Heartfile Health Financing:
Striving to achieve health equity in Pakistan

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Executive Summary

More than 73% of Pakistan's population pays out-of-pocket to access healthcare. Catastrophic expenditures on health, medical indebtedness and medical impoverishment are therefore, a common occurrence. More than 40 million individuals run the risk of spending catastrophically on healthcare. A number of factors compel action as social divides widen in Pakistan. Social protection is a government priority but existing mechanisms have limitations. The state's health related social protection system in place centers on Zakat and Bait-ul-Mal. These have narrow coverage and are plagued by a number of challenges. An NGO think-tank has created a mechanism to fill this gap through its recently established program, Heartfile Health Financing. This is a health-equity fund based demand side system, which enables registered doctors/hospitals to seek financial help for patients who run the risk of spending catastrophically on healthcare in an expedient and transparent manner.

The system comprises three components—a technology platform, a system of validating poverty and prioritizing patients, and a health equity fund. The objective at inception was two fold: one, to develop a system, which at the *humanitarian level* could protect people against medical impoverishment and meet an urgent need amongst the poor. Secondly, at the *development level*, to develop a health relevant social protection system which suited the specific needs of Pakistan and could help broaden the base of pooling for health. The program's proof of concept has already been published, which reports process level details. There are immediate plans for following patients longitudinally to ascertain impact on poverty and morbidity outcomes, for which resources are being mobilized. A more rigorous evaluation is planned which will enable assessment of impact in a crossover intervention design. Lessons learnt in implementing this project in its early stages are being used to refine the model and capacity is being consolidated to scale up. Modifications to the technology are planned accordingly. A recently established partnership with Pakistan's Poverty Alleviation Fund opens a unique avenue for expanding this innovative social protection health financing program in a public-private partnership mode.

Problem Space

Pakistan is the sixth most populous country in the world (173.5 million). The country's health care delivery system is "mixed" with elements of both public and private—the latter being predominant.[1] Seventy three per cent of the Pakistani population pay out-of-pocket expenses for health care, which is the most regressive means of financing health (Figure 1). [2]

Total per capita health expenditure is US $ 22.06, of which the public sector contributes US $ 8.86, and the private sector, US $ 13.2. Public spending is far below the internationally recommended level of over US $ 60 per capita, which is considered barely adequate to deliver essential health services.[3] Even when attending government-funded public hospitals, a patient is expected to cover costs and pay user's charges. As a result, catastrophic expenditures on health, medical indebtedness and medical impoverishment are very common, especially amongst the poor, which constitute over 25% of the country's population.[4] Lower income households appear to be increasingly at risk of becoming poor due to health payments even though they spend less than better off households and generally appear to have less access to care, and forego healthcare.[5]

The Pakistan Social and Living Standards Measurement survey conducted annually gathers data on health expenditures in general, but not on catastrophic expenditures. This has been an impediment to advocacy and awareness. Recently, the Planning Commission of Pakistan has reported that health and economic shocks involving catastrophic spending are the most common risks facing households; two thirds of the households surveyed for a safety net survey reported that they had been affected by one or more health shocks and had spent catastrophically during the last 3 years (Figure 2).[6] It is estimated that more than 40 million individuals in Pakistan run the risk of spending catastrophically on healthcare.

Helping patients at the risk of spending catastrophically on healthcare is the government's priority but existing mechanisms have limitations. A number of factors have compelled action. Social divides are widening in Pakistan, especially as the economic situation is worsening and the prevalence of poverty is escalating sharply. Social protection has become a priority and there is pressure on both the

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government and civil society to come up with workable solutions that can overcome the present gaps in capacity. In addition, the media is becoming more open and assertive in drawing attention to the scale of the problem. These considerations are broader triggers for social protection in Pakistan. Within this context, this particular initiative was driven by the founder's longstanding efforts to improve health systems functioning, in particular for the poor.

The founder conceptualized the project and mobilized money from a private foundation. The problem articulation enabled mobilization of resources. Later other actors were mobilized by the founder, including the implementation team, and donors into the health equity fund, the National Database Regulation Authority (NADRA) and the technology vendor.

