



Center For
Health Market Innovations
healthmarketinnovations.org



RESULTS FOR
DEVELOPMENT

Identifying the Active Ingredient: Promoting Adaptation and Global Exchange of Innovation

Results for Development
October 2014

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Introduction

In the last decade or so, great emphasis, attention, and investment has been applied to the creation of innovative approaches to solving healthcare's most pressing challenges. As a result, a plethora of innovative programs, policies, and practices have been conceived and launched. Many of us have come to hear about exciting innovations in healthcare that are succeeding around the world: a \$2,000 heart surgery at Narayana Hrudayalaya Hospital in India, or the use of community health workers to improve health outcomes globally – to name a few. Innovations like these point to the potential of improving health outcomes and health care quality through increased access and affordability. They can also serve as a source of inspiration for improving health care systems in other geographies around the world.

Yet, despite the significant growth in innovative healthcare approaches, many organizations and individuals struggle to find and adapt relevant practices within their own walls. They may not think of looking elsewhere, or may be resistant to looking externally for new approaches to similar challenges. For those interested in looking externally, they may not know where to begin. And others still who have identified elements in other models they feel hold potential for replicability may ultimately find it difficult to adapt the program model in its entirety given contextual constraints and regulatory/financial barriers. For all the popular press coverage of so-called “reverse innovations,” – innovations started in low- and middle-income countries (LMICs) and later adapted to higher income countries such as City Health Works' adaptation of the community health worker model from sub-Saharan Africa to Harlem, New York – very few of these innovations have been replicated in OECD countries.

What appears to be missing is a way to connect the dots, a tool to move beyond traditional ways of thinking about innovation as linked to a program model as a whole and instead, isolating the *active ingredients* – or the program attributes core to achieving the programs' outcomes. Few programs are replicable in their entirety, so how can we answer the question – what are the aspects of the programs that can be isolated and analyzed for adaptation to address a similar problem in a different context?

An Adaptation Framework to support global exchange of innovation

Within this context, [the Center for Health Market Innovations](http://healthmarketinnovations.org) (CHMI), in partnership with the Robert Wood Johnson Foundation, has developed the **Adaptation Framework for Global Exchange of Innovation**, which has been tested with a range of stakeholders and potential users, including researchers, implementers, thought leaders, foundations, and advisors. This collaboration builds on CHMI's extensive knowledge promising health innovations that improve the quality and accessibility of healthcare for the poor in LMICs. At the core of CHMI's work is a large, interactive database of over 1,200 innovative health programs, housed at <http://healthmarketinnovations.org>, which span the spectrum of service delivery, financing, regulatory, technology, process- and product-oriented innovations.

This Framework builds on CHMI's database as a key resource for identifying innovative approaches, and flips the traditional approach of assessing adaptation based on “innovative program models” on its head. Rather than focus on the program as a whole, this Framework guides users to crack the program open and look at the core program attributes crucial to achieving the program's outcomes – what we call the “active ingredients”. By isolating the active ingredient, the analysis becomes less about how the particular program is structured, and more about focusing on the

core elements – essential to the program’s success – one may be interested in. The ultimate goal is not to identify a list of program models to be replicated to new contexts, but to find a list of active ingredients that can be adapted to address similar problems in different contexts.

In this new model, programs are used to serve as inspiration to ultimately identify the active ingredients that make them successful. Once programs are disaggregated into its active ingredients, it becomes easier to assess whether this core piece will work in a new geographic context, thus encouraging local testing.

Who should use this Adaptation Framework?

This Adaptation Framework has been tested with a wide range of user groups, including researchers, implementers, thought leaders, foundations, and advisors. Part of its power lies in its ability to serve the purposes of an individual practitioner to a large Foundation, and to effect change at the scale of fine tuning a program’s approach to building momentum for policy change. Uses of the framework across various stakeholders include the following:

- An individual practitioner may seek to identify potential practices to share with the rest of the clinical team within a hospital
- A manager of a chain of retail clinics may seek to use ideas from other business models to implement across the chain network
- A policymaker may seek to identify an innovative approach to reforming the health system, or make the case for changing a law of regulation in order to implement a new approach
- A funder may use the framework to select potential projects to fund, generate evidence for policy change, or seek to cull a list of the most high-impact potential practices to push for wholesale change across a system

The Framework is designed to provide flexible and adaptable guiding principles for identifying program activities that have the potential for knowledge transfer and impact, both within the U.S. context and globally in other contexts. It is useful for any individuals or organizations looking to potentially adapt innovations to new contexts. While initially developed for healthcare, it can be applied more generally to other industries, as well as sourced from a variety of geographic and industry contexts. A shortened version of the Adaptation Framework can be found on page 9; for a full version of the Framework plus in-depth guidance that walks you through each stage, please visit [this link](#) or <http://goo.gl/6PfKXT>.

How do I apply the Adaptation Framework?

The Adaptation Framework is divided into four phases or touch-points that can be revisited throughout:

Search for program models



Based on the problem you are trying to solve for and specified parameters, what models currently exist?

Identify the active ingredient(s)



*What are the core components or attributes of the program that make it successful?
What are the contextual factors for the active ingredient?*

Determine effectiveness



What evidence exists on the effectiveness of identified active ingredient(s)?

Assess adaptability



What are the barriers and levers to adaptation of the active ingredient(s) to the U.S. health market?

There is no one path through the Framework that is right for everyone; this is why we have designed it to allow for the flexibility and allow for an iterative approach to sourcing potential solutions for adaptation. Based on individual needs and objectives, users can start at any place in the framework and drill as deeply into the various components as is helpful. A detailed case study is included as Appendix C in this report that brings to life how the Adaptation Framework might work in practice for a specific user. The specific phases are detailed below, along with specific nuances that users may experience in using the Framework.

Phase I: Search for program models

While users may begin with any phase of the Adaptation Framework, many teams will likely choose to start with searching for program models for inspiration. The key step in this stage is clarifying one's objectives and defining the scope of one's search for adaptable models.

