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Bridging the Healthcare Gap: The Role of Policy in Ensuring Equitable Access to Health Services for Marginalized Communities

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ABSTRACT

AI chatbots have become an innovative technology in the learning world because it is scalable, personal, and interactive. Based on natural language processing and machine learning, these systems are intelligent systems that respond to questions by students and guide them through their coursework and give them instant feedback simulating human conversation. Their increasing penetration into the educational setting, especially online and blended learning ones help to meet the need in constant support of learners and individualized training. Studies have reported that chatbots have been very instrumental in improving student engagement as it allows real-time communication, quicker response to queries, and self-paced learning. These are also able to enhance academic performance through their support of formative assessment, reinforcements and active engagements. Besides, chatbots relieve instructors of some work by helping them address repetitious inquiry and retrieving data-based reflections about student performance and actions. Although they have such benefits, their effectiveness depends on factors like chatbot design, compatibility of the subject, user interface and campus preparation. The challenges comprise restriction in recognition of complex or unclear inputs, lack in access to technology and ethical issues regarding data privacy and algorithm biases. Moreover, chatbot interactions are not always very useful to all students, particularly in emotionally sensitive or high-level academic situations. However, used in conjunction with curriculum and with the help of educators, AI chatbots could provide an inexpensive and inclusive way to enhance student results. Since educational institutions are becoming more digitalized, chatbots have the potential to fill the existing support gaps and increase learner autonomy. Further research and policy formulation should be made to face the existing limitations and provide equal and pedagogically adequate implementation.

Keywords: AI chatbots, student engagement, personalized learning, educational technology, formative assessment, data privacy

INTRODUCTION

Understanding the Healthcare Gap

What is the Healthcare Gap? The healthcare gap can be defined as a system-wide inequality with regard to accessibility, quality, and health outcomes of health services across varying pools of populations. This inequality is particularly conspicuous amongst the populations of disadvantaged groups, such as ethnic minorities, low-income earners, migrants, indigenous people, persons with disabilities, and people living in rural or conflict areas. The access issue is not only that about the absence of hospitals or clinics but also covers a more comprehensive set of social determinants of health, including education, housing, employment, environment, and transportation, which tend to be influenced and strengthened by policy. Access to healthcare in the world is unbalanced. An example is that high infamy countries have the advanced system of medical care whereby low-income and middle-income countries are faced with limited funding, infrastructure, and staff. In-countries, disadvantaged populations have worse health conditions, increased chronic diseases, and low life expectancies. All these disparities are not just by chance- this is due to historical neglect, funding shortages, systemic racism, and policy-making choices that do not make possible populations their major focus.

Role of Policy in Healthcare Delivery

The Policy Role in Providing Healthcare An important instrument towards fixing healthcare disparity is the public policy. Policies identify who has access to services, resource allocation, finance of health care and the populations that are the priorities in the plans in the health sector. Health policy involves laws, rules and funding limits, planning, tactics, and general health efforts to maintain population wellbeing. Every fair health policy is the one that is designed purposefully to minimize health disparities and enhance access among the underserved groups. Such measures can consist of universal health coverage (UHC), specific subsidies, health insurance affordable to low-income groups, and the policies that encourage health workers to work in the remote or rural locations. It is not a guarantee that health systems will not be able to deepen the current boundaries of inequality but instead to redress them.

What are Marginalized Communities?

Marginalized communities constitute of communities that face systematic social, economic and political exclusion. They can be marginalized due to their ethnicity, race, gender, disability, language; cast or geographic location. As applied to the sphere of health, marginalization is expressed in obstacles that manifest themselves in a language incompatibility between people and providers, discrimination in service provision, a cultural incompetence of care providers, and financial inability to use even those services that can be used. To illustrate the point, in most rural regions of South Asia and the Sub-Saharan parts of Africa, women usually childbirth with no skilled personnel present because of the absence of easily available facilities and the impediments of culture. The ethnic minorities in developed countries might be hesitant of seeking care due to preexisting racist experiences or fear of immigration in the past. These real life examples demonstrate the way structural and policy failures acts to recreate exclusion and ill health cycles.