Figure 1. Pakistan's health systems—population receiving coverage for health (percentage)
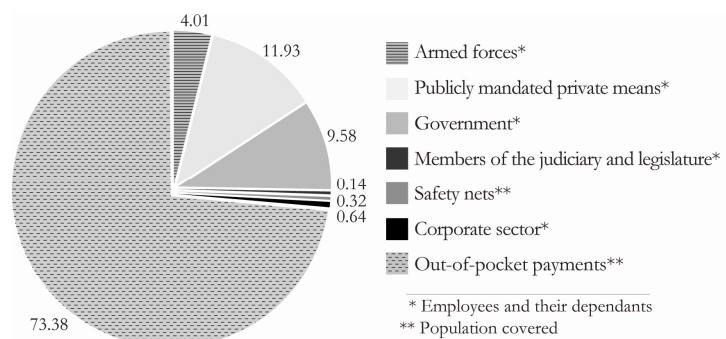
Source: Sania Nishtar. Choked Pipes: Reforming Pakistan's Mixed Health Systems. Oxford University Press, 2010.

Figure 2. Prevalence of different categories of economic shocks faced by households in Pakistan.
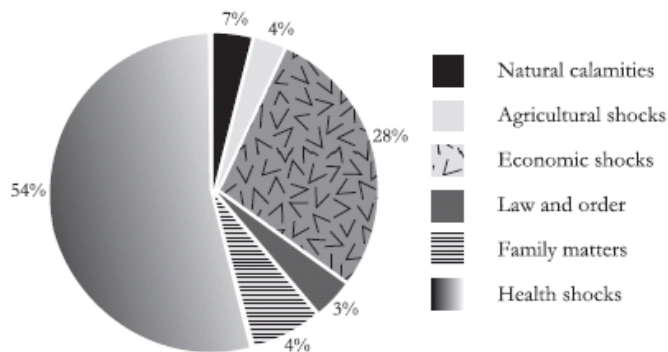
Source: Planning Commission. Social Protection Strategy, Government of Pakistan, 2005.

Context

The only state system in place to cope with the issue described in the "problem space" is Zakat[7] and Bait-ul-Mal[8]. Theoretically, a local government certified Zakat certificate entitles the needy to free services that involve a user charge in public hospitals; high cost diagnostic and invasive procedures not funded through Zakat are meant to be financed through the Bait-ul-Mal. However in reality, the funding mechanism has a very narrow base as only 11% of Zakat funds and 8% of Bait-ul-Mal funds were allocated for health in the year 2007/08.[vi] These mechanisms also suffer from a range of other challenges—narrow coverage, poor targeting, lack of predictability about the size of the fund itself, opportunities for patronage and abuse and lack of transparency in the use of resources are some of these. As a result of this, social protection funds cover less than 0.3% of the total public sector health budget. This is in sharp contrast to the need.

Heartfile (www.heartfile.org), an NGO think-tank, has developed a health financing system to fill this gap through the recently established program, Heartfile Health Financing (www.heartfilefinancing.org). The latter is a health-equity fund based demand side health financing system, which enables poor patients and doctors/hospitals to seek financial help for patients who run the risk of spending catastrophically on healthcare in an expedient and transparent manner. Details about how it works appear in Appendix A.

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Planning

The decision to develop Heartfile Health Financing was solely that of the founder's. The objective at inception was two fold: one, to develop a system, which at the *humanitarian level* could protect people against medical impoverishment and meet an urgent need amongst the poor. Secondly, at the *development level*, it was to develop a health relevant social protection system—this suited the needs specific to Pakistan and could help broaden the base of pooling for health. The founder envisaged the second objective as an entry point to reform of the health system and a way of implementing part of her vision articulated in a road map for reform of Pakistan's health system, published earlier.[9]   The initial process level target was to develop the system, deploy it and have enough money in the health equity fund to support the implementation of the project. The outcome level target was to protect people against medical impoverishment and make social protection in health more transparent, expedient and targeted. The main criteria for taking the decision, was "need". There were far too many people being pushed into poverty as a result of heath expenditures with inadequate and delayed support from the public sector.

During the planning stage, the only stakeholder was Heartfile. However, a technology partner was selected to implement the development of technology, which is where the stakeholder participation broadened. Later a few philanthropic individuals who made contributions to the health equity fund were included. NADRA got involved as its database had to be used by the organization. It took many months of negotiations and security checks before the NGO entered into an official relationship with NADRA. The stakeholder net broadened internationally when the Clinton Global Initiative signed this project up as a joint commitment and the Rockefeller Foundation committed seed funding. Most recently, the public-private partnership dimension of the project has emerged through partnership with Pakistan's Poverty Alleviation Fund (PPAF).

