hearing impairment	-	-	-	-
	Physical impairment	1	-	-	1
	Intellectual disability	3	-	2	1
	Total (Caregivers)	**5**	**-**	**3**	**2**

Sign language interpreters were present for participants with hearing impairments. Interviews lasted between 15–45 minutes and continued until thematic saturation was reached. All interviews were audio recorded, translated into English where needed, transcribed, and anonymized to ensure confidentiality.

Thematic analysis was applied, involving systematic coding, identification of recurring patterns, and the development of overarching themes and subthemes. (12, 13)

Ethics approval:

The institute review board of Indian Institute of Public Health, Hyderabad (IIPH-H) Ethics Committee approved the study (IIPHH/TRCIEC/364/2023-10/05/2023). Verbal or written consent was obtained prior to participation.

Results

Figure 1 presents the key themes emerging from the data organised and aligned to the AAAQ framework. The findings related to each of these four key areas capture the lived experiences of individuals and the extent to which virtual healthcare models met the needs of persons with disabilities. Emerging from the research were both positive aspects of virtual health care and areas where improvement was needed.

Accessibility of services for persons with disabilities:

While virtual health care offers a promising avenue for healthcare access, various factors were found to influence its effectiveness and utilization, including the ability for persons with disability to access providers, information, and technology. Costs and ease of use also became barriers for some participants.

Access to Providers

Users of government-provided virtual health care platforms often faced hurdles in accessing consistent and timely support. One participant explained:

"Government, the service is slow but in private you get help easily so I prefer it." (M, Caregiver of a child with Disability).

However, the round-the-clock availability of the government helpline number was acknowledged as beneficial.

Access to Information/Awareness

Public awareness campaigns led by startups like Medibuddy (14) and Practo (15) have played a crucial role in educating the public, including persons with disabilities, about the benefits of virtual healthcare.

Only two virtual healthcare users with disability demonstrated awareness of *eSanjeevani OPD*, India's largest public sector virtual care platform. One person stated:

"We are not very aware about these services, what to use and what not, we also feel that the doctor should be made more aware whatever services are available." (F, Community Head, Physical disability).

Additionally, when asked about registration with the Ayushman Bharat Health Access (ABHA) number, only two participants (one user and one non-user) had availed themselves of this national government healthcare identifier.

Access to disability-inclusive resources

Accessibility concerns relating to the technology and user experience extended to date formats, calendar accessibility for keyboard users, and challenges faced by persons with vision impairment who depend on screen readers within the applications where certain types of visual content, particularly images depicting body parts such as hands and legs. These images were often misinterpreted by screen reader software as graphic content. This can be rectified by having medical descriptions for all images and graphics online. While websites may be navigable on laptops or computers, the limitations become glaring when transitioning to mobile applications and it's important to perform comprehensive audits on existing virtual care platforms.

For others, they can easily do the video calling, but it's difficult for us because as I can't take pictures without someone's assistance if the doctors can remain on the video and ask me to show the medicines on the camera, at a point where they can see it, it would be great.

(M, 29, Bank employee, Vision impairment)

Additionally, participants raised issues regarding the usability of height scales on platforms, where precise measurements were hindered by the lack of auditory feedback or clear instructions indicating how to adjust the scales while signing in. Participants suggested providing alternative communication methods, offering training on accessible design practices to users, and incorporating user feedback into platform development.

Prescription and Billing

Persons with disability found the integration of prescriptions with online pharmacy services after virtual consultations to be a significant benefit compared to in-person visits where obtaining medications involved going through various departments, receiving explanations about the prescribed drugs from different individuals, and making payments at separate locations and this can inadvertently cause further communication barriers and, as the person with disabilities may not have the opportunity to ask questions or seek clarification directly from the providers.

"Website, if you are using it with a laptop or a computer, it is absolutely fine. But when you are using an app, I cannot access their prescription and for me it is not even downloadable. I have to ask someone else even to see whether the prescription has come or not." (M, 27, PhD student, Vision impairment)

Affordability of Services

Participants with hearing impairments highlighted the challenges related to interpreter costs for virtual care, noting that they *"have to pay for two things, the doctor, and the interpreter" (M, Software employee, Hearing impairment)* and emphasized the need for options such as free interpreter services or integrated solutions.