In some cases, users may already have a specific program in mind to assess adaptability. In this case, it is still highly recommended that the organization explicitly define the **challenge or problem they are trying to solve for** and the **root cause** of this challenge upfront, as well as **continually revisit** these questions to ensure the team is extracting the right active ingredient relative to the challenge and root causes the team is solving for.

The goal in this phase is to be inclusive and search for as many programs that fit one's objectives. One way to access potentially relevant programs is through the CHMI database, which is the largest database of its kind on market-based health innovations. Additionally, the user may want to expand the search to also include program models outside the field of healthcare, exploring other industries such as education or consumer goods.

Phase II: Identify the active ingredient(s)

The goal of this phase is to define and isolate the active ingredient – defined as the isolated program attribute(s), alone or in combination, core to achieving the program's outcomes. By isolating the active ingredient(s), a user team can more easily adapt the innovation or practice to other environments and against similar root cause challenges. Questions outlined in the Framework include: What are the core components of the program that contribute to desired outcomes? What are the key assumptions around this active ingredient? And who makes the active ingredient happen? In order to fully understand the active ingredient in practice, including the contextual factors, key assumptions, essential elements, and key stakeholders involved, will likely require engagement with program staff.

The active ingredient hones in on the causal pathway: which activities or processes lead to your desired outcome? The active ingredient is not the entire program model, nor is it about cut-and-

paste replication. For example, [Narayana Health](#) is a program consisting of a chain of multi-specialty hospitals in India. For stakeholders searching for programs to address patient self-management, its active ingredient, or the key components of its model that would potentially be adapted to the U.S., involves training family members in care management.

In identifying an active ingredient, it is important to note that a particular program may have more than one active ingredient. It is therefore important to connect this with the original root cause and challenge identified. Additionally, a specific active ingredient likely exists across multiple programs. It is helpful for users to generate a hypothesis about what is key to the particular program and revisit this throughout for continual testing. A list of active ingredients identified through the CHMI database is included in Appendix B. In this stage, the active ingredient is identified, and in later stages, it is assessed to allow users to better understand and verify in an iterative fashion the causal relationship with results.

Phase III: Determine effectiveness

Measuring effectiveness is often in the eyes of the beholder. The Adaptation Framework provides flexibility to the user team to determine the level of appropriateness in measuring effectiveness. Users will likely experience challenges finding data at the level of active ingredient. In this case, the user may want to consider data at the program level or engage in a literature review to identify meta-analyses or systematic review of the active ingredient or comparators. Using the example of Narayana Health again and its active ingredient “training family members in care management,” if there is no evidence available on that specific initiative through the program then the user may conduct a review of the literature for evidence about other programs using family member training programs.

Data is likely to be imperfect, and one recommendation is testing at a small scale to begin collecting more data on how the innovation will likely work in the new setting. Users are also encouraged to revisit this stage to determine the key questions of focus for assessing the adaptation of the active ingredient to a new context.

Phase IV: Assess adaptability

Adaptation is where the rubber meets the road to translate findings into practice, but the process can be complex with many barriers to progressing with adaptation. The level of a user group’s comfort based on evidence from all the previous stages depends on the scale of change an organization is trying to implement. Some active ingredients can be introduced immediately, while some can be introduced after testing but only at on a small scale. For other innovations, there may be significant barriers. If this is the case, further assessment must be done to determine whether this barrier is surmountable or not. If yes, what can be done to surmount it? The barrier may be large, such as the need for significant regulatory and structural changes. In this case, it is useful to identify the requirements for successful adaptation, which may include a coalition of users to make the case to policymakers and testing at a small scale to build an evidence base.

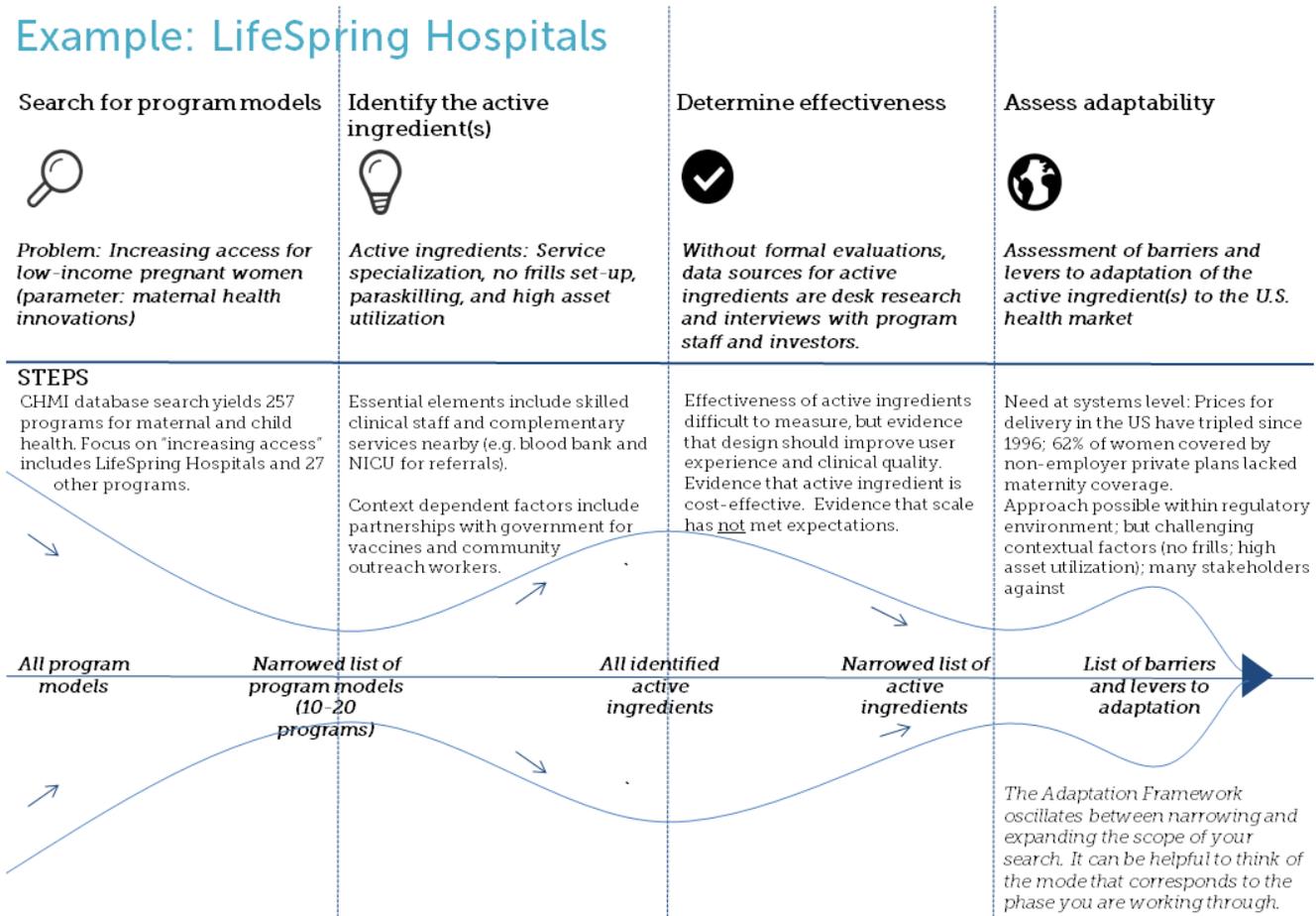
There are three goals in assessing the adaptability of an active ingredient to a receptor site: 1) to identify the potential barriers and levers to adaptation, 2) to determine whether the barriers are surmountable, and 3) to develop an initial plan for introducing the active ingredient to the receptor site/ market.