The planning phase included review of health-related social protection models in Pakistan.[10] This included desktop reviews, archival analysis and detailed onsite reviews. Other planning steps included ascertainment of eligibility, assessment of the intervention site's social welfare processes and analysis of 'market' practices with respect to service request management, modes of service delivery, and invoicing and payment methods. During the planning stage the Government of

Pakistan's poverty assessment methodology was studied in detail and meetings were held with experts who had recently designed the poverty assessment tool used by an income support program launched by the Government to stratify patients' poverty level.[11] The proxies used where then adopted for one segment of the poverty assessment during the implementation phase. The planning phase also included building a paper model and refining the process on paper to the extent possible for a theoretical exercise.   A major component of this was documenting the system's requirement specifications, which enabled the process to be conceptually refined and scoped so that the technology partner could translate it into software development. To understand the process and its snags fully, during the planning phase requests for assistance from five patients were processed on paper.

Implementation

Implementation commenced after the process was refined theoretically and funds were mobilised. This in turn comprised many steps. The technology vendor was selected through a competitive process and work was commissioned. Simultaneously, a needs assessment was conducted in hospitals to ascertain where one time catastrophic costs were likely. Hospital information systems were analyzed to assess if integration was possible across systems. The implementation mechanism also comprised the following steps: establishment of the three-tiered poverty verification mechanism, the health equity fund, and the customized technology platform. The latter comprised many steps in turn. A number of stakeholders were part of the process of implementation and a range of tools enabled the process, of these the technology platform was the most salient.

The approach to implementation was not "chosen" but was developed indigenously based on the specific requirements and needs in Pakistan. Formal and informal consultations and on-ground paper model exercises were the "tools" employed for developing the implementation strategy. Lessons from ongoing process related insights have been used to refine the implementation process on an ongoing basis. There was a conscious effort to keep operational costs as low and possible. Currently, they are 9.1% of the total costs.

Evaluation of results and impacts, including on social determinants and health inequities

The program's proof of concept has already been published, which reports process level details. Evaluation is planned in two stages. First, there are immediate plans for following patients longitudinally to ascertain impact on poverty and morbidity outcomes, for which resources are being mobilized. The outcome of interest would be protection against medical impoverishment.

A more rigorous evaluation is planned which will enable assessment of impact at the level of morbidity and quality of healthcare. In addition, medical impoverishment was assessed in a crossover intervention design with a longitudinal follow up component.

Lessons learnt

Key lessons learnt in implementing this project in its early stages and the manner in which the organization envisages learning from these lessons and overcoming constraints are summarized in Panel 2.

Panel 2: lessons learnt and their implications

Lessons learnt	Implications
The system allows speedy access to social protection, but it is as such dependent on the doctor's referral. Patients do not come to know about this first hand.	In the next iteration of the process, patient empowerment features will be integrated
The most mission critical factor in this entire system is the availability of funds. Lack of sustainability has been repeatedly cited as the basis of whatever little criticism this system has received, so far. This is also viewed as an impediment to scaling up.	Recently, collaboration with Pakistan's Poverty Alleviation Fund opens a sustainable avenue of public funding for this fund. Moreover, philanthropy has a sound basis in Pakistan and will continue to be a source of contributions.

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Quality of healthcare and of treatment given is not within the scope of the current iteration of the system	There are plans to use financing as a tool to incentivize quality
In addition to the cost of treatment, poor patients from far-flung areas have many other financial needs in relation to accessing healthcare—in particular, travel, food and boarding and lodging related, which the system is currently not able to respond to.	Integration of mobile money (mMoney) into the system will enable the system to process cash transfers. This will be widely applicable due to pervasive use of mobile phone in the country
Insights have been gained about the constraints of the current model of poverty assessment	The measures, methods and instruments of poverty assessment will be revisited in the light of these insights
There are a few other organizations with similar mandates, which provide assistance for defined diseases and conditions: e.g., artificial limbs and assistive devices , and treatment for liver failure	Appropriate linkages will be established with such organizations to exploit synergy
Patients have social problems, which the system does not have the capacity to address	Linkages will be established with other NGOs, CBOs, and public sector organizations that have the capacity to assist in these areas
This program improves financial access to healthcare for the poor. However, at times the limited capacity of the public system to deliver services is a constraining factor	This gap can be overcome by procuring/purchasing services from the private sector. However, this would increase cost and quality will continue to remain a problem.
The system appeals to agencies that are genuinely interested in improving social protection targeting, as it supplants human discretion with automated algorithms, and subjective decision-making with preconfigured rules. For organizations seeking donations, donor empowerment features of the system are more attractive than other features, which entail	These insights have implications for replication in other settings