2. Availability of services:

The availability of services was impacted by their level of inclusivity and adjustment for types of disability.

Availability of Inclusive Platforms

Persons with physical impairments pointed out that government primary health facilities are often understaffed and lack adequate medical resources, further exacerbating the challenges of accessing virtual care services; however, for many persons with disabilities, telehealth platforms were particularly helpful during the pandemic:

During the pandemic, it is easier to connect with doctors remotely.

(F, Caregiver of a Child with Vision Impairment)

For persons with vision impairment, virtual platforms also meant that they were able to access consultations on their own:

Persons sometimes hesitate to accompany us. In the case of virtual care, it can happen at home, we don't have to go anywhere, it's cost-effective and we have immediate doctor's attention.

(M, 29, Bank employee, Vision impairment)

One participant noted that it would be helpful for parents of a person with disability to be better educated to support their children access these services:

The parents would want to learn more about their child's disabilities. And in that case, I strongly believe that instead of online options or video consultations options having online education would be really helpful for the caregivers

(F, Caregiver of a child with Intellectual Disability)

Availability of Technology and Equipment

Some participants expressed reservations about the security of online transactions, particularly for persons with sensory disabilities. And while younger individuals may be more adept at navigating mobile applications and digital platforms, older individuals with disabilities find it challenging to adapt to new technologies.

From the data, it also emerged that there was a need for disability advocacy groups to gather input and feedback on the specific needs and preferences of persons with disabilities, ensuring the platform design process incorporates feedback generated through extensive user testing by persons with disabilities.

The calls come on the app and we need to answer them on the app, and it is not fully accessible. So, I faced challenges there and wished that they could have in mind that some users are screen readers, and make it more accessible for more help.

(M, 29, Bank employee, Vision impairment)

In the Practo app, for each specialization, the screen reader just says things like 'unable to read image' or similar messages, so we can't really understand what we are clicking on.

(M, 27, PhD student, Vision impairment)

3. Acceptability of services:

Non-users with vision impairments highlighted the limitations of virtual care in addressing severe conditions and emphasized the need for in-person consultations for more impactful interactions.

Patient Independence and Comfort

Previously needing to rely on others for assistance, some participants with disability found they could manage their health autonomously through virtual health care. Arranging for online interpreters during virtual consultations was found to allow individuals with hearing impairments to effectively communicate in acceptable ways, enabling more independent participation in healthcare decision-making processes.

Additionally, being in their own home could be particularly beneficial for persons with disabilities. One participant explained:

"*The hospital environment makes any child anxious" (F, Caregiver of a child with intellectual disability).*

By receiving healthcare services in the familiar setting of their homes, parents of children with intellectual disabilities experienced less stress and discomfort. Additionally, companies such as Portea Medical (16) and Nightingales (17) have pioneered home healthcare services, providing convenience and accessibility and this was particularly important during the pandemic:

Without teleconsultation, we were not able to do the therapies and we were very sad and lockdown came and teleconsultation started. And it was very good news for us.

(F, Mother of Child with Vision Impairment)

The same participant went on to explain that when *"planning and traveling, you actually waste a full day when you can actually explain things over a phone call*," which is especially challenging for caregivers who are balancing caregiving responsibilities with work commitments.

Sharing of personal information:

Participant trust in the platform or provider played a crucial role in acceptability, with participants expressing confidence in established institutions.

While some participants felt secure and had not encountered issues, others acknowledged the need for caution. For example, one participant shared:

"If the data leaks, the patient's disease can be captured by pharma companies or healthcare companies. I don't know how the government is restricting them." (M, 29, Bank employee, Vision impairment).

Participants highlighted the pervasive stigma surrounding mental health issues and its impact on individuals' willingness to seek and engage with virtual mental health support.

Not many persons would actually feel comfortable to discuss their mental issues. So, there are persons like me who don't hesitate, but there is really India that is still, that is still kind of a big issue.