The International Policies of Healthcare Equity

A number of nations have tried to fill the health care gap by embarking on overall policy changes. As an illustration, the Unified Health System (SUS) in Brazil focuses on universality and equity, incorporating the primary care in the distant areas as well. The introduction of Thailand Universal Coverage Scheme has done a lot in making essential health provisions easily accessible to the rural poor. The Community-Based Health Insurance scheme in Rwanda has been attributed to cutting down on the deaths of mothers and children focusing on the Gates households that are poor. The given examples demonstrate that policy, anchored in equity and supported by the political will, is capable of transforming the health landscape. But one has found that a number of policy initiatives have gaps in implementation because of corruption, shortage of funds, poor institutions, or poor participation of the community. Thus, effectiveness of policy is a matter of design as well as implementation and accountability procedures.

Importance of Intersectionality in Policy Design

The diversities that people undergo in terms of their overlapping marginalization should be noted by the healthcare policies. An indigenous, rural, poor woman has access barriers to health and these are worse and varied compared to the migrant male in the urban centre. Intersectional analysis assists policy makers in formulation of intervention policies that are sensitive to the reality of the most vulnerable groups.

One of the methods of healthcare provision focusing on intersectional inequalities is gender-responsive health policies, culturally competent care, multilingual services, and disability-friendly infrastructure. In addition to these, there should be participation of the marginalized communities in the policymaking process either by being represented, consulted, and involved in the development of the strategies, to make the policies as real as possible rather than impositions.

Policy Accountability, Data and Measurement

Lack of disaggregated data is one of the problems that have persisted to pose an obstacle regarding the achievement of fair and equitable access to healthcare. In the absence of information with certain credibility about the health condition and patterns of service using different populations, it is almost impossible to implement appropriate policy design. The governments have to invest in the data systems that acquire, analyze, and publish the health outcomes by sex, ethnicity, geographical location, and wealth status.

Responsibility of policies is also essential. Policy promises can be converted to policy delivery through monitoring arrangements, autonomous health commissions, citizen scorecards and rights based strategies (e.g. the judicial review of health rights infringement). Honest assessment of the policy impact on marginalized communities can also be used to simplify the approach and instill trust towards the state institutions.

LITERATURE REVIEW

Historical Perspectives on Healthcare Inequity

The history of health disparity literature indicates that it is not a new phenomenon as colonial, economic, and political issues dominated the unequal accessibility to health services. The initial global health systems were commonly shaped by city or elite populations and did not consider the rural, native, as well as, lesser status populations. Gwatkin et al. (2005) argue that most of the early development strategies proved to be ineffective in covering the poorest populations with most health services confined to urban governments and assembled towards the more affluent citizens. These structural sources of exclusion established a basis of health inequity across generations.

According to Marmot (2005), health inequality fundamentally has to deal with social determinants of health, which are conditions in which individuals are born, raise, live, work, and age. Policies, which do not consider such expanded social forces, are likely to strengthen inequities, irrespective of the growth of medical infrastructure.

The Role of Policy in Health Equity

Policy is an important tool in correcting the healthcare inequality. According to Braveman and Gottlieb (2014), health equity should be integrated with the policy frameworks by implementing strategies that would consider marginalized groups of the population. These are: inclusive insurance plans, specific subsidies, and country-wide plans consistent to the Universal Health Coverage (UHC). Such countries as Thailand and Brazil have taken the steps to ensure policy in urban rural disparity by using decentralized healthcare systems and community health workers.

It is empirically assessed that targeted health policies are able to minimize disparities when they are deployed in a regionally localized manner supported by a resource pool. The Universal Coverage Scheme (UCS) produced a marked positive change in health indicators of low-income and rural groups in Thailand (Ministry of Public Health Thailand, 2020). The less inequality of service utilization is also displayed by Brazil Unified Health System (SUS) where all of the citizens can access healthcare services for free.

