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# TRANSLATING FRUGAL INNOVATIONS INTO THE U.S. HEALTH SYSTEM

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## Introduction

Using rigorous and systematic search methodologies, the Institute of Global Health Innovation, Imperial College London, and Innovations in Healthcare, Duke University, in partnership with The Commonwealth Fund, have identified five frugal innovations that may be adaptable to the U.S. health landscape. The innovations span a diverse range of approaches, from technologies to service delivery models, and health domains, from cardiac care to mental health. These models have been selected based on characteristics of *frugality—the ability to do more, with less, for many*. This joint report describes the commonalities and frugal characteristics among the selected innovations. We then consider the lessons learned, both from an operational and scaling perspective, as well as the methodology employed to identify the innovations from a vast array of global innovations.

To a large extent, the five innovations selected reflect the diverse needs of the U.S. health care system and the diverse possibilities for frugal innovation. The selection process allowed a variety of innovations to be identified and ensured that all types of innovations, not just new technologies, were considered. The potential for successful adoption or adaptation of each of these innovations in the United States is predicated on successfully addressing potential regulatory, scope-of-practice, funding, governance, training, and delivery issues.

The innovations described here change the delivery or setting of care to make it more effective and efficient, improving value for the system, for providers, and for patients or consumers. Despite demonstrating potential for impact, the innovations will confront complex barriers to adoption in the U.S. These barriers can, however, be regarded as opportunities—opportunities to improve population health, to reduce the cost of care delivery, to better manage demand, and to enable and support patient self-management. For adopters of frugal innovations, knowing your organization and the innovation, developing robust and sustainable change management systems, and de-layering processes to absorb the innovation are critical success factors to implementation, as with other innovation processes.

**Selected Innovations**

| *Name* | *Model* | *Location and Reach* |
|---|---|---|
| MedicallHome | Subscription model providing 24/7 phone access to physician call center and discounts at national network of providers. | Originated in Mexico City, now scaled nationally across Mexico. A variation entered the U.S. market as ConsejoSano in 2014. MedicallHome model replicated in the Philippines as Konsulta MD in 2015. |
| Narayana Health | Multispecialty tertiary care hospitals use lean processes to optimize outcomes, costs, and productivity. Can provide heart surgery for $2,000 USD with outcomes that rival top hospitals in the United States and the United Kingdom. | Originated in Bangalore, India, now scaled across several large and midsize cities in India. Telemedicine division provides care to 800 global locations. Hospital model was adapted into the Cayman Islands as Health City Cayman Islands in 2014. |
| BasicNeeds | Community development approach to address mental health needs, by empowering consumers and providers, building collaborations among existing community resources, and maximizing provider skills. | Developed and tested in southern India, now replicated in 12 countries across Africa and Asia. |
| Family Health Strategy | Universal, integrated, comprehensive community health worker system that allows public provision of services to systematically reach every household. | Originated in northeast Brazil, now scaled nationally throughout the country. |
| GeriCare@North | Telemedicine initiative targeting residents of skilled-nursing facilities to improve access to hospital specialists. | Originated in Singapore. |

**Common Themes**

Despite the wide range of target populations, settings, and health needs addressed across these five models, there are several key commonalities that provide insight into the potential for frugal innovations in health care.

1. *Lower costs by changing the settings and providers of care.* GeriCare@North enhances the capabilities of community care by allowing specialists to connect with patients virtually and leveraging nurses in new ways. Narayana Health uses task shifting to ensure that all roles

work at the top of their scope and that surgeons perform only the tasks for which they are uniquely qualified. BasicNeeds moves care from regional hospitals into communities by training local health workers in mental health identification and treatment, ensuring local access to medications, and building peer support networks.

2. ***Improve and facilitate communication between doctors and patients.*** In the Family Health Strategy, community health workers provide a bridge between households and care providers. The GeriCare@North model uses remote nurse-enabled telemedicine channels to connect patients with specialists. MedicallHome enables round-the-clock access to doctors without the need for an appointment or transport.

3. ***Empower health-seeking behavior and address utilization patterns to reduce burden on the health system and manage demand for care.*** Both MedicallHome and the Family Health Strategy provide early support for minor health issues, ideally reducing the need for more complex future care. BasicNeeds strengthens self-management and peer support for people living with mental illness, resulting in a reduction of symptoms and need for hospitalization.

Overall, these innovations are not just about providing low-cost care for underserved populations. Rather, these innovations drive value by delivering better care than existing models using leaner processes, simpler organizational structures, and a focus on continuous improvement.

## Key Lessons for Implementation and Scale

Understanding the core elements of these innovations, as well as the critical success factors in the original implementation context, is essential for effective translation. By analyzing the initial implementation and scaling of each of these innovations, we are able to identify several important lessons for the potential translation of these models to new contexts.

***Adequate mentoring, networking, and financial support are critical in the early stages.*** Each of the five models that we studied were able to take root and eventually scale in part because of critical connections to mentors, implementation partners, and start-up financing. For example, MedicallHome's early partnership with the Cleveland Clinic to design standardized care protocols provided credibility for the new model. For every program it starts in a new country, BasicNeeds invests significantly in mentorship and secures several years of funding to get the program started before transitioning it to self-sufficiency. The Community Health Worker role has spread so effectively across Brazil because of government support and financing of the Family Health Strategy.

***Commitment of senior leadership, early buy-in from staff, and a dedicated change management process are as important as the change itself.*** While thinking outside of the traditional health system can reveal new approaches, change often engenders strong opposition.

