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Affordable Health Care for the Bottom Most People

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Abstract

Healthcare is becoming increasingly unaffordable for marginalized people, leaving millions without access to essential quality health services. This paper discusses an innovative, affordable, self-sustaining quality health care system for the poor people at the community level. At the community level, trained health workers will serve as a bridge between patients and medical assistants, medical officers, and specialists. He/she will also provide basic health checks like blood pressure, diabetes, pregnancy test, weight, and height measurement. After the checkup, community health workers connect patients with either a medical assistant or a medical officer, depending on the nature of the disease, through an online platform. This platform also maintains a detailed database on individual patients. The medical officers and medical assistants can issue prescription through this platform instantly. People experiencing poverty will pay less, and the better off will pay full fees for the services, which will make the program sustainable through cross-subsidization. This model can be replicated in the country and abroad for quality health services for people with low incomes.

Keywords: *affordable, cross-subsidy, health Care, marginalized, online platform, quality, sustainability.*

Abstrak

Penjagaan kesihatan kini semakin tidak mampu dinikmati oleh golongan terpinggir, menyebabkan berjuta-juta individu tidak mendapat akses kepada perkhidmatan kesihatan asas yang berkualiti. Kertas ini membincangkan satu sistem penjagaan kesihatan inovatif, mampu milik dan lestari untuk golongan berpendapatan rendah di peringkat komuniti.

Di peringkat komuniti, pekerja kesihatan terlatih akan berperanan sebagai penghubung antara pesakit dengan penolong pegawai perubatan, pegawai perubatan, dan pakar. Mereka turut menjalankan pemeriksaan asas seperti tekanan darah, saringan diabetes, ujian kehamilan, pengukuran berat badan dan ketinggian. Selepas pemeriksaan dijalankan, pekerja kesihatan komuniti akan menghubungkan pesakit dengan penolong pegawai perubatan atau pegawai perubatan melalui satu platform dalam talian, bergantung pada jenis penyakit yang dihadapi.

Platform ini juga menyimpan pangkalan data terperinci tentang setiap pesakit. Pegawai perubatan dan penolong pegawai perubatan boleh mengeluarkan preskripsi secara serta-merta melalui platform tersebut. Golongan miskin akan dikenakan bayaran lebih rendah, manakala golongan berkemampuan akan membayar yuran penuh bagi perkhidmatan tersebut. Kaedah ini menjadikan program berkenaan lestari melalui mekanisme subsidi silang. Model ini berpotensi untuk diperluas dan dilaksanakan di dalam serta luar negara bagi menyediakan perkhidmatan kesihatan berkualiti kepada golongan berpendapatan rendah.

Introduction

Health is an invaluable asset for those who are impoverished, especially for laborers whose physical well-being is essential to their livelihood. In Bangladesh, where a large portion of the population (58.16% in 2023, according to the World Bank's collection of development indicators) is dependent on daily income, being sick can have disastrous financial repercussions. Even a single ill day might cause laborers to lose their wages, further impoverishing them. Furthermore, the lack of affordable healthcare options means that these marginalized families frequently have to spend a significant amount of their income on healthcare, which can cause financial instability.

More than 66% of Bangladeshi live in rural areas, where a significant problem is the lack of uninterrupted access to healthcare services (*J Urban Health.* 2019). Despite challenges such as limited public health facilities and a scarcity of skilled workforce, Bangladesh has made progress in achieving health-related Millennium Development Goals (MDGs), particularly in reducing maternal and child mortality. However, nutritional issues persist, and one-third of children remain stunted. Bangladesh also faces a high burden of tuberculosis and noncommunicable diseases. Common ailments like malnutrition, infectious and noncommunicable diseases, and maternal and infant mortality are more common in rural Bangladesh. Furthermore, the

nutritional status of rural households is highly influenced by their wealth position, which in turn has a substantial impact on health-related outcomes. This is due to the fact that human resources and resources are scarce in rural areas, which exacerbates already existing problems by providing typically insufficient and low-quality healthcare services.

Despite the overall success achieved in the health sector in Bangladesh, there remains a significant challenge in providing affordable, accessible, and quality services for the prevention and management of both communicable and noncommunicable diseases to the impoverished population.