Beyond this, we hope this Framework will be the beginning of an ongoing global dialogue about what works in various settings, ultimately bringing knowledge back to the programs that have provided inspiration in the first place.

Example case study

The figure below demonstrates one potential scenario for how a user would walk through the Framework. For a more detailed case study, please see Appendix C.

Example: LifeSpring Hospitals



Looking forward

This report provides a set of tools for users interested in identifying active ingredients that can help to address priority challenges in their context of focus – this includes the Adaptation Framework, a list of U.S. health system challenges and root causes, sample active ingredients for consideration, and an illustrative case study. These products serve as a starting point to guide users searching for innovative solutions, but also to help build the momentum for identifying active ingredients from other contexts. The project originally began with a focus on sourcing innovations for the U.S. health system, but user feedback quickly demonstrated that there is utility in applying this Framework in other contexts as well, including within one country, to support the notion of a global exchange of innovation.

To support such efforts, CHMI is also developing a new system – known as CHMI Plus – to better collect and disseminate programmatic impact results that can support the identification and

assessment of potential active ingredients. CHMI is also working with its [network of regional partners](#) around the world to support the diffusion of learnings on promising active ingredients. Over the long term, CHMI hopes to leverage the Framework to create high impact change through on-the-ground testing of the Framework stages, ultimately driving towards the identification of high-impact active ingredients and their implementation in priority communities.

Adaptation Framework for Global Exchange of Innovation

Results for Development

Washington, D.C.

2014



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Search for program models

Based on your objectives and the problem you are trying to solve for, identify program models using various resources, described in greater detail in “Guidance”.

| Category | Key Questions | Guidance and Examples |
|------------------------------------|---|---|
| Primary Filter | | |
| Challenge | <ul style="list-style-type: none"> What is the challenge or problem you are trying to solve for? | <p>Narrow down the specific challenge you are targeting; for instance, the challenge of cost as an underlying issue, coupled with:</p> <ul style="list-style-type: none"> Insufficient access to care for vulnerable populations Inadequate use of cost-effective care (especially primary care and prevention) Inadequate quality and safety of care Failure to act on social determinants of health |
| Root Cause | <ul style="list-style-type: none"> What is the root cause of this challenge? | <p>Analyze the root cause of the specific challenge. For instance, insufficient access to care for vulnerable populations can include the following root causes:</p> <ul style="list-style-type: none"> Knowledge barriers to access: lack of knowledge about available health insurance coverage; under-enrollment among those eligible for and aware of coverage Physical/geographic barriers: provider shortages; inadequate transportation Cultural/language barriers: lack of translator services; lack of trust Financial barriers: lack of affordable coverage options |
| Optional Additional Filters | | |
| Health Focus Area | <ul style="list-style-type: none"> What is the health focus area of interest? | <p>If applicable, apply additional filters to narrow your search and/or refine your results based on key characteristics of interest. This should be done in addition to the primary filter.</p> |
| Other Program Characteristics | <ul style="list-style-type: none"> What other program characteristics are of interest? | |
| Active Ingredients | <ul style="list-style-type: none"> What active ingredients are of interest? | |



Identify the active ingredient(s)

Identify the active ingredient that addresses the selected root cause challenge(s).

| Category | Criteria | Guidance |
|---|--|--|
| The following questions help to identify and document the active ingredient(s) within a program model | | |
| Active ingredient | <ol style="list-style-type: none"> 1. What are the core components/ attributes of the program that contribute to desired outcomes?¹ <i>*Core components should relate directly to root cause challenge identified</i> 2. What are the sub-components or underlying activities that support the active ingredient and are inherent to its success? 3. What are the key assumptions around this active ingredient? <i>*This includes the cultural considerations for how the active ingredient works</i> 4. Who makes the active ingredient "happen"? | <ul style="list-style-type: none"> • Document core program components identified in each program model as related to the root cause challenge; programs may have more than one active ingredient that contributes to overall success, so this process may need to be repeated • The sub-components or underlying activities are the elements of the active ingredient that support how it operates in practice; this can include training, resource needs, etc. • Isolate key assumptions to how the active ingredient works, including the prevailing conditions (e.g. cultural norms, infrastructure in place) necessary for the active ingredient to work. The assumptions should remain valid in the receptor site. • The "who" should identify the critical individuals for implementation, e.g. community health workers or family members |
| The impact potential serves as a final check on the relevance of the active ingredient to the receptor site | | |
| Contextual factors | <ol style="list-style-type: none"> 1. What are the elements of the active ingredient that are context-dependent and cannot be adapted? <i>*It will be important to identify what these elements accomplish, and to find corollaries for this in the adaptation process</i> 2. What are the system-level factors required for the programs success? | <ul style="list-style-type: none"> • Context-dependent factors that cannot be adapted to other settings should be analyzed to understand what they accomplish; identifying corollaries for these factors is an important step in the adaptation process – see "Assessing Adaptation" for further guidance • System-level factors may include payer systems, regulatory considerations, etc. |
| Impact potential | <ol style="list-style-type: none"> 1. Does the active ingredient directly address/ work towards resolving the root cause problem? 2. Does the active ingredient offer a relative advantage to existing approaches in the US? Does it significantly improve status quo? 3. Has active ingredient been applied before in the US? If yes, what was outcome? | <ul style="list-style-type: none"> • This stage is an important threshold and "gut check": if impact potential is a confident "no", you may not want to proceed to later stages. However, if inconclusive or strong affirmative evidence, you likely will want to proceed. • Relative advantage may be measured in terms of cost, quality, efficiency, and/ or health outcomes |