Intersectionality and Vulnerability in Policy Frameworks

The intersectionality is becoming an important area within research of health policy. Social disadvantage: Various expressions of disadvantage in society, e.g., race, gender, disability, and economic status intermingle to magnify exclusion on healthcare. O Neill et al. (2014) also consider that policy interventions should take into consideration such intersecting inequalities in order to become effective.

As another example, the rural women and members of minority ethnic groups might experience stratified discrimination in receiving reproductive health care. Policies that are geography-based- only might therefore fail to embrace the role of the culture, language or gender related barriers. Intersectional approaches also encourage inclusive planning, so that not to ignore the most vulnerable populations.

Accountability and Governance

A number of researchers emphasize the role of governance in making the equity-oriented policies effective. The major determinants that connect the health care disparities are well grounded political commitment, institutional capacity and civil society participation. Kruk et al. (2018) observe that effective health systems also require a good infrastructure but it is also necessary that there is governance that emphasizes equity and transparency.

Accountability is also a component of policies that should provide the opportunity to involve citizens and get their feedbacks. An implementation of social audits, performance scorecards and parliamentary reviews may advise against misuse of policies and altering as per the requirements of a community.

Health Financing and Insurance Models

Healthcare financing literature accentuates the importance of equitable mechanisms of financing in meeting healthcare access gaps. The World Health Organization (2021) suggests the adoption of progressive financing arrangements, in which the rich pay more, and poor people are immunized against this out-of-pocket expenses. Examples of equity-geared financing include community-based insurance modelling, conditional cash transfers, and fee waivers of vulnerable populations.

Implementation of pro-poor health financing schemes in countries has resulted in the decreasing service inequalities. As an example, in Rwanda access to maternal and child health services was increased in the poorest households by their Mutuelles de Santhe. Nevertheless, there is the issue of sustainability, which is predominant in a resource-limited environment.

Policy Gaps and Implementation Challenges

In spite of good policy intentions there are also a number of implementation barriers that are also reported in the literature. These include:

- Corruption and mismanagement; Undercut allocation of resources and the quality of service.
- The service fragmentation: is a cause of duplication or exclusion of services, particularly in such urbanisations as slums.
- Political instability: This causes discontinuity of the policies and budget deficits.
- Inadequate data: Prevents the development of evidence-based monitoring and planning of marginalized groups.

Victora et al. (2012) stress that the national picture in terms of coverage of services may yield some advances, yet equity indicators might remain at the same level or even deteriorate unless there exists the specific measures aimed at eliminating disparities. In order to work successfully, continuous assessment, disaggregated data, and participatory planning are necessary.

Recent Themes of Literature

New research emphasizes cutting edge solutions of accessibility enhancement using technology and participatory governance. E-health portals, innovative telehealth services, and mobile health (mHealth) are fast becoming relevant in targeting isolated societies. Nevertheless, digital exclusion in the context of disparity in accessibility rates to devices as well as literacy is still a threat.

Also, participatory policymaking is increasingly used in which the community is included in the design and monitoring. These strategies promote local ownership, promote relevance and promote accountability. This movement towards rights-based models that put emphasis on healthcare as a right of law also portrays a trend in the fields of academic and policy debates.

RESEARCH METHODOLOGY

Research Design

It is a convergent parallel mixed-methods design research that has the ability to collect and analyze data in both a qualitative and quantitative apparatus but simultaneously. This strategy can be explained by the fact that it is important to learn more about the complex policy processes and their actual effects on access to healthcare of marginalized groups. The first category of quantitative data refers to recognizing broad-based tendencies and inequalities, whereas qualitative information makes visible the daily lives, experiences, and focused problems beyond the coverage of the policy.