The main aim of this paper is to find a way/model to make quality basic health services accessible to the poor people. The health services include the control of communicable and noncommunicable diseases, improvements in maternal and child health through physical consultation and telemedicine, and addressing the health needs of people with low incomes. The main components of the model are the creation of a comprehensive health service that is adapted to the financial capacities of the underprivileged, the incorporation of digital health technologies to improve data management and service delivery, and a community-based healthcare workforce to offer individualized, direct care. The health services are- Preventive Healthcare, General Health Services, Communicable & Noncommunicable Diseases, Maternal & Child HealthCare Services, Eye Care, Physiotherapy Services for Hemophilia, and others, and Vaccinations. The quality health services will be delivered by the Health workers, medical assistants, and MBBS medical doctors through both physical and telehealth services to the community people at the community level, union level, Upazila level, and central level. Then, a specialized software will be used for delivering the health services, maintaining patients' database, and providing digital prescriptions to the patients through community health assistants at the community and other levels. Finally, a designated health coordinator will oversee and supervise the entire activity, ensuring smooth coordination and efficient delivery of healthcare services. By focusing on these areas, the model seeks to improve overall health outcomes, prevent diseases, and create a healthier and safer environment for the community.

This conceptual paper lays the foundation for a transformative approach to healthcare delivery in Bangladesh. By combining innovative financing mechanisms, technology-driven solutions, and community-based care, the model seeks to bridge the gap in healthcare access and ensure that the poorest populations receive

the quality care they deserve. The proposed model has the potential to be scaled and replicated in other resource-constrained settings, offering a pathway to more equitable healthcare systems in Bangladesh and beyond.

Objectives

The core objectives of this health model are as follows:

a. To develop a model for the delivery of quality health services to the poor people, including awareness raising on safe motherhood and child health.

b. To replicate the model in other unserved/underserved areas if it is piloted successfully.

Literature Review

We have reviewed some literature relating to the above subject, such as the healthcare model for poor people, as discussed briefly below-

The global health literature has examined healthcare availability and cost in great detail, with a focus on low- and middle-income countries (LMICs) such as Bangladesh. Universal health coverage (UHC) is defined by the World Health Organization (WHO) as guaranteeing that everyone has access to necessary health services without facing financial hardship. Bangladesh's healthcare system still finds it difficult to provide for the requirements of its most vulnerable citizens, especially the impoverished, despite tremendous efforts. Key obstacles that worsen health disparities have been identified by a number of studies, including unequal resource distribution, a deficient healthcare system, and a lack of financial safety nets for the underprivileged.

Theoretical Foundation:

The model is grounded in the Social Determinants of Health (SDH) theory, which posits that health outcomes are influenced by factors such as socioeconomic status, education, and access to healthcare. By targeting underserved populations and integrating telemedicine, the model seeks to address these social determinants and improve health equity. The model also aligns with Universal Health Coverage (UHC) principles, which emphasize the need for access to quality health services without financial hardship, particularly for vulnerable populations.

Overview of the Health System of Bangladesh

Bangladesh's health system heavily relies on government financing and policies but receives less allocation in the budget compared to its population size. In FY 2021-22, the allocation was only BDT 327.31

billion, which was around 5 (five)% of the total budget. This allocation meets only 34% of total health expenditure. Inequity is a significant issue affecting the healthcare system (Public Expenditure for Health Sector: Reviewing Budget 2021-22). As reported by the World Health Statistics 2022, 49% of the people of Bangladesh are not covered according to the universal health coverage index, which means they are not getting quality services when needed. Besides, only 24 percent of people spend 10% of their family income on medical expenses. In a report published on 18 July 2023 (source: The Financial Express), according to a recent study, less than 1% % of the population has a health coverage scheme that protects them against catastrophic health expenditures.

In Bangladesh, 7% or approximately 11413000 people are being pushed into poverty because of out-of-pocket health spending, and 24.7% of people spent more than 10% of their households' total expenditure on healthcare (SEARO, 2016).

Brac Health Model

BRAC Health, Nutrition, and Population Programme (HNPP) is designed to provide essential healthcare services in rural and slum areas of Bangladesh, focusing on maximizing limited resources. The program forms Village Organizations (VOs) to connect with rural women, who nominate a shasthya sebika (SS) as a community health worker. These workers are trained in maternal, neonatal, and child health, as well as common diseases. They visit households to provide primary healthcare and sell medicine, allowing them to earn income, which serves as a key motivator.