¹ The active ingredient denotes a causal relationship between the core program components/ attributes and your desired outcome; as such, the core components identified should link back to the root cause challenge previously identified

✓ Determine effectiveness

Drill further into evidence of how well active ingredient works, using any available data and interviews with program staff.

- 1 Determine degree of evidence required based on level of change you are trying to make and level of evidence required for change. *For example, changing a small-scale practice in organization may require anecdotal reports, changing an entire program model may require a mix of positive evidence from multiple cases, and change at the policy level may require positive results from multiple impact evaluations.*
- 2 Assess unit level of analysis based on your objectives and the degree of evidence needed:
 - **Active ingredient** – data sources can include formal evaluation of active ingredient approach/components and desk research/interviews with program staff.
 - **Program model** – data sources can include formal evaluation of program model and desk research/interviews with program staff.
 - **Comparators** – data sources can include evidence in literature on active ingredient approach/components (individual studies and/or meta-analyses and systematic review).
- 3 Using appropriate level of analysis, determine effectiveness across following key categories, filling in any gaps with more general unit levels of analysis as necessary (e.g. begin with assessing active ingredient, but fill in any gaps with program model data).

| Category | Criteria | Guidance |
|--------------------------------------|--|--|
| Impact and results | <ul style="list-style-type: none"> • Is there evidence that the active ingredient has improved user experience, clinical quality, and/or health outcomes in local context? • If not, is there evidence that its <i>design</i> should improve these outputs/outcomes? • Is there evidence that innovation would <u>diminish</u> impact (including quality) at receptor site? | <ul style="list-style-type: none"> • Prioritize elements based on dimensions that matter most to US setting – both current and potential future (e.g. Triple Aim, health outcomes/outputs, user experience, etc.) |
| Affordability and cost effectiveness | <ul style="list-style-type: none"> • Is there evidence to indicate that the active ingredient is cost-effective compared to other alternatives and/or has improved affordability? • If not, is there evidence that its <i>design</i> should improve affordability? | <ul style="list-style-type: none"> • Analyze cost-effectiveness relative to “status quo” or incumbents in local context |
| Scalability and replicability | <ul style="list-style-type: none"> • Is there evidence that the active ingredient is easy to test, transfer, and adopt? • Has the active ingredient experienced large-scale growth or application elsewhere? • If not, is there evidence that it is easy to adopt and/or apply elsewhere? | <ul style="list-style-type: none"> • Assess growth potential for scale and replication outside local context |



Assess adaptability

Assess adaptability of active ingredient into its new context and set the foundations to test and pilot model.

| Category | Criteria | Guidance |
|--|---|---|
| Utilize checklist below to assess feasibility of adaptation | | |
| Regulatory and legal requirements | <ul style="list-style-type: none"> Can the active ingredient legally operate in current legal and regulatory environment? (Is there a federal or state regulation that prevents it?) Can the structural/ system-level requirements for the active ingredient (e.g. strong level of integration between providers) be met? | <ul style="list-style-type: none"> Determine whether approach is possible in the US without changing current regulatory context |
| Resource considerations | <ul style="list-style-type: none"> Can the resources required for the essential components of the active ingredient be met in the receptor site¹? Does needed funding and implementation capacity exist for adapting the model to the receptor site? Is the active ingredient cost-effective in the receptor site? Will it help to drive down costs? | <ul style="list-style-type: none"> Document resources required to implement active ingredient and whether approach is possible to sustain |
| Contextual factors that increase likelihood of success | <ul style="list-style-type: none"> Is there “fertile ground” for the active ingredient to be piloted, e.g. in hospital, community setting, etc.? Is the active ingredient culturally appropriate? Has the active ingredient been tried in the receptor site? Was it successful? Is there direct competition to the active ingredient? | <ul style="list-style-type: none"> Determine whether there is a particularly welcoming environment to test approach and whether active ingredient would be culturally welcomed |
| Begin to develop plan for adaptation using criteria below | | |
| Stakeholder analysis | <ul style="list-style-type: none"> What stakeholder groups would benefit from the active ingredient? Oppose it? Is there a will to change? Are there structural barriers that prevent change? What evidence do stakeholder groups require? What are the competing priorities? | <ul style="list-style-type: none"> Conduct stakeholder analysis to help with assessment and inform adaptation strategy Focus on stakeholders <i>needed</i> for the successful implementation of the active ingredient |
| Adapting essential elements | <ul style="list-style-type: none"> How would you introduce the active ingredient into the new environment? <ul style="list-style-type: none"> Has this been tried in the receptor site and if so, how effective has it been? Is the way it was originally introduced in the originating context viable for the receptor site? If not, what are the alternatives? Is there a corollary for the context-dependent elements of the active ingredient in the receptor site? Who is needed in program execution and what attributes do these players have? (what motivates them?) | <ul style="list-style-type: none"> Determine how to bring the active ingredient to market; answers to the subquestions provide more detail on potential pathways to adaptation For the list of context-dependent elements identified in “Identify the active ingredient(s)” (p. 10) determine whether there are substitutes that can be offered in the receptor site; the aim should be to identify ways to accomplish the same goals through different, feasible means |



* The active ingredient is defined as the isolated program attribute(s) – alone or in combination – core to achieving the program’s outcomes. See “Identify the active ingredient(s) – Guidance” for additional information.