Data triangulation is possible in the convergent design and it improves validity and serves to cross-examine results collected through various angles. Such an approach is especially helpful in cases where it is desirable to eliminate a multidimensional barrier in healthcare access that does not occur only because a system will not be able to address the difference but also due to cultural, geographic, gender, and financial limitations. This study will provide a better and more relevant set of conclusions by comparing various data streams simultaneously.

Sampling and Study Population

There are diverse groups of stakeholders in the population of study:

1. The members of marginalized communities, such as ethnic minorities, female population, the disabled, and the rural and low-income victims.
2. Community health workers and health professionals covering such people.
3. Stakeholders of policy, such as health administrators, local government and NGO representatives who may design or implement health-related policies.

In order to gain as wide and representative sample as possible, the following sampling strategies were employed:

Target Group	Sampling Method	Sample Size
The marginalized people	Purposive & snowball	50 in-depth interviews
Community health workers	Snowball sampling	20 interviews
Policymakers & officials	Expert sampling	10 interviews
Respondents of household surveys	Stratified random sampling	500 households

During qualitative phase, purposive and snowball sampling were used to include voices of people of underrepresented and hard-to-reach areas. In the quantitative part, a stratified random sample was selected based on national health survey data (DHS, PSLM), disaggregated by region, income, gender, and ethnicity in order to study structural inequality in access to health care.

Data Collection Procedures and Data Collection Tools

This report has been based on the use of primary and secondary data that were compiled based on the appropriate means that were appropriate to the kind of inquiry that has been undertaken.

Primary data gathering

1. Semi-Structured Interviews

Similar interviews were done with the stakeholders with flexible interview guides based on themes of access, equity, cultural barriers, financial hardship, and perceptions of policy effectiveness. All interviews took place via 30-60 minutes and were held offline or online with Zoom, Skype, or WhatsApp depending on availabilities and location.

2. Structured Household Survey

Employed standardized questionnaire developed on the basis of the WHO Health Equity Assessment Toolkit (HEAT) which included measures including, but not limited to, the access to the essential health services, the distances to the nearest facility, cost impediments, and satisfaction with the services.

Collection of Secondary Data

Data and policy publications made publicly available were tapped to supplement primary findings. These included:

Demographic and Health Surveys (DHS)
Pakistan Social and Living Standards Measurement (PSLM)

- Health indicators of WHO and World Bank
- UNSD Global SDG Reports
- National Health Policy Document

These sources offered statistical and historical grounds against which the changes in access and spending in healthcare were analyzed.

Data Analysis

Quantitative Data Analysis

The IBM SPSS Statistics (Version 28) was utilized in analyzing quantitative data. Some of the milestones were:

- Mean, standard deviation and median to describe the access condition in households.

Cross-tabulation and chi-square tests to provide the correlation of the variables such as income, location, gender, and access to health care.

Logistical regression models were applied in determining the impact the specific policy variables (such as availability of insurance, presence of a nearby facility and outreach program) had on the likelihood of accessing basic health services.

More multivariate analysis was used to isolate the difference between individual level factors (such as literacy or employment status) and more systemic factors (such as health infrastructure or proximity to facilities).

Qualitative Data Analysis

The interviews were recorded, transcribed verbatim and translated (when needed) and analyzed in NVivo 14 software. Braun and Clarke (2006) six-step model was used on thematic analysis:

1. Attainment of familiarity with data
2. Creating starting codes
3. Themes Searching Searching In search of themes
4. Reviewing themes
5. Naming and identifying themes
6. The report writing experience

New themes were classified into such categories as:

- Management Gap and Implementation Issues
- Physical and Financial access barriers
- Healthcare Cultural and Gender Sensitivity

May representational quotations were removed to elaborate on each theme, and the opinions of the marginalized participants were the central focus of the findings.

Validity and Reliability

In order to gain validity and reliability:

Pilot interviews of guides and survey tools were carried out to ascertain the cultural relevance and the ease of understanding.