(M, 24, PhD Student, Vision Impairment)

4. Quality of services

Quality of Consultations

There was a consensus that training programs should cover both technical aspects of telecommunication tools, as well as specific considerations for individuals with disabilities and providers. Some participants highlighted challenges, such as difficulty in lip reading due to masks worn by healthcare providers. One participant explained:

"The doctor wears a mask so I cannot lip read, so they need to know some basic sign language to be able to communicate with me so I feel satisfied and understand." (M, 28, Photographer, Hearing impairment).

Additionally, quality consultations in the context of disability also required patience from healthcare providers to ensure effective communication and understanding:

"Staff should repeat things and practices once or twice and be trained on patience to cater to us and the users should be made aware about how to use it, any technology."

(M, 28, Vision impairment)

Need for Guidelines

Participants emphasized the importance of standardized guidelines within virtual care systems so to accommodate individuals with disabilities. Training programs should incorporate such guidelines to promote consistency and quality in virtual care. The platforms need to flag and record a patient's type of disability to adjust the treatment and follow protocols accordingly.

Discussion

Despite telemedicine's transformative potential to improve healthcare accessibility by overcoming geographical, financial, and infrastructural barriers, its usage remains suboptimal. (18)

One factor to explain this gap is that virtual healthcare services, which are not fully designed with inclusivity in mind, can encompass significant barriers to accessibility and equity. Additionally, many users are unaware of the full range of services available. (19)(20). The AAAQ criteria emphasizes non-discrimination as a core to "accessibility." This principle mandates that virtual care services should be accessible to all without discrimination. Non-discrimination, aligned with a human rights-based approach (HRBA) (11), is a crosscutting principle applicable to all AAAQ criteria. (21)

Despite growing international commitments to equitable healthcare, persons with disabilities are still, at times, denied access to health services solely based on their disability status—either explicitly through discriminatory practices or implicitly through structural exclusion. This denial reflects not only social stigma but also systemic neglect in policy and service design. (22, 23)

Acceptability, relates to how well these services meet the cultural, social, and individual needs of users, ensuring they feel comfortable and valued when using them. For example, many digital health platforms fail to provide screen reader compatibility or plain language materials, excluding users with visual or intellectual impairments from essential health information. Additionally, attitudinal barriers—such as implicit bias or lack of provider training—can manifest virtually through hurried consultations, limited patient-provider communication, or disregard for the patient's autonomy.(23) Evidence supports that when virtual care is codesigned and/or patient centred and culturally tailored for users can address specific barriers and promote both accessibility and acceptability. (24)

Acceptability issues can arise from a lack of culturally appropriate care, inadequate patient-provider communication, and concerns about privacy and data security. Similarly, other studies have reported on increased privacy and security of virtual care so that it can be provided in a safe, efficient alternative to in-person consultations (25, 26), offering flexibility and convenience for caregivers balancing caregiving responsibilities with other work commitments.(27) (24)

To strengthen these services for all persons with a disability, a development of standardized guidelines that sets out best practices to ensure consistency and quality in service delivery is important. A set of guidelines are currently in their initial phase of development and are expected to evolve alongside the research into best practices in virtual care. (28)

Finally, to address the gaps outlined in this paper, future research should not only continue to improve the technical accessibility of virtual healthcare platforms but also focus on their acceptability among diverse user groups.(29) This includes, like the present study, conducting studies with users to better understand patient experiences, preferences, and satisfaction levels.

Limitations `

- While the participants represent a small group, it would be valuable to explore virtual health care experiences across other Indian states.

- While snowball sampling was utilized for participant recruitment, this may overlook some users who are less informed or less able to access current healthcare systems, and these people are important to capture in the data in future studies.
- Participants who were recruited from specific platforms or institutions offering virtual care, may perceive a stigma associated with admitting to challenges or difficulties with the platform's use. They may be hesitant to disclose such information, fearing judgment or negative perceptions from healthcare providers, caregivers, or peers.

Conclusion

The COVID-19 pandemic and our initial scoping review (5)exposed a significant gap in public health: the consistent neglect of persons with disabilities in research and policy development related to healthcare accessibility.(30) Using the AAAQ (Accessibility, Availability, Acceptability, Quality) framework, this study explores virtual care experiences among individuals with disabilities and their caregivers in India. Our findings highlight the potential of virtual care to overcome geographical barriers and offer flexible scheduling.