It is therefore important to demonstrate strong commitment from senior leadership and to involve staff early in the innovation process. For GeriCare@North, the development of a specific nurse education program under the direction of key staff from the enrolled facilities has enabled wider acceptance and dissemination. In the case of the Family Health Strategy, municipal adherence to the delivery model is enabled (indeed mandated) through legislation, federal incentives, regional monitoring and evaluation, and commissioning. For Narayana Health, the leadership's commitment to both the social mission and the relentless pursuit of efficiency are reflected throughout operations at every level.

***Tailoring of new practices to address users' behaviors and preferences is key.*** MedicallHome uses nearly ubiquitous technology (telephones) to help customers avoid long waits for appointments and the opportunity cost of traveling to a clinic or hospital. BasicNeeds works with existing community organizations and structures, such as farmers' cooperatives or church groups, to reach and provide care for people with mental illness. The Family Health Strategy delivers care to doorsteps.

## Key Factors for Translation to the United States

The U.S. landscape is far from homogeneous, and what works in one context may be inappropriate in another. While detailed understanding of the regulatory and reimbursement environment of a specific adopter site is necessary to determine feasibility of translation and adoption of innovations, there are generalizable trends to look for within the U.S. context that could broadly support the adoption of frugal innovations.

***Rising interest in moving care out of facilities and into the community*** could drive demand for models like BasicNeeds, the Family Health Strategy, and GeriCare@North.

***Changes to payment models, with the implementation of the Affordable Care Act, may increase provider flexibility and incentives*** to experiment with new population health and care delivery approaches. Innovations like MedicallHome and Nayarana Health could be more attractive in this context.

***Increasing use in the U.S. of relatively new roles,*** such as community health workers and advanced practice providers (physician assistants and nurse practitioners) may support task-shifting models, such as Narayana Health, the Family Health Strategy, and BasicNeeds.

There are risks, too, that innovations add new layers of care without conscious disinvestment in other services. Shifting tasks to lay health workers and boosting the skills of existing health care workers can lead to demands for greater pay and investment.

Organizations wanting to learn more about how an innovation works in practice may wish to consider a joint venture, supporting an innovation in another locality to learn practical detailed

lessons before implementing it in their own context. Narayana Health's replication in the Cayman Islands through a joint venture with U.S.-based Ascension Health is one example.

**Magnifying the Promise of Frugal Innovations**

As we have seen, innovative care delivery systems can drive both efficiencies and improved care. They can also act as integrating platforms for further innovation. For example, MedicallHome is a platform through which targeted health advice can be delivered directly to a paying member of the service. As is the case with the U.S. adoption, ConsejoSano, the platform can also be used as a health system navigation tool for newly insured populations. The GeriCare@North telemedicine initiative is the platform through which the Singaporean Ministry of Health's advanced care plan program is now being delivered and provides opportunities to deploy new point-of-care diagnostic technologies. The frontline community health workers in the Family Health Strategy are already in place with close ties to every household in their catchment area, who can deliver any intervention considered necessary by the government. These systems are not stand-alone, single-purpose implementations—they are adaptive systems that can expand and scale, both in size and in purpose, magnifying their impact. Thus, initial frugal delivery innovations can be leveraged as platforms for adoption and diffusion of additional innovations, which may otherwise be more difficult to propagate.

**Lessons on Identifying Promising Innovations**

There are many more frugal innovations around the world than the five highlighted in this report. Systematic and comprehensive approaches to identifying and appraising frugal innovation are still in nascent stages, and there are few if any well-described methodologies. The retrograde perception of low- and middle-income countries in the traditional global health space is, in this work, reversed, and the horizons for learning are redrawn.

The identification and feasibility testing of promising innovations is a complex and messy process, with little to guide a systematic approach. The concept of "innovation" is itself ill defined, and the sources of information and evidence vary in complexity and reliability from business pitches to case studies to randomized controlled trials. This wide array of available information and diversity of literature can make it difficult for health systems and providers to effectively and efficiently sort and synthesize to identify best-fit models.

The role of innovation databases and networks is important to this process. There are many repositories of innovations from which to draw, and the organizations responsible for collating these can often leverage on-the-ground knowledge of the operational models behind these innovations. However, these resources are not exhaustive and may reflect specific regional or domain interests. Many innovations from certain parts of the globe may remain below the radar, in particular those that do not have access to English-speaking networks or accelerator hubs. Further, innovations in very early stages, while promising, may have little evidence on their impact or viability. The manner in which innovations and research about innovations are presented is vital to help broader audiences understand its wider applicability and, in general, well-known innovations or innovations with well-presented corporate management may be sourced disproportionately, even with little hard data to back up their claims.

Identifying promising innovations requires important and contextualized trade-offs at the local level. The identification of innovative solutions must be, in part, driven by the needs of the particular adopter context. The local appetite for change will vary, and although big wins may be desired through solutions that require whole systems change, the potential impact should be considered against the likelihood of success.

It is also worth noting that an innovation is not innovative everywhere. What appears innovative in one context may be "business as usual" in another. Many care delivery innovations are, in their originator context, simply considered good management. The Family Health Strategy, for example, has been standard government policy in Brazil for many years—whereas in the U.S. or the United Kingdom it could be an interesting and novel approach. As a result, it is difficult and perhaps counterproductive to remove the subjective perspective from the process for identifying innovations of potential value.

## Conclusion

We hope our joint findings will inspire and inform the consideration by health care policymakers and professionals of the potential for frugal innovations to benefit U.S. health care. There are challenges facing the development of implementable business cases to pilot these innovations in the U.S. and to assess the viability of those already being piloted. While much work remains, we are confident that further exploration of frugal innovation and its adoption can help achieve greater impact at lower cost for better health in the U.S.