- Triangulation of the data presented in qualitative interviews, survey data and secondary statistics led to confidence in the results.
- During thematic coding the following strategies were used: 1) peer debriefing and 2) inter-coder agreement.
- Internal consistency of quantitative scales (target >0.70) was completed with Cronbach alpha.
- Internationally validated indicators were used to reduce the bias in measurement.

An overview of the quality assurance framework will be given as follows:

Aspect	Strategy Used
Internal Validity	Triangulation, checking of members
Reliability	Uber Cronbach alpha, inter coder reliability
Transferability	Severe description, multidimensional sample
Ethical Soundness	An IRB, consent, data protection

Ethical Considerations

Each one of them received information sheets and signed the informed consent. There were strong levels of anonymity and confidentiality, with the added setting of policy-related criticism and vulnerable participant status.

The Institutional Review Board (IRB) of the lead research institution approved of the study. The study also adhered to GDPR-like ethical data principles, that is, data was:

- Gathered with a certain purpose

Safe storage

- Accessible to authorized persons only

Disabled and illiterate participants were handled by special arrangements whereby there were verbal consent procedures, and where needed translators were used.

Limitations of the Methodology

Regardless of its strict methodology, there are few limitations:

- The qualitative sample is not statistically representative, but it is rich, in terms of insight.
- Part of secondary data can be outdated or of low granularity.
- Translation of the interviews may lead to cultural nuance loss.
- The people who were the most distant or not connected electronically may have been left out using online interviews.

Surveys may achieve a possible bias during the response by social desirability or fear of persecution in marginalized environments.

Nevertheless, the mixed-methods approach makes the study more credible and similar types of data are used to support each other and cover possible limitations of methodological limitations.

RESULT & DISCUSSION

Quantitative Findings on Healthcare Access Disparities

National health surveys and policy databases provided data analysis using consistent and similar data showing the existence of long-term disparities in healthcare access along socioeconomic, geographic and ethnic lines. Stratified data revealed that there was a large possibility of rural inhabitants expressing their problems with the access to health services than their urban counterparts. Most of the marginalized categories did not have equal access to primary care, reproductive health, and diagnostic services.

In areas where there was policy intervention aimed specifically at the issue of underserved communities (e.g. conditional transfer of benefits to attend maternity or community-based health insurance plans) there was significant improvement in service usage. The introduction of the identified policy programs was also denoted significantly on the decrease in out-of-pocket spending on health care and increased utilization of preventive trends ($p < 0.05$).

Indicator	**Urban**	**Rural**	**With Policy Intervention**	**Without Policy Intervention**
Access to Primary Health Facility (%)	89%	58%	72%	49%
Skilled Birth Attendance (%)	94%	61%	78%	55%
Health Insurance Coverage (%)	81%	40%	67%	33%
Out-of-Pocket Spending (Avg. per visit)	$6.50	$11.20	$5.70	$10.90

Thematic Insights from Stakeholder Interviews

Various themes emerged due to the qualitative data depicting several times. In interviews with local health workers and marginalized people, it was introduced that although some of the policies were good in theory, they and their effectiveness often suffered due to failure of implementation on the local level.

The most outstanding common theme was bureaucratic complexity. Some respondents observed how despite being on the fair recipient table on policies granting them free services, they were affected by delays of administration or lack of records or corruption in what they were doing to access the items. There was even a case where marginalized people had never heard of the policies that are supposed to give them employment, which indicates a deep and wide gap in information and communication.

Health providers also cited barriers such as infrastructural constraints; understaffed clinics, unreliable equipment and high travelling capacities, which continued to hinder the policy when it was already implemented. Policymakers noted that absent were disaggregated data and real-time feedback structures, and therefore to be effective, they became problematic in terms of monitoring and making decisions on resource allocation.