While efforts to narrow the digital divide, such as increasing broadband affordability, are underway, these measures may fall short due to the dual challenges of lower income rates and device ownership among persons with disabilities. The quality of virtual care was generally well received, yet gaps remain in standardized protocols and provider training, particularly in disability-specific care.

To fully realize the benefits of virtual care, further research is essential. This research should focus on refining virtual care protocols, expanding disability-specific training for providers, and advocating for inclusive design principles. This critical research is crucial to ensure that the opportunity that virtual healthcare services provide translates into real-world benefits for persons with disabilities.

Declarations

Statements and Declarations

The authors declare that there is no conflict of interest related to the research, authorship, or publication of this manuscript on virtual healthcare for persons with disabilities.

Authorship confirmation/contribution statement

Name	Roles	Institute Affiliations
Sarah Jameel* Sarah.j@prasho.org	Data curation, Analysis, Investigation/ Data collection, Resources, Visualization, Writing, Methodology	Research Associate, Pragyaan Sustainable Health Outcomes Foundation, Hyderabad, India
GVS Murthy	Conceptualization, Supervisor, Validation, Writing-Review and Editing	President, Pragyaan Sustainable Health Outcomes Foundation, Hyderabad, India Professor (Public Health Eye Care & Disability), LSHTM
Emma George	Conceptualization, Writing, Review and Editing, Analysis, Methodology, Resources, Validation	School of Allied Health Science and Practice, University of Adelaide
Lalit Yadav	Writing, Validation, Resources, Methodology	Adelaide Medical School, University of Adelaide, Adelaide, Australia
Vardharajan Srinivasan	Methodology, Resources, Writing- Review and Editing	The George Institute for Global Health, Delhi, India
Jayme Wearn	Project Administrator, Resources, Validation, Writing-Review and Editing	Nossal Institute for Global Health, The University of Melbourne, Melbourne, Australia
Shailaja Tetali	Conceptualization, Investigation, Project Administrator	Indian Institute of Public Health- Hyderabad, Hyderabad, India
Oommen John	Conceptualization, methodology, validation and project administrator	The George Institute for Global Health, Delhi, India
Nathan Grills	Conceptualization, Funding Acquisition, Methodology, Supervisor, Writing-Review and Editing	Nossal Institute for Global Health, Australia India Institute, The University of Melbourne, Melbourne, Australia

Ethics approval:

The institute review board of Indian Institute of Public Health, Hyderabad (IIPH-H) Ethics Committee approved the study (IIPHH/TRCIEC/364/2023-10/05/2023). Free and formed consent was obtained in writing or verbally prior to participation. The study complied with the WMA Declaration of Helsinki.

Consent for Publication

Not Applicable.

Declaration of Conflict of Interest

The authors declare that there is no conflict of interest related to the research, authorship, or publication of this manuscript on virtual healthcare for persons with disabilities.

Data Availability

Due to the sensitive nature of this study involving in-depth interviews with persons with disabilities, full transcripts and raw qualitative data will not be made publicly available in order to protect participant confidentiality and uphold ethical commitments. However, de-identified excerpts or data summaries may be shared with qualified researchers upon reasonable request.

Competing interests

The authors declare that they have no competing interests

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Author's Contributions

Name	Roles	Institute Affiliations
Sarah Jameel* Sarah.j@prasho.org	Data curation, Analysis, Investigation/ Data collection, Resources, Visualization, Writing, Methodology	Research Associate, Pragyaan Sustainable Health Outcomes Foundation, Hyderabad, India
GVS Murthy	Conceptualization, Supervisor, Validation, Writing-Review and Editing	President, Pragyaan Sustainable Health Outcomes Foundation, Hyderabad, India Professor (Public Health Eye Care & Disability), LSHTM
Emma George	Conceptualization, Writing, Review and Editing, Analysis, Methodology, Resources, Validation	School of Allied Health Science and Practice, University of Adelaide
Lalit Yadav	Writing, Validation, Resources, Methodology	Adelaide Medical School, University of Adelaide, Adelaide, Australia
Vardharajan Srinivasan	Methodology, Resources, Writing- Review and Editing	The George Institute for Global Health, Delhi, India
Jayme Wearn	Project Administrator, Resources, Validation, Writing-Review and Editing	Nossal Institute for Global Health, The University of Melbourne, Melbourne, Australia
Shailaja Tetali	Conceptualization, Investigation, Project Administrator	Indian Institute of Public Health- Hyderabad, Hyderabad, India
Oommen John	Conceptualization, methodology, validation and project administrator	The George Institute for Global Health, Delhi, India
Nathan Grills	Conceptualization, Funding Acquisition, Methodology, Supervisor, Writing-Review and Editing	Nossal Institute for Global Health, Australia India Institute, The University of Melbourne, Melbourne, Australia