Supervising the SS workers are shasthya karmis (SKs), who are equipped with mobile technology to collect and manage health information. This use of mobile health (mHealth) technology ensures efficient healthcare delivery and knowledge transfer. The integration of a micro-credit system within the model helps sustain the motivation of the healthcare workers by providing them with an opportunity to generate income while serving their communities (BRAC, n.d.).

IDF Health Model

IDF initiated its health program in 1995 with the aim of delivering affordable and accessible health services to all individuals at the community level. To reach remote grassroots, special community health spots are organized by the health workers. A Health Center, overseen by the central office led by the health coordinator and medical team, is managed by MBBS Doctors and senior consultants centrally. IDF provided financial support to the health program to

ensure smooth health services delivery at the community level.

IDF currently operates a network of healthcare facilities, including two specialized clinics (Static clinic & Satellite clinic), and organizes various health camps, such as blood grouping camps, general health camps, diabetes test camps, and eye care camps in the region.

These clinics have provided a wide range of medical services, such as eye care, maternity and child health, vaccinations, and treatment for common ailments, to more than 19 lac individuals since their founding. IDF's physiotherapy program for hemophiliac patients is one of its amazing success stories; it has improved the lives of almost 5000 people (IDF Annual Report 2022).

This initiative of the IDF has created sustainable access to affordable quality healthcare for the grassroots poor through telehealth, reducing the incidence and severity of health problems, and improving the well-being of the grassroots community. This change in health-seeking behavior and improved access to care has led to solving basic health problems and contributing to lower severe diseases in the grassroots community.

DSK Model:

Dushtha Shasthya Kendra (DSK) healthcare model is a comprehensive approach designed to improve healthcare access for underserved populations in Bangladesh, with a particular focus on women and children. The model employs community health workers to provide primary healthcare services directly within communities, ensuring that basic medical care is accessible to those in need. It places a strong emphasis on maternal and child health, offering essential prenatal and postnatal care to enhance health outcomes for mothers and children. A key component of the model is health education and awareness, which empowers communities with knowledge on disease prevention and healthy practices. DSK also ensures access to essential medicines and treatments for common illnesses, making healthcare more available to those who need it most. Collaboration with local NGOs and government entities is integral to the model, enhancing healthcare delivery and optimizing resource sharing. Additionally, DSK invests in capacity building by training health workers and community members to improve the quality of service delivery. The effectiveness of the model is continuously assessed through monitoring and evaluation, allowing for necessary adjustments to ensure that the healthcare services remain

responsive to community needs (DSK Bangladesh, n.d.).

Comparison with Existing Healthcare Models:

BRAC, DSK, and IDF Healthcare Models have successfully addressed healthcare challenges in resource-limited settings in Bangladesh, but they each operate with distinct approaches. The BRAC Health Model leverages community health workers (Shasthya Sebikas) to provide primary care, especially maternal and child health services, with a focus on mobile health (mHealth) technology for data management. However, its reliance on external funding for sustainability and challenges in scalability limit its long-term impact. Similarly, the DSK Model uses community health workers to deliver basic healthcare services, with an emphasis on health education and disease prevention. While it has a strong local engagement model, it also struggles with scaling up and requires ongoing partnerships with NGOs and governments for resource mobilization.

In comparison, the community-based models from BRAC and DSK focus on engaging local populations directly through trained health workers, fostering trust and ensuring accessibility in underserved areas. While the proposed model builds on these existing frameworks, it places a heavier emphasis on technology, which could be both an advantage and a potential obstacle, depending on the local infrastructure and literacy levels.

The model holds great potential for improving healthcare access for the underprivileged people. Addressing the above challenges will be critical to ensuring its success and sustainability. A phased approach, starting with pilot programs and continuous evaluation, would help refine the model and mitigate these risks.

