Digital Divide and Telemedicine Access

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Abstract

Suppose that a world-class specialist is close by the press of a button. This is not one of the things that a young professional in Banani in 2026 will dream about, but it is a normal reality. Between meetings, it is possible to book a dermatology visit; a follow-up prescription is sent online in several minutes.

But to a farmer in the char lands of Kurigram or a mother in the Chittagong Hill Tracts, the same click is blocked by prohibitive network connectivity prices, bad network connectivity, low levels of digital literacy, and the fear of using smartphones because the interface is so difficult to navigate. Telemedicine has huge potential in Bangladesh, and so have standstill opportunities. Following the current digital transformation agenda of bringing Universal Health Coverage to the country, the country has to face a harsh reality: digital access has become a structural determinant of health. Although technology has the possibility of closing old urban-rural gap, it is also a danger because it may lead to another layer of stratification a digital caste system where quality healthcare is being divided between the connected and the unconnected.

On the surface, Bangladesh can be a success story of connectivity. Towards the end of 2025, there were around 186 million cellular connections in the country- more than the entire population. This theoretically implies ubiquitous mobile coverage. Nevertheless, the inequalities that lie behind the headline statistics are usually hidden. Multiple SIM holdings add more subscribers to the database, pushing the data on the active internet users to just about 47 percent of the population. This equates to over 90 million individuals that will be practically offline. In their case, they cannot access telemedicine platforms, digital prescriptions, or app-based appointment systems due to their inconvenience, on the one hand. In a health care environment where digital technologies are becoming an ever-increasing influence, going offline is tantamount to being deprived of an expanding part of service provision.

Infrastructure gap does not simply concern coverage maps only, but also the quality and consistency of access. Even though the technical coverage of 4G (or in certain cities, 5G) is expansive, high-speed connectivity is not even. Signal strength tends to vary in most rural areas, bandwidth tends to be low and

power outage tends to interrupt digital sessions. Less than 1/3 of rural households have stable broadband or high data connection capacity adequate to support uninterrupted video consultation. Telemedicine, especially the specialist consultation process, where image transfer is needed or a real-time video diagnosis, is reliant on a stable bandwidth. Loss of connection during a consultation leads to loss of patient trust, loss of clinical performance. A web-based solution that works properly in Dhaka might play erratically in Sunamganj or Bandarban further supporting the geographic inequalities.

The digital divide in Bangladesh is also gendered to a very deep extent. Owning a Smartphone is also much lower in the rural women population compared to the men. In most families, the male family head is the one in charge of one family gadget. Women who are regularly primary caregivers and healthcare decision-makers to children and older family members might not have self-access to digital tools. This ownership gap has a direct impact on the use of telemedicine. When a mother needs to ask permission or borrow a device to be able to consult a doctor online, the bar of access to care is increased. Digital dependency enhances structural disadvantage in situations where women are already limited by cultural norms to their movements and independent actions. Lack of a personal device therefore do not just remain a technological problem but it hinders prompt healthcare.

However, the ownership of a smartphone does not necessarily mean productive digital interaction. Digital literacy is a not so obvious and yet equally strong barrier. Rural Bangladesh surveys also indicate that although a large percentage of people in rural areas own smartphones, their use is frequently restricted to social media, messaging apps, and entertainment. Digital skills that work, e.g., using health apps, sending medical reports, or using video calls, are less widespread. Respondents in rural regions when questioned on the services of telemedicine services depict that a large proportion of them lack adequate knowledge of the working of such systems. Such a distance breeds psychological reluctance. The lack of familiar interfaces, privacy issues and not knowing how to pay make up what can be termed as an unknown fear of digital healthcare. As a result, most people revert to the old ways of consulting in person- despite the fact that they may take them long distances to get to these consultations, or they might be forced to wait longer to have the consultation.

Another way in which inequality is added is through connectivity costs. The cost of mobile data is in competition with basic spending in food and transportation by low-income households in urban slums or rural villages. Even a one-hour 20-minute video consultation can take a significant part of the daily income of a wage earner in case of high data charges. The population of rural users of the internet on mobile data, but without fixed broadband, is around 40 percent. Telemedicine without subsidized health data packages will become an additional luxury of the people with disposable incomes. This dynamic forms what can be seen as a so-called poverty premium where the poorest households will be charged proportionally higher to receive basic digital health care, or not receive it all.

The state of inequality of devices makes the situation even more complex. Luxury smartphones allow using applications without problems, having a higher resolution of the camera to perform remote diagnostics, and making video calls easier. Moderately priced devices on the other hand can fail in terms of memory limitations, old operating systems, and compatibility problems. Rural households do not have access to personal computers that enable enhanced control of computer-based systems that handle electronic health records or chronic disease monitoring systems. The difference in the quality of the devices is converted into differences in the user experiences and clinical performance. A telehealth system that is optimized to be used on new devices can easily alienate the users of older hardware.