sharing of administrative costs.	
Doctors need to be incentivized to use this system. Currently, transferring mobile credits to participating doctors is enabling this	Over the long term, a sustainable mechanism needs to be devised. There are plans for using accreditation as a tool to serve this purpose as well as the related and more important purpose of ingraining quality in the system
A standard procurement policy could not be adopted for this system as participating doctors insisted on selecting vendors, a manifestation of the institutionalized mechanism through which vendors promote their products.	As the volume of transaction increases, Heartfile envisages bulk procuring from source and saving costs
One of the main thrusts in this program is on achieving transparency, for which technological and other process related channels have been built into the system. However, reliance on doctor's identified vendors and constraints to follow standard procurement policies for reasons described above, pose an impediment in this regard	Assessments are currently ongoing to explore options to overcome this problem
Programmatic solutions outside health, in particular innovative use of technology and mobile phone use bring value to enhancing health systems performance and achieving equity	There are plans to continue leveraging these and other innovative solutions
At inception, sustainability of the fund appeared to be the critical bottleneck for this system	Experience has shown that the system's transparency promoting features are an incentive for philanthropists. More recently, partnership with the state-owned Pakistan Poverty Alleviation Fund brings in a public-private partnership dimension and has the potential to commit a regular stream of resources into the Health Equity Fund. Other options for augmenting the base of the Fund, e.g., developing financial instruments for loans to patients and socially motivated investments are also being explored.

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Pervasive mobile use makes this a ubiquitous communication device in Pakistan	We hope to leverage that capability to deepen the footprint of this health financing system, in particular through mobile money (mMoney).
This program needs to be supplemented with many other ancillary programs to strengthen it. Volunteer management, communications for resource mobilization, and evaluation are particularly important in this regard	Dedicated resources are being mobilized for this purpose
Limitations of technology became apparent at the initial stages of the program	These will be overcome in the next iteration of technology

Way Forward

As the project is taken forward and expanded, a number of steps are envisaged. The priority is to overcome some of the mission critical snags in the process and in the current iteration of the technology. Capacity is being consolidated to scale up the model. The volunteer program is an important aspect of the latter. Channels of funds are being identified to establish a sustainable inflow into the Health Equity Fund. Other action steps identified in Panel 2 are also part of consolidating capacity. Evaluation of the process and impact on envisaged outcomes is an important priority for the way-forward agenda. There are immediate plans to follow patients longitudinally to ascertain impact on poverty and morbidity outcomes. Similarly, a more rigorous evaluation is planned which will enable assessment of impact in a crossover intervention design with a longitudinal follow up component. In particular, partnerships are being developed with public agencies, which will allow this to be scaled up in a public-private partnership mode.

The current model allows support for one time catastrophic costs. Its scope will be expanded to facilitate support for patients suffering from conditions which require ongoing treatment and diagnostics, such as non-communicable diseases. Modifications to the technology are planned with this in view. In addition integration of mobile money (mMoney) into the assistance platform is a

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priority. Travel and other costs related to treatment are prohibitive for patients coming from far flung areas to access healthcare and currently the model does not have the capacity to give cash transfers. Technological upgrades are also planned to allow integration of business Intelligence features, inventory and finance management, Interactive Voice Response mechanisms and linkages with online social networking communities—all these attributes are envisaged to strengthen the system's capability in terms of responsiveness and transparency.

In addition to scaling up the model on its own, Heartfile is also exploring the possibility of sharing project know-how with other public and private sector development agencies involved with cash or other material donations/transfers for health and other social services, both in Pakistan and in other developing countries. The model is relevant for other countries with poor populations in the informal sector for which financial risk pooling is a challenge, and the health equity fund approach to fund waivers a suitable option.

Appendix A

Heartfile Health Financing—a brief description of the existing program:

The system comprises three components—a technology platform, a system of validating poverty and prioritizing patients, and a health equity fund.

The web-based technology platform has a bi-directional interface with mobile telephony, and an online interface with the National Database Registration Authority (NADRA). Innovations in this technology have enabled integration of mHealth with the system. The system has the capacity to stratify patients based on preconfigured rules and algorithms as opposed to subjective decisions. Innovations in workflows, request processing and ingraining transparency guard against abuse. However, the most important innovations are in the space of donation management. The system allows donors real time viewing of micro transactions, updates them with emails and SMS alerts allowing tracking of administrative expenses incurred. It also enables the donors to make choices about deployment of donations based on geographic region, gender, and many other characteristics. The highest possible level of transparency has been ensured so that funds are utilized as per the criteria defined by the donor.