* Receptor site refers both to the individual organization/ program and the broader health system context to which the active ingredient may be adapted.

Appendices

These appendices offer more detailed descriptions, examples, and optional tools and documentation that may be used when applying the Framework to identify potentially adaptable models for the U.S.

Appendix A. Significant U.S. healthcare challenges: Potential targets for active ingredients search

CHMI recommends that users starting their search process begin with the primary root cause challenge, to better identify active ingredients that directly address or resolve the root cause problem of focus. While the Framework is applicable for adaptation to many different contexts, the following table is a sample list of U.S. health system challenges and their associated root causes for receptor sites based in the U.S. – **the challenges and root causes may be applicable to other contexts as well**. The table was developed in consultation with U.S. health system experts and through a desk review of high priority challenge areas in the literature. The user should start with the challenge area of focus, and then select the root cause(s) associated with it to apply as a search filter. **Note that cost is not explicitly included in the list as the challenge areas identified all include cost-related components.**

| Challenge Areas | Description | Root Causes |
|---|--|--|
| Insufficient access to care for vulnerable populations | The ACA addresses the number of uninsured, which has been one of the most significant issues in access to care. But even with greater health insurance availability, there remain significant barriers to access. Addressing these could make the ACA more effective for several vulnerable populations. | Knowledge barriers to access |
| | | <ul style="list-style-type: none"> • Lack of knowledge about available health insurance coverage • Under-enrollment among those eligible for and aware of coverage |
| | | Physical/ geographic barriers |
| | | <ul style="list-style-type: none"> • Provider shortages • Inadequate transportation |
| | | Cultural/ language barriers |
| | | <ul style="list-style-type: none"> • Lack of translator services • Lack of trust in healthcare institutions • Lack of support for the formerly longer-term uninsured |
| | | Financial barriers to access |
| | | <ul style="list-style-type: none"> • Lack of affordable coverage options |
| Inadequate use of cost-effective care (especially primary care and prevention) | It is well established that preventive care and appropriate use of primary care reduces the prevalence of disease and improves long-term cost-effectiveness. Reverse innovation models that focus on primary care and | Underutilization of primary care |
| | | <ul style="list-style-type: none"> • Insufficient primary care caregivers • Small-scale, fragmented physician practices • Inappropriate use of ER, bypassing primary care for specialists |
| | | <ul style="list-style-type: none"> • Lack of tailoring primary care offerings to geographic variation/ disparities (urban vs. rural) |
| | | <ul style="list-style-type: none"> • Lack of access to preventive services (screening, education, etc.) |
| | | <ul style="list-style-type: none"> • Care continuity challenges |

| | | |
|---|---|--|
| | <p>prevention present an opportunity to improve costs and impact across the U.S. health system.</p> | <ul style="list-style-type: none"> • Need for both providers and patients to improve teaching and learning of chronic disease and self-management <hr/> <p>Lack of patient self-management</p> <ul style="list-style-type: none"> • Misaligned culture of health • Poor access to right resources for self-management • Unclear understanding of what can be self-managed • Lack of family/ community support to facilitate self-management <hr/> <p>Health workforce expansion and diversification</p> <ul style="list-style-type: none"> • Resistance to task shifting, expansion to nonphysician roles • Insufficient clinical staff to meet patient demand <ul style="list-style-type: none"> ◦ Financial incentives misaligned ◦ Geographic incentives misaligned |
| <p>Inadequate quality and safety of care</p> | <p>Quality and safety-related issues continue to routinely result in harm to patients. Recent estimates state that 200,000 – 400,000 patients die annually from preventable harm in U.S. hospitals. Moral suasion and financial incentives (e.g. Medicare penalties for hospital readmissions) are the traditional approach to quality issues, but further progress will require changes in the delivery of care and training of professionals.</p> | <p>Inconsistent quality and safety performance</p> <ul style="list-style-type: none"> • Inconsistent quality and safety standards • Poor performance tracking mechanisms • Lack of accountability for performance • Poor transparency of existing standards (to medical staff and patients) |
| <p>Failure to act on social determinants of health</p> | <p>There is growing appreciation for broadening perspectives on health and removing artificial divisions among health care, public health and social policy. Health starts where we live, learn, work and play. But much of our health system is focused on taking a curative</p> | <p>Insufficient focus on problems such as social support, emotional wellbeing, food markets, quality of education and job opportunities, public safety, etc.</p> <p>Divide between traditional healthcare delivery and the social determinants that serve as root causes for health problems</p> |

approach to care delivery, within the confines of a traditional health facility. By addressing challenges related to social determinants, we can move closer towards building a culture of health.

Appendix B. Sample list of active ingredients

The active ingredient is defined as the isolated program attribute(s) – alone or in combination – core to achieving the program’s outcomes. It hones in on the causal pathway – which activities or processes lead to your desired outcome? Each active ingredient can often be found in multiple programs, with slight variations in how it has been implemented, and individual programs may also feature more than one active ingredient.

The following list provides potential active ingredients and example program models for each. Please review the criteria in “Identify the active ingredient(s)” from the Adaptation Framework for more detailed considerations for how the active ingredient works in practice and to understand the applicability of the practice to your receptor site. The list outlines the active ingredients that present potential opportunities to address pressing health system challenges.

The list was generated from a review of the literature on innovative models developed in low- and middle-income countries and CHMI’s engagement with private sector healthcare programs through its database. Sources from outside of the CHMI database are cited by footnote. The list should not be considered a comprehensive list of active ingredients, but rather an illustrative range of promising active ingredients to better understand the concept. The active ingredients are categorized by how the activities are focused on outcomes related to place, provider, patient, product, and financing – further descriptions can be found below.