Paradoxically, telemedicine was imagined to help eliminate disparity through distance surpassal. However, the trends in usage indicate that it is being used now by the already privileged. Recent data show that in Dhaka, there is increased usage of telehealth per capita than in rural areas. City dwellers have a better connection experience, are more digitalized, and know more about online services. In the meantime, the rural populations who benefit the most in terms of shortening time spent on traveling and access to specialists are underrepresented in the number of the telemedicine users. Unless post-moving healthcare systems will reallocate finances, employee education, and infrastructure to the digital platform, and also focus on eliminating access concerns, the offline population will be disadvantaged twice. They are deprived of the new digital services as traditional physical facilities have access to resources reallocated to technology investments.

The danger of structural reinforcement is highlighted in this exclusion cycle. The policymakers can see the increased demand of Telehealth in cities, and allocate more resources to develop digital platforms where demand seems to be robust. This kind of data-based decision, even though it seems rational at the outset, can increase disparities in case gaps in participation are not filled in the background. Telemedicine is self-enforcing: widespread use results in increased investment, whereas low use (which is frequently based on structural obstacles) results in abandonment.

A gradual, equity-based roadmap needs to be adopted by Bangladesh, so that digital health can be used as an equalizer, rather than a divider. First, zero-rated health portals will potentially change the affordability. Through the collaboration with telecommunication companies to un-data charges on accepted health websites, getting a doctor would no longer be limited by the number of megabytes. Financial barriers reduce considerably when the consumption of health data is not billed against the prepaid balances. These policies have precedent both in education and in the field of the provision of social services and could be applied in the field of essential health services.

Second, the role of human intermediaries is still necessary. Bangladesh has well-developed system of female community health workers working in the grassroots level. Armed with a digital toolkit and training, these workers can become so-called digital bridges and help patients learn to operate the applications, make

appointments, and know how to follow instructions after the consultation. Instead of making assumptions of direct-to-consumer digital adoption, a mediated model takes into account the literacy gap that may exist and uses the intervention of trusted actors in the community. By so doing, telemedicine does not enter as an enforcement measure as an independent technological tool into the existing care paths.

Third, it is necessary to focus on last-mile broadband infrastructure. The health facilities at the union level can be converted to telemedicine hubs which will have good fiber-optic connections and specially designed consultation areas. People at home who do not have connection at home would go to such hubs to have virtual specialist appointments so as to combine digital efficiency with physical access. These hybrid models maintain inclusiveness and achieve the maximum technological coverage.

Fourth, principles of design should be concerned with local realities. Most of the health applications are still a heavy load of text and difficult to look at. Diluted Bangali-first interfaces, voice recognition, and icon based designs can have many less cognitive barriers. In case of low levels of literacy among the population, voice or audio instructions can be easier than written instructions. Field research based on user-centered design can make seemingly daunting platforms become useful.

In addition to infrastructure and the design, telemedicine expansion should be accompanied by digital literacy campaigns. Telehealth processes can be demystified by means of public awareness campaigns, which can be provided using community meetings, radio shows, and school curricula. The fear can be eliminated by demonstrations on how to make appointments, how to post reports, and how to secure privacy. Once people realize the advantages and workings of the digital health services, the barriers to adoption will decrease.

Mechanisms of monitoring and evaluation are also very important to incorporate in the telemedicine programs. The usage data disaggregated by gender, region, income bracket and age can be used to shed light on any emerging disparities. In case the rate of rural use is lower than the urban one, the interventions can be administered on a timely basis. Program assessments have to have equity metrics to complement efficiency metrics.

Access to digital is becoming more and more dependent on electricity, in terms of its practical role in health care systems nowadays. Similar to the way clinics cannot operate without an adequate power supply, telemedicine cannot operate without an adequate connectivity and an inclusive access. The equipment to overcome the geographic distance is already available in Bangladesh. Internet is becoming more fiberized, mobile phones are becoming more widespread, and digital innovation is becoming more rapid. But technology in itself does not mean equity. In the absence of conscious policies to deal with cost, literacy, gender ownership disparities and infrastructural discrepancies, the digital transformation has the danger of continuing to replicate the past divisions with new molds.

It is a certainty that the future of Bangladesh healthcare will be digital in a major aspect. The future of service delivery will be based on remote diagnostics, e-prescription, AI-based triage, and integrated health records. The main question is whether this digital revolution will enhance exclusion or destroy it. Without connectivity being a right enjoyed by the urban elite, then Smart Bangladesh will not be united. Nevertheless, telemedicine can make quality healthcare accessible to the farthest homes in case policymakers put inclusive infrastructures, affordability, neighborhood mediation, and cultural sensitivity at the center of their agenda.

Digital health should not be a system of the connected only. It has to be embedded within a larger equity agenda that connectivity is a social good. Telemedicine will have reached the revolution when every farmer, day laborer, and mother can have access to specialist advice without any data loss or technological bewilderment. It is not merely to digitalize healthcare, but to democratize it. Ultimately, the achievement of the digital health journey of Bangladesh will not be evaluated by the number of apps released, but by the realization of the elimination of the space between the patient and the doctor becoming a reality to all.