Proposed Framework/ The Model (Methodology):

Institutional structure:

The model will be implemented with a team of qualified medical officers (MBBS), medical assistants, and health workers, all of whom will be paid employees (Figure 1

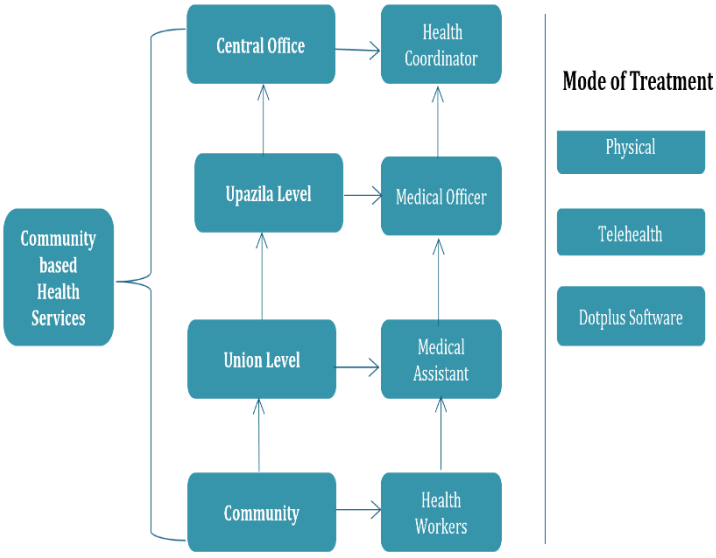

Figure 1: Institutional Structure

The health coordinator from the central office will coordinate the program. To ensure comprehensive healthcare facilities, there will be medical officers, medical assistants, and healthcare workers. The health workers will conduct basic health checkups, including blood pressure, diabetes, pregnancy tests, and weight and height measurements. Based on the outcomes of these assessments, they will determine whether to connect patients to medical assistants or medical officers. The medical assistants will primarily work at the union level, conducting awareness sessions and providing treatment to the local community. The medical officers will handle outdoor patients at the upazila-level health centers, with health workers acting as their assistants. Medical officers will be responsible for treating communicable and noncommunicable cases and will also treat referred cases. Additionally, they will conduct antenatal checkups for pregnant mothers in their catchment population who are referred by medical assistants and health workers. Telehealth services will be provided by medical officers, connected via medical assistants and health workers.

Free medicines (not for chronic diseases) will be provided to patients visiting the health centers. The medical officers will also train the medical assistants on various aspects of healthcare, including maternal and child healthcare, preventive measures for communicable and noncommunicable diseases, focusing on nutrition, lifestyle, food hygiene and safety, sanitation and hygiene practices, and environmental health. The medical assistants will then disseminate this knowledge among the health workers using a manual specifically designed for them.

Health workers will be selected from the community, specifically individuals who have a minimum qualification of Secondary School Certificate (SSC), own a smartphone, and are willing to work in the healthcare sector at the community level. The health workers will assist the medical assistants and conduct door-to-door visits, performing primary health checkups such as measuring blood pressure, diabetes, height, weight, and connecting with the medical assistants and MBBS doctors as needed.

To support the health workers in their work, soft loans will be provided for the purchase of medical kits containing essential tools for primary health checkups. This financial support will ensure that health workers are well-equipped to carry out their responsibilities efficiently.

DOTPLUS Software developed by "Outreach for all" USA will be used to provide telehealth services, patient information storage, and online prescription services. This software provides various analytical reports along with digital prescriptions, due to which now all doctors

and paramedics are using this digital health software for their daily work. By scanning this health card, a member's detailed health record can be easily obtained within a short period of time.

Interventions

To address the healthcare challenges faced by impoverished populations, this model proposes a series of targeted interventions designed to ensure the delivery of affordable and accessible health services. These interventions are grounded in

community-based care, digital health technologies, and capacity building for health workers. The interventions are outlined as follows:

Customization of Training Module:

The existing training modules from IDF's health program will be customized to meet the specific needs of this initiative. This adaptation will focus on ensuring that the training content aligns with the objectives of delivering quality, affordable health services to poor communities.

Training:

a. Pre-Service Training: Prior to launching the health services, comprehensive training sessions will be conducted for all medical, health, and administrative staff. These sessions will prepare the team to address the healthcare needs of the target population effectively. Training on Preventive healthcare and first aid service delivery will be provided to health workers.

b. In-Service Training: Continuous skill development training will be provided to health workers through ongoing training programs. These sessions will ensure that health workers remain up-to-date with the latest healthcare practices, allowing them to deliver quality care at the community level.

c. Awareness-Raising Campaigns: Community-focused campaigns will be conducted to raise awareness about safe motherhood, child health, and the importance of preventive healthcare. These campaigns will empower the community with knowledge, leading to improved health behaviors and outcomes.