Active Ingredients

Place. *Resource-constrained settings demand a more expansive view of where care is delivered, looking creatively to improve access to care by looking outside of the formal care system to homes and communities. The following active ingredients demonstrate how organizations are underlining positive health behaviors through reinforcement in homes and communities, including through the use of technology to allow health to be more ever-present in people’s lives.*

| Active ingredient | Program examples | Health focus area |
|--|--|-------------------|
| Mobile data collection technologies to support home-based testing | Health at Home/ Kenya provides home-based HIV counseling and testing, using a GPS-enabled mobile phone to collect and enter data on the family’s health, record test results, and document the household location to support education/ counseling and data collection follow up. The data is integrated into the AMPATH medical record system so that patients identified as HIV-positive are also immediately scheduled for follow up care. | HIV/AIDS |
| | Arogya Triage@Home delivers pediatric triage services at home through mobile platforms to support rapid diagnostics and capture clinical information. Local youth are trained to go door-to-door delivering care for common ailments and preventable diseases, as well as screening for hearing and vision impairments. They receive support from partnering NGOs, including operational expertise and mobile platforms, which capture clinical information, such as vitals, patient histories, medications, and diagnostics, as well as demographics such as name, age, and other relevant data. | Pediatrics |

| | | |
|--|---|--|
| <p>Mobile (transportation) clinics to deliver basic screening and preventive care to rural populations</p> | <p>Mister Sister Mobile Primary Healthcare Clinics provide basic health services to rural and remote populations through mobile vehicles. Services are delivered on a fixed schedule, in partnership with the local government, local employers, and community members. The mobile vehicles are outfitted with two consultation rooms, a toilet, and a small pharmacy and can run on an internal generator if no electricity source is available at sites. They stop at central sites once a month and provide TB screenings, pregnancy tests and ante- and post-natal care, routine immunizations, voluntary counseling and testing for HIV, diagnosis and treatment of both communicable and noncommunicable diseases, and more.</p> | <p>Primary care; NCDs; TB; maternal health; HIV/AIDS</p> |
| | <p>Dunavant, an organization that owns organic cotton farms in rural areas of Northern Uganda affected by insurgency, runs a mobile clinic to offer health care to farmers and their families, many of whom have no access to urban health care facilities. The program provides basic health services, including medical treatment for HIV/AIDS, malaria, and other diseases. Local permanent medical workers are trained to operate in a team and run a mobile medical van, and project partners supply the medical staff and equip them with drugs and necessary logistics to diagnose, vaccinate, carry out voluntary counseling and testing.</p> | <p>Primary care; HIV/AIDS; malaria</p> |
| <p>Mobile (transportation) clinics combined with telemedicine to deliver specialist services to rural populations</p> | <p>SCARF's¹ mobile telepsychiatry program addresses the shortage of psychiatrists in India's rural settings, providing affordable mental health services. SCARF uses a custom-built bus featuring a consultation room, which offers teleconsultations with psychiatrists in Chennai using flat screen TVs, webcams, and high speed internet. After the consultation, a prescription is dictated by the psychiatrist and dispensed by the on-board pharmacy free of cost. A follow up date is scheduled, and each patient is given a record to facilitate continuity of care.</p> | <p>Mental health</p> |
| | <p>The Sanjeevani Mobile Telemedicine Units is a mobile tele-oncology program for rural Indian communities. Telemedicine-equipped buses serve as virtual extensions of the Regional Cancer Centres for early detection and treatment of cancer in rural areas. In addition to screenings and treatment for early stage cancers such as cervical cancer in women, the units provide coordinated follow-up monitoring and palliative care for existing patients.</p> | <p>NCDs; cancer</p> |
| <p>Retail health care clinics to provide convenient preventive/primary care</p> | <p>Sehat First is a social enterprise set up to provide access to basic healthcare and pharmaceutical services across Pakistan through self-sustainable franchised telehealth centers. The model consists of a clinic, pharmacy, multipurpose telecenter and a general store, with 80-90% of revenues coming from the</p> | <p>Primary care</p> |

¹ Turning the World Upside Down. <http://www.ttwud.org/mentalhealth>

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| options | pharmacy and general store. Key to its success has been partnerships with multinational companies and local community-based organizations. | |
| | Por ti, Familia is a chain of primary health care clinics in Peru that provides comprehensive affordable quality health care, including a laboratory and pharmacy, in conveniently located retail storefronts. The “Mi Doctorcito” outlets operate with high standards of efficiency and are located within communities. They offer doctor consultations from qualified physicians, certified generic medicines, and diagnostic lab services at affordable prices. The outlets also serve as the first point of contact for patients within a broader hub-and-spoke operating model, ensuring referral to more advanced care when necessary. | Primary care |
| Mini-clinics delivering priority outpatient preventive and diagnostic services to increase access in rural areas | Access Afya is a network of health kiosks or low-cost community care points offering basic healthcare services in low-income Kenyan neighborhoods. The kiosks are located in areas without easy access to public health clinics, and contain a consultation room, mini-lab, and dispensary to fill prescriptions on site. They are staffed by a nurse clinical officer and a community health worker, who is used to publicize the kiosks to the local community and share localized knowledge in identifying appropriate treatment pathways. | Primary care |
| | The Integrated Rural Healthcare Pilot in India operates 20 front-end health kiosks located at the village level and run by general nurse practitioners. These spokes of a larger referral network cater to primary care needs and preventive-promotive exercises for underserved communities. Each kiosk serves a catchment area of approximately 150,000 people and is supported by Remote Medical Diagnostics’ (ReMeDi’s) telemedicine devices, connecting primary care health kiosks to video-conferencing, consultations, and real-time diagnostics or higher-level care faculties within the network. | Primary care |
| Telemedicine model to extend access to medical advice in remote areas | MedicallHome in Mexico provides patients with basic access to doctors through a telephone hotline available 24/7. Nearly 2/3rds of the calls are resolved over the phone, increasing the efficiency of the care delivery system and avoiding travel to distant healthcare facilities. For calls that merit referrals, patients can choose a pre-verified doctor or clinic based on location, price or specialty and receive a discounted rate for the visit. | Primary care; emergency care |
| | Jaroka Tele-healthcare trains community health workers to use an SMS-based mobile application to receive assistance on diagnoses, register patients, and send images to clinics within their communities in Pakistan. The application is icon-based for easy use by all health workers and has been used successfully at health facilities to allow for electronic exchange of patient information between providers, including those | Primary care |