References

1. Dastidar BG, Suri S, Nagaraja VH, Jani A. A virtual bridge to Universal Healthcare in India. Communications Medicine 2022 2:1 [Internet]. 2022 Nov 16 [cited 2024 May 18];2(1):1–3. Available from: https://www.nature.com/articles/s43856-022-00211-7
2. ADA and Telehealth Challenges Faced by People with Disabilities Accessing Telehealth. Services < Southeast ADA Center [Internet]. [cited 2024 Mar 4]. Available from: https://adasoutheast.org/resources/ada-and-telehealth-challenges-faced-by-people-with-disabilities-accessing-telehealth-services/
3. Senjam SS, Singh A. Addressing the health needs of people with disabilities in India. Indian J Public Health [Internet]. 2020 Jan 1 [cited 2024 Mar 4];64(1):79–82. Available from: https://www.researchgate.net/publication/339949972_Addressing_the_health_needs_of_people_with_disabilities_in_India
4. Lawson N, King J, Rontal R. Disability and telehealth since the COVID-19 pandemic Barriers, opportunities, and policy implications.
5. George E, Jameel S, Attrill S, Tetali S, Watson E, Yadav L et al. Telehealth as a Strategy for Health Equity: A Scoping Review of Telehealth in India During and Following the COVID-19 Pandemic for People with Disabilities. https://home.liebertpub.com/tmj [Internet]. 2024 Mar 5 [cited 2024 Mar 10]; Available from: https://www.liebertpub.com/doi/10.1089/tmj.2023.0609
6. Filbay S, Bennell KL, Morello R, Smith L, Hinman RS, Lawford BJ. Exploring experiences with telehealth-delivered allied healthcare services for people with permanent and significant disabilities funded through a national insurance scheme: a qualitative study examining challenges and suggestions to