Provision of Quality Health

Services: A core intervention of the model is the provision of essential health services to the community. These services will be delivered by qualified MBBS doctors, medical assistants, and health workers. The key components of service delivery include:

Physical and Telemedicine Services:

Both in-person consultations and telemedicine will be provided, ensuring that even remote communities have access to healthcare.

- **Health Camps:** Regular health camps will be organized to deliver primary health services to underserved populations.
- **Eye Camps**: Specialized camps focusing on eye care will be established to address vision-related health issues.
- **Referral Services**: A referral system will be created to direct patients to higher-level healthcare facilities when more specialized care is required.
- **Provision of Medicines**: Free medicines for primary health services (excluding chronic diseases) will be made available to patients attending the health centers.
- **Installation of Health Software:** Digital health solutions will play a crucial role in the delivery of services. Health software will be implemented to generate digital prescriptions, streamline health data management, and enhance the efficiency of service provision. This digital infrastructure will allow for better tracking of patient

records and facilitate telemedicine services.

Monitoring and Reporting:

A robust monitoring and reporting system will be established to track the progress and outcomes of the idea. This will include the collection and analysis of data on service delivery, patient outcomes, and community health indicators. The data will inform program adjustments and ensure that the initiative is meeting its objectives effectively.

Impact Assessment:

An impact assessment will be conducted to evaluate the overall effectiveness of the interventions on the target population. This assessment will measure improvements in health outcomes, access to care, and financial protection for poor households. The findings will help guide future interventions and inform policy recommendations.

These interventions outline a comprehensive approach to addressing healthcare challenges for people experiencing poverty, focusing on capacity building, service provision, and continuous monitoring.

Sustainability

The sustainability of the proposed healthcare model is anchored in a community-driven financial model that ensures both affordability for beneficiaries and the long-term viability of the program. The program's economic sustainability is built on a tiered payment system, where the poorest members of the community pay reduced fees while those who are better off pay full fees for the services they receive. This ensures that healthcare remains accessible to everyone, regardless of their financial situation, while allowing the program to generate enough revenue to cover operational costs.

The healthcare fees will be used to fund key aspects of the initiative, including the salaries of medical officers, medical assistants, and health assistants, as well as the procurement of medicines, medical supplies, and technology infrastructure. By integrating a small, manageable fee from a large number of community members, the program can ensure financial sustainability through a cross-subsidy manner while keeping services accessible to those in need.

By maintaining a balance between affordability for beneficiaries and financial self-sufficiency, this healthcare model aims to be a sustainable model that can be replicated in other regions facing similar challenges.

Conclusion

Affordable healthcare is therefore not just a matter of public health, but of economic survival for the poorest communities. Access to affordable health services enables laborers and low-income families to prevent and manage illnesses, reducing the economic burden of healthcare costs and ensuring that they can continue to work and support their families. When healthcare is accessible and affordable, it strengthens the resilience of poor populations by preventing the downward spiral of poverty caused by illness and high medical expenses. The conceptual model addresses key challenges in healthcare delivery while offering a replicable framework for implementation in resource-constrained settings and bringing positive changes by providing accessible and

affordable health services to those in the lowest socioeconomic strata.

This model aligns with the Social Business model promoted by Nobel Laureate Prof. Muhammad Yunus. The program will provide healthcare services to the poor grassroots at an affordable cost, addressing a fundamental social issue and contributing to poverty alleviation. By generating surpluses over its expenses and operating on a cross-subsidy basis, the program ensures long-term sustainability.

By implementing a comprehensive program with qualified medical officers, medical assistants, and health assistants, the model demonstrates the specific healthcare needs of the community. By improving access to quality health services, promoting safe motherhood and child health, and developing a skilled healthcare workforce, this initiative aims to make a significant impact on the well-being and quality of life of the targeted population at a low cost.

To achieve its full potential, the proposed model requires practical testing and adaptation to specific regional contexts. Future research should focus on pilot studies to evaluate the model's feasibility, cost-effectiveness, and impact on health outcomes. Recommendations include exploring the integration of emerging digital health technologies and partnerships with local governments and organizations to ensure scalability. By addressing these areas, the model can significantly contribute to improving healthcare access for the poorest populations and serve as a blueprint for equitable healthcare systems worldwide.

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