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| | referred to a qualified specialist in urban settings for expert opinions. | |
| Targeting health consultations and education through non-health organizations | Pro Mujer offers both microfinance and targeted healthcare services for their clients in Peru. The program has installed health consultation units for primary care services in each of their Focus Centers, where clients regularly repay their small loans. All Pro Mujer clients and their families have access to consultation services and family planning advice, and receive regular health education during scheduled loan payment and repayment meetings. | Family planning and reproductive health; MNCH; primary care |
| | The Provincial AIDS Standing Bureau in Vietnam implemented two behavior change communication programs aimed at improving HIV/AIDS awareness and promoting safe behaviors among males: through barbers and shoeshine boys and through motorcycle taxi drivers. Each group was recruited and trained on HIV/AIDS prevention and related topics. Barbers shared information in one-on-one interactions with customers, and shoeshine boys passed out informational materials. Motorcycle taxi drivers pass out information, as well as act as peer educators to both men in "hot spot" areas for commercial sex or drug abuse and men travelling through communities. | HIV/AIDS |
| Health camps to bring diagnostic, pharmaceutical, and therapeutic services directly to rural areas and improve access | BasicNeeds uses a Model for Mental Health and Development to support the mentally ill in LMICs access care and treatment. The program holds monthly mental health camps in rural areas where the mentally ill and their carers can see a visiting psychiatrist. The psychiatrist diagnoses patients or checks their progress and then prescribes an installment of medication; prescriptions can be filled at the camp. After they have been seen by the psychiatrist, they can also take part in other activities, such as group therapy sessions, occupational therapy sessions, consultation meetings, or advocacy groups that further promote mental health care and awareness in rural, underserved areas. | Mental health |
| Pop-up clinics using existing infrastructure to rapidly address health needs in vulnerable areas | Peter C. Alderman Trauma Clinics (PCAF) ² uses public infrastructure in post-conflict settings to rapidly establish trauma clinics for survivors of violence. Through public-private partnerships, governments in Cambodia, Kenya, Liberia, and Uganda provide the clinic space, drugs, in-patient beds, files, and transportation. PCAF provides the salaries and training for the lay health workers, and there is no need for financial exchanges with the government. This model allows PCAF to use its expertise in establishing access to care in areas of need, with the final goal to transfer the clinics to the government to integrate into the primary health care system. | Mental health |

² Mental Health Innovation Network. <http://mhinnovation.net/>

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| | HealthBooth provides mobile clinics for rural and low-income populations in India where there are no organized efforts towards providing affordable screening services. The program has selected 10 basic tests to gauge and detect most of the commonly occurring diseases like blood pressure, diabetes, hypertension, and vision, among others. The mobile booth includes seating, performance equipment, an Android Tablet for displaying the results, a printer for providing reports and a battery for mobility in a 6 ft x 4 ft space. The HealthBooth “box” and process of performing the tests have been designed to decrease the cost and time of each session. | Malaria; TB |
| Targeting schoolchildren for prevention and screening services | Kenya integrated intervention model for dialogue and screening to promote children’s mental wellbeing (KIDS)² engages lay health workers, teachers, parents, and school children in this mental health promotion and screening intervention to address the social and cultural barriers to children’s mental health promotion. Originally tested in Australia, this pilot in Kenya promotes comprehensive mental health through peer clubs, teacher trainings, sensitization of parents, and finally mental health screening and services through primary health care workers. | Mental health |

Provider. *The following active ingredients demonstrate how organizations are widening the definition of health care providers to better incorporate nontraditional medical workers, helping health systems become more efficient, effective, and equitable. Additionally, there are emerging approaches to better connect fragmented (formal) practices in remote areas to share standardized approaches to quality care.*

| Active ingredient | Program examples | Health focus area |
|--|---|---|
| Community health workers to promote healthy behaviors based on public health priority areas | Living Goods is an “Avon-like” network of franchised community health promoters who go door-to-door to provide health education and earn a living, selling essential health products at affordable prices to the poor in Uganda. Community health promoters undergo 2-3 weeks of initial health and business training. They focus on key health topics for their communities, including diagnosing, treating, and recognizing danger signs for referral. Needed health products they offer include family planning methods, water purifying tabs, and menstrual protection pads. | Family planning and reproductive health; malaria; MNHC; nutrition; TB |
| | Project Shakti empowers underprivileged rural women in South Asia by training them in health and hygiene and supporting them to undertake related income-generation activities. The women, known as Vanis (communicators), sell soap, shampoo, and other personal care products through social forums such as school and village gatherings. Unilever provides training in sales practices, commercial knowledge, and bookkeeping. | Primary care |

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| <p>Community health workers to identify and refer patients to care</p> | <p>The IMAGES project¹ yearly trained “primary health agents” in the Andean region of Argentina, Bolivia, and Perú on identification of severe mental health signs and symptoms. The project created a referral process for patients who had never been seen by a physician or received medication for their psychiatric symptoms before. This epidemiologic surveillance network uses members of local communities as the primary health agents, equipped with a culturally-adapted, systematic education program in their own language, about the causes, manifestations, and outcomes of severe mental illness. They act as advocates in front of families and engage them in the health care system, creating bottom-up interest in access to care. The network was later engaged by the provincial government for the creation of an early detection/early intervention program.</p> | <p>Mental health</p> |
| <p>Community members to support the development of locally appropriate treatment pathways</p> | <p>BasicNeeds works in collaboration with traditional healers to help them develop effective and locally appropriate treatment pathways. BasicNeeds also goes through a process of learning with traditional healers. It first helps them identify when their treatment methods are not effective, and referral is necessary. It also provides healers with essential equipment such as buckets and blankets to improve the conditions that mentally ill people live in while undergoing treatment.</p> | <p>Mental health</p> |
| <p>Community members to support the development of locally appropriate treatment pathways</p> | <p>Sangath’s SUNDAR program¹ for mental health in India draws on the communities it serves, in addition to national and international mental health experts, to design its services using appropriately trained and supervised lay workers. For instance, Sangath conducts group sessions with men and women separately, due to cultural gender norms. Yoga was also included in group activities to make them more culturally acceptable and destigmatize the overall program. SUNDAR further worked to simplify and unpack the interventions themselves into components that can be delivered more easily and incorporated into culturally sensitive strategies.</p> | <p>Mental health</p> |
| <p>Training community members in care management to support patient at-home care</p> | <p>Narayana Hrudayalaya provides quality cardiac healthcare in India, using a lean operation to drive down unit costs through a high-volume standardized strategy. The program places emphasis on engaging families in patients’ care, and has developed a training program to equip relatives with the skills needed to support family back at home. The focus is on reassigning simple yet time-consuming tasks for family members, including managing and monitoring vital signs and supporting rehabilitation. They have a chance to practice the skills in the ward during the inpatient stay, and sit an exam to test their understanding.</p> | <p>NCDs; secondary/tertiary care</p> |
| <p>Community members to support the development of locally appropriate treatment pathways</p> | <p>Dementia Home Care Project² trains lay workers to deliver non-pharmacological interventions to support people with dementia and their caregivers. Each family is visited at least</p> | <p>Mental health</p> |