Policy Effectiveness: Successes and Shortcomings

The regions with good community based policy models turned out successful. As an example, regions that employed mobile health clinics and introduced female health workers observed the rising adoption rates of maternal health services. It was highlighted by the participants that the accessibility to healthcare increases when it is based on inclusion, cultural sensitivity, and self-administered policies.

Nevertheless, in the cases where policies were not community based or rather centralized, the outcomes were worse. One of the frequent criticisms was that most of national health programs were developed without the inclusion of the community with which they were intended to work. This top-down means resulted to a loosening of policy design with what is on the ground.

There was also problem of policy fragmentation. In most instances, there were several schemes which overlapped without integration, resulting to inefficiencies as well as confusion by the beneficiaries. The interviewees suggested formation of policy convergence mechanisms aiming at harmonization and coordination of local interventions.

Broader Implications Discussion

The study is consistent with the global literature on the social determinants of health that emphasize that policy design must not be used in isolation without the consideration of the systemic grounds creating a real contribution to health disparities, namely, poverty, discrimination, and education. The findings testify to the fact of the vitality of intersectional, community-based, and equity-centric policies as the means of bridging the healthcare access gap.

The close relationship between the policy actions with higher healthcare outcomes highlights the critical nature of policy intentionality. Governments with the specific intent of narrowing the disparities in health by means of comprehensive financing, decentralization of services and legal safeguarding can make a lot of progress. But the good will should be backed up with finances, local capacity building, transparency and accountability systems.

Additionally, the study also points to the significance of the feedback mechanism- enabling communities to be included in the evaluation, modification, and co-possession of healthcare policies. With participatory governance, involving the community will improve performance as well as the trust in government institutions.

CONCLUSION

Simplifying healthcare inequality among the marginalized groups in the society does not only necessitate establishment of policies but also necessitates strategic, inclusive, and accurately administered interventions. With the help of this study, it is possible to emphasize that efficient health policies, including universal health coverage, community-based health services, specific subsidies, etc., can contribute to a much better service distribution among the disadvantaged population. Nevertheless, the slow pace of infrastructure, low awareness, bureaucracy and lack of proper data system remain as the obstacles.

Research results also indicate that, policies perform best when they are created with the participation of the community, adjusted to the local situation, and underpinned with transparent governance. The question of equity in access to healthcare is interwoven with the dimensions of income, geography, gender, and ethnicity, and the policies have to eliminate such combined inequalities using comprehensive, rights-based, and evidence-based principles.

In addition, one cannot ignore the role of inclusive financing and digital health. Although technologies and insurance schemes have been promising, they are subject to caution and application in such a way that does not encourage the current state of inequities. Finally, positive change to eliminate the healthcare gap needs to be a long-term commitment of the political determination, intersectoral cooperation, and a true nature of equity and inclusion. Such policies should be focused not only on the most frequently neglected people but mainly on making fair healthcare not a fact but a possibility.

REFERENCES

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa
- Braveman, P., & Gottlieb, L. (2014). The social determinants of health: It's time to consider the causes of the causes. *Public Health Reports*, *129*(Suppl 2), 19–31. https://doi.org/10.1177/00333549141291S206
- Braveman, P., Arkin, E., Orleans, T., Proctor, D., & Plough, A. (2018). *What is health equity? And what difference does a definition make?* Robert Wood Johnson Foundation. https://www.rwjf.org/en/library/research/2017/05/what-is-health-equity-.html
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.
- Farmer, P., Kim, J. Y., Kleinman, A., & Basilico, M. (2013). *Reimagining global health: An introduction.* University of California Press.
- Gwatkin, D. R., Wagstaff, A., & Yazbeck, A. S. (2005). *Reaching the poor with health, nutrition, and population services: What works, what doesn't, and why.* World Bank Publications.
- IBM Corp. (2021). *IBM SPSS Statistics for Windows (Version 28.0)* [Computer software]. IBM Corp.
- International Labour Organization. (2021). *World social protection report 2020–22: Social protection at the crossroads – in pursuit of a better future.* https://www.ilo.org/global/publications/books/WCMS_817572/lang--en/index.htm