improve services. BMJ Open [Internet]. 2022 Sep 1 [cited 2024 Mar 4];12(9):e065600. Available from: https://bmjopen.bmj.com/content/12/9/e065600
7. eSanjeevani - National Telemedicine Service | National Government Services. Portal [Internet]. [cited 2024 May 20]. Available from: https://services.india.gov.in/service/detail/esanjeevani-national-telemedicine-service
8. Forducey PG, Glueckauf RL, Bergquist TF, Maheu MM, Yutsis M. Telehealth for Persons with Severe Functional Disabilities and their Caregivers: Facilitating Self-care Management in the Home Setting. Psychol Serv [Internet]. 2012 [cited 2024 Mar 4];9(2):144. Available from: /pmc/articles/PMC3375593/
9. Kiran AH. Responsible Design. A Conceptual Look at Interdependent Design-Use Dynamics. [cited 2024 Dec 18]; Available from: http://apple2history.org/history/ah03
10. The AAAQ toolbox |. The Danish Institute for Human Rights [Internet]. [cited 2024 May 23]. Available from: https://www.humanrights.dk/projects/aaaq-toolbox
11. AAAQ Framework – IFHHRO [Internet]. [cited 2024 Dec 9]. Available from: https://www.ifhhro.org/topics/aaaq-framework/
12. Vaismoradi M, Jones J, Turunen H, Snelgrove S. Theme development in qualitative content analysis and thematic analysis. J Nurs Educ Pract [Internet]. 2016 Jan 15 [cited 2024 Dec 7];6(5):100. Available from: https://www.sciedupress.com/journal/index.php/jnep/article/view/8391
13. Coates WC, Jordan J, Clarke SO. A practical guide for conducting qualitative research in medical education: Part 2—Coding and thematic analysis. AEM Educ Train [Internet]. 2021 Oct 1 [cited 2024 Dec 9];5(4):e10645. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC8457700/
14. Book Health Checks. Lab tests, Online Medicine & Doctor Consultation | MediBuddy [Internet]. [cited 2024 May 18]. Available from: https://www.medibuddy.in/
15. Practo. | Video Consultation with Doctors, Book Doctor Appointments, Order Medicine, Diagnostic Tests [Internet]. [cited 2024 May 18]. Available from: https://www.practo.com/
16. Healthcare at Home. India's #1 Home Care Services [Internet]. [cited 2024 May 23]. Available from: https://www.portea.com/
17. World-class healthcare. at home | Caregivers, Nurses, Physio, Dental, Stroke, Lab Tests, Equipment [Internet]. [cited 2024 May 23]. Available from: https://www.nightingales.in/
18. Anawade PA, Sharma D, Gahane S, A Comprehensive Review on Exploring the Impact of Telemedicine on Healthcare Accessibility. Cureus [Internet]. 2024 Mar 12 [cited 2024 Dec 18];16(3):e55996. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC11009553/
19. Vaughan EM, Naik AD, Lewis CM, Foreyt JP, Samson SL, Hyman DJ. Telemedicine Training and Support for Community Health Workers: Improving Knowledge of Diabetes. Telemedicine and e-Health [Internet]. 2020 Feb 1 [cited 2024 May 23];26(2):244–50. Available from: https://www.researchgate.net/publication/331577586_Telemedicine_Training_and_Support_for_Community_Health_Workers_Improving_Knowledge_of_I
20. Dorsey ER, Topol EJ. State of Telehealth. New England Journal of Medicine [Internet]. 2016 Jul 14 [cited 2024 Jun 13];375(2):154–61. Available from: https://www.nejm.org/doi/full/10.1056/NEJMra1601705
21. Advances in AI. tech may provide 'limitless' possibilities for people with disabilities [Internet]. [cited 2024 May 23]. Available from: https://www.healio.com/news/optometry/20230418/advances-in-ai-tech-may-provide-limitless-possibilities-for-people-with-disabilities
22. Improving access to. telehealth | Telehealth.HHS.gov [Internet]. [cited 2024 May 23]. Available from: https://telehealth.hhs.gov/providers/health-equity-in-telehealth/improving-access-to-telehealth
23. INCLUSIVE HEALTH. SERVICES FOR PERSONS WITH DISABILITIES.
24. Taylor A. Healthcare Technology in Context: Lessons for Telehealth in the Age of COVID-19. Healthcare Technology in Context: Lessons for Telehealth in the Age of COVID-19 [Internet]. 2021 Jan 1 [cited 2024 Jun 13];1–298. Available from: https://researchnow.flinders.edu.au/en/publications/healthcare-technology-in-context-lessons-for-telehealth-in-the-ag
25. Sethi P, Sethi N. WhatsApp Neurology: Meeting the Challenges of Teleneurology in India during the COVID-19 Pandemic. Ann Indian Acad Neurol [Internet]. 2021 Sep 1 [cited 2024 Jun 13];24(5):777. Available from: /pmc/articles/PMC8680884/
26. Akhter M, Asthana SS, Gonnade R. NM. Role of Teleconsultation and Telerehabilitation in Cerebral Palsy Patients during COVID-19 Era in India- A Review. JOURNAL OF CLINICAL AND DIAGNOSTIC RESEARCH; 2022.
27. Christy B, Mahalakshmi M, Aishwarya TV, Jayaraman D, Das AV, Rani P. Tele-rehabilitation for persons with vision impairment during COVID-19: Experiences and lessons learned. Indian J Ophthalmol [Internet]. 2022 Mar 1 [cited 2024 Jun 13];70(3):1026–9. Available from: https://pubmed.ncbi.nlm.nih.gov/35225566/
28. Palombini M, Vereen T, Taghiani J, Chitre T. Building a Framework for a More Inclusive Healthcare System. Telehealth Med Today. 2023;8(3).
29. The Impact of Telemedicine on Healthcare. Accessibility and Affordability | ACL Digital [Internet]. [cited 2024 Sep 3]. Available from: https://healthcare.acldigital.com/blogs/impact-telemedicine-healthcare-accessibility-and-affordability
30. Goyal D, Hunt X, Kuper H, Shakespeare T, Banks LM. Impact of the COVID-19 pandemic on people with disabilities and implications for health services research. https://doi.org/101177/13558196231160047 [Internet]. 2023 Feb 23 [cited 2024 Dec 7];28(2):77–9. Available from: https://journals.sagepub.com/doi/10.1177/13558196231160047