The fund was initially established by the contribution of the founder and subsequently expanded over time with philanthropic contributions. More recently, the government-owned and World Bank supported Pakistan Poverty Alleviation Fund (PPAF) has committed resources to the program, which is a sustainable avenue of funding. The health equity fund is maintained by a bank, under the rules of the State Bank of Pakistan and banking regulations. Poverty validation is multi tiered, inclusive of the doctor's testimony, detailed analysis of an expert volunteer, information provided by NADRA, and triangulation by the system based on preconfigured rules.

The system is already operational and has been running for the past 11 months. The initial period of deployment focused on debugging technology and honing the optional systems. To date, 320 requests have been received and processed, of which 292 were approved and assistance was

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provided in the shape of one time grants for major medical expenditure. The average size of the grant is US $ 450 (range: US $ 50 – US $ 3,500) and to date US $ 60,000 have been disbursed as cash transfers to poor people, protecting them against health impoverishment. In another category of assistance, 1908 patients were helped by channeling in kind donations of medicines to poor patients in collaboration with the Sultana Foundation, a charity working in the suburbs of Islamabad.

Currently three tertiary care hospitals with catchments area of over 300km have access to this system in the core program. The categories of treatment for which support is made incur one time catastrophic costs. As such therefore, patients with heart diseases, orthopedic ailments, particularly trauma, and those with surgical problems are being helped. The idea is to develop capacity to incrementally expand this program within hospitals and expand it to other hospitals, where patients run the risk of spending catastrophically.

Panel 1: How does Heartfile Health Financing work?

The following steps characterize working of the system:

Enrollment of a health facility: Public sector tertiary care centers are targeted because they have large catchments area and this is where catastrophic health care expenditures are rampant.

Ward selection and training of doctors: doctors are given half a day training to familiarize them with the use of technology. SMS templates are loaded on their cell phones to facilitate placing requests for assistance.

Request initiation: doctors initiate requests on behalf of poor patients admitted in the hospital who run the risk of health impoverishment as a result of medical expenditures. SMS is the favored mode of communication, as it is integrated into the system automatically.

However, requests sent in through email, fax, postal mail, web request or simple phone calls are also entertained.

Volunteer's eligibility ascertainment: a volunteer is alerted through sms. Poverty assessment experts are available to assist the volunteer and can conduct telemedicine assessments if needed. Volunteer completes the online questionnaire

NADRA's verification: information is sent to NADRA, which validates poverty using preconfigured proxies. Eligibility and priority scores are awarded.

Decision making: is enabled through the participatory process of Patient Assistance Decision (PAD) meetings, which are held mid-day, five days a week. The turn around time in uncomplicated cases is less than 72 hours. The patient and the service requester are informed of the decision and a corresponding service order is also placed with the relevant service provider.

Supply notification: the vendor sends a notification after the items have been delivered. The service providing institute's doctor signs off on the invoice.

Processing the payment and donor notification: payments are made after appropriate documentation and the relevant donor is notified through his *preferred mode of communication, e.g., emails or SMS alerts.*

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[7] *Zakaat* is the Muslim system of charitable contributions to achieve equity in a society. The state in Pakistan has devised a mechanism to institutionally levy *Zakaat* on the finances of the rich by mandating financial institutions and other collection agencies to deduct *Zakaat* at source and deposit monies in a central fund, maintained by the State bank of Pakistan. From here funds cascade into provincial and district *Zakaat* councils and committees, respectively on a population basis. *Zakaat* funds cash transfers to the poor, rehabilitation grants, educational stipends as well as finances health care. In public hospitals, the possession of local government certified *Zakaat* certificate entitles the needy to many free services that involve a user charge. Public hospitals get reimbursed from *Zakaat* to make up for revenue loss in wavering user fee.

[8] Bait-ul-Mal is an institutional entity set up by the state to help the disadvantaged. It is funded through the federal government budget and provides assistance for food support programs, which involve cash transfers to poor households; additionally, through its individual financial assistance program, it underwrites high costs of care – those un covered by *Zakaat* funds

[9] New data being presented in Choked pipes. Reference no 2

[10] Zakat, Bait ul mal, Shaukat Khanum Hospital, Aga Khan hospital, and other social welfare systems

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