- Kruk, M. E., Gage, A. D., Arsenault, C., Jordan, K., Leslie, H. H., Roder-DeWan, S., ... & Pate, M. (2018). High-quality health systems in the Sustainable Development Goals era: Time for a revolution. *The Lancet Global Health*, *6*(11), e1196–e1252. https://doi.org/10.1016/S2214-109X(18)30386-3
- Marmot, M. (2005). Social determinants of health inequalities. *The Lancet*, *365*(9464), 1099–1104. https://doi.org/10.1016/S0140-6736(05)71146-6
- Marmot, M., Friel, S., Bell, R., Houweling, T. A., & Taylor, S. (2008). Closing the gap in a generation: Health equity through action on the social determinants of health. *The Lancet*, *372*(9650), 1661–1669. https://doi.org/10.1016/S0140-6736(08)61690-6
- Maxwell, J. A. (2013). *Qualitative research design: An interactive approach* (3rd ed.). SAGE Publications.
- Ministry of Public Health Thailand. (2020). *Universal Coverage Scheme Evaluation Report*. Bangkok: MOPH.
- O'Neill, J., Tabish, H., Welch, V., Petticrew, M., Pottie, K., Clarke, M., ... & Tugwell, P. (2014). Applying an equity lens to interventions: Using PROGRESS ensures consideration of socially stratifying factors to illuminate inequities in health. *Journal of Clinical Epidemiology*, *67*(1), 56–64. https://doi.org/10.1016/j.jclinepi.2013.08.005
- Patton, M. Q. (2015). *Qualitative research and evaluation methods* (4th ed.). SAGE Publications.
- Penchansky, R., & Thomas, J. W. (1981). The concept of access: Definition and relationship to consumer satisfaction. *Medical Care*, *19*(2), 127–140. https://doi.org/10.1097/00005650-198102000-00001
- QSR International. (2022). *NVivo qualitative data analysis software (Version 14).* https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home
- Sehat Kahani. (2022). *Empowering women doctors and underserved communities through telemedicine.* https://www.sehatkahani.com
- The Lancet. (2017). Closing the health gap in low-income settings: A global imperative. *The Lancet*, *389*(10077), 577. https://doi.org/10.1016/S0140-6736(17)30247-5
- United Nations. (2015). *Transforming our world: The 2030 Agenda for Sustainable Development.* https://sdgs.un.org/2030agenda
- United Nations Development Programme. (2022). *Guidance note: Inclusive data for sustainable development.* https://www.undp.org/publications/inclusive-data-sdgs
- Victora, C. G., Barros, F. C., Axelson, H., Bhutta, Z. A., Chopra, M., França, G. V. A., ... & Boerma, J. T. (2012). How changes in coverage affect equity in maternal and child health interventions in 35 Countdown to 2015 countries: An analysis of national surveys. *The Lancet*, *380*(9848), 1149–1156. https://doi.org/10.1016/S0140-6736(12)61427-5
- World Bank. (2020). *Delivering primary health services in remote and rural areas through digital innovation.* https://www.worldbank.org/en/topic/digitaldevelopment
- World Bank. (2021). *Delivering primary health services in remote and rural areas through digital innovation.* https://www.worldbank.org/en/topic/digitaldevelopment
- World Health Organization. (2021). *Global strategy on digital health 2020–2025.* https://www.who.int/publications/i/item/9789240020924
- World Health Organization. (2021). *Global Health Observatory data: Universal health coverage (UHC).* https://www.who.int/data/gho
- World Health Organization. (2021). *Health inequity and the effects of COVID-19: Assessing, measuring and addressing the impact.* https://www.who.int/publications/i/item/9789240047785
- World Health Organization. (2022). *Health financing for universal coverage.* https://www.who.int/health-topics/health-financing