Figures

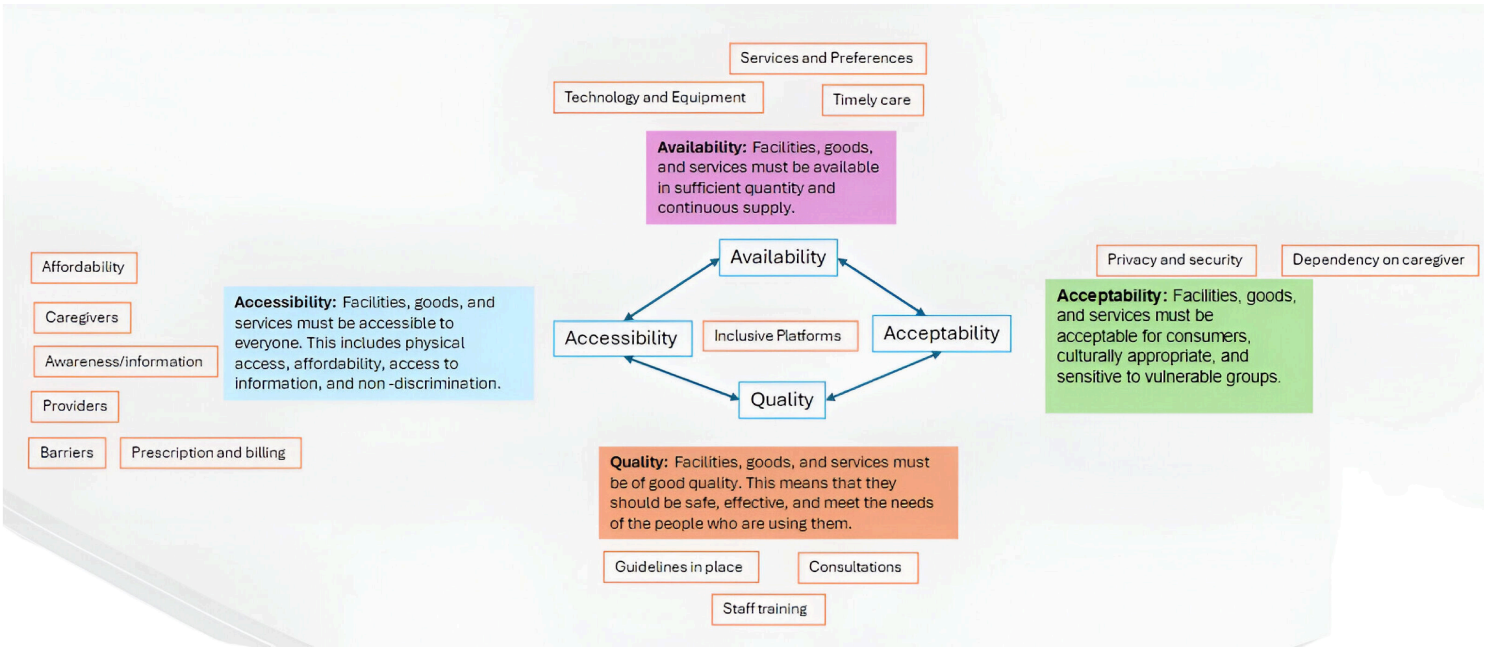

Figure 1

AAAQ Findings for the research

This diagram illustrates the four key dimensions of equitable and inclusive health service delivery—Availability, Accessibility, Acceptability, and Quality—and the interconnected factors influencing them.

Supplementary Files

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- VirtuCareSSIandFGDTools.docx