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| | <p>once every two weeks and trained in three dimensions to support at-home care. Firstly, caregivers are educated in topics such as nutrition, physical health, and psycho-education. They also receive specific guidance on assisting the person with dementia in their activities of daily living. Finally, they are given methods for managing problem behaviors associated with dementia. A psychiatrist and a counselor supervise the lay worker and intervene as necessary.</p> | |
| | <p>Rachel House provides palliative care for children from poor families in Indonesia with terminal illnesses such as cancer and HIV/AIDS. Rachel House also builds up the networks of support around the patient's home, including training family members in their care management, through palliative care nurses who travel to the homes of their patients on motorcycles. Due to the nature of their illnesses, this assistance also includes counseling on the emotional and social aspects of coping with death, grief, and loss.</p> | NCDs |
| <p>Social franchise model to link remote providers to higher levels of care and standardize quality care processes</p> | <p>World Health Partners is a social franchise that has established a health service delivery network covering 1,300 rural villages in India. The program used a tiered health and family planning network to coordinate individual private providers – both formal and informal – using communication, diagnostic and medical technology to coordinate care and referral processes. Providers must agree to quality service standards and use telemedicine to connect doctors via videoconference for advice and case consultations. This practice can also be used to drive quality among fragmented providers.</p> | Family planning and reproductive health; primary care; TB |
| | <p>Sahath Al-Om is a local social franchise of reproductive health clinics affiliated with DKT Sudan. Franchisees receive subsidized supplies, marketing and management support, and patient referrals, in collaboration with government hospitals and employees. DKT International staff also visit franchisees to ensure product availability and renovation of clinics where necessary to improve the number of clients reached and number of clients purchasing contraception.</p> | Family planning and reproductive health |

Patient. *The following active ingredients demonstrate how organizations are identifying ways to empower patients to take ownership of their healthcare and care management processes, while also providing support in navigating the formal health system network to make better-informed decisions.*

| Active ingredient | Program examples | Health focus area |
|--|---|--|
| <p>mHealth software to collect and monitor patient vitals at home and support patient care management.</p> | <p>GlicOnLine is a mobile phone software that support patients in managing diabetes care in Brazil – tracking blood sugar levels, carbohydrate counts, and insulin dose calculations. Patient data is shared with providers and allows them to change treatment parameters when necessary, and send prescription changes directly to patients via mobile phones. This is particularly relevant for prevention and management of chronic diseases.</p> | <p>NCDs</p> |
| | <p>Baby Monitor uses interactive phone response technology to empower women in Kenya to monitor their babies in the critical period before and after birth. Women use the low-cost application to listen to screening questions in their local language and respond by keypad. It then assesses the responses and if necessary, sends information, makes referrals, and dispatches community health workers. Baby Monitor targets hard-to-reach patients as end-users of the mobile screening service to detect complications and take action.</p> | <p>Pediatrics</p> |
| <p>Targeting schoolchildren for health education, prevention, and screening to encourage family to access key services</p> | <p>Instituto Se Toque in Brazil focuses on increasing early diagnosis of breast cancer in women, with the goal of reaching women through children. College interns from the Institute visit public schools and educate children about hygiene, prevention of STDs and unwanted pregnancies, and breast cancer diagnosis. Participants take home a necklace to their mothers/ grandmothers – with beads to help understand lump sizes and support self-examinations – and a passport to book a mammogram in a neighborhood hospital.</p> | <p>NCDs; family planning and reproductive health; primary care</p> |
| <p>Designing a multidisciplinary, whole-family care plan to address the social determinants to their health</p> | <p>Saúde Criança addresses chronic diseases in children in Brazil by taking a holistic approach to poverty and illness in the child’s care plan, including the whole family. The integrated factors crucial for a family’s wellbeing are health, housing, citizenship, income, and education. Based on these factors, each Family Action Plan contains a set of actions with goals and deadlines unique to each family assisted. It is developed by a multidisciplinary team of social workers, nutritionists, psychologists, psychiatrists and lawyers, in collaboration with the family.</p> | <p>Chronic disease; social determinants</p> |
| <p>Supporting patient navigation of the health care system to improve uptake of services</p> | <p>The Family Health Book project in the Philippines uses community health volunteers to serve as patient navigators. The goal is to increase family awareness and demand for core MNCH and nutrition services. Navigators are trained to guide families on how to access critical services, where they can be obtained, and available health financing options. The navigators also help families access emergency transport services.</p> | <p>Maternal, newborn, and child health; primary care</p> |
| | <p>Le-Nest supports its elderly clients navigate the health care system, which can be especially difficult for the elderly</p> | <p>NCDs</p> |

community in China. It has incorporated programs that help the elderly make appointment reservations and obtain necessary medications after their visit. Le-Nest also encourages use of local primary care facilities first, before seeking treatment at tier-three hospitals, by giving patients information about local primary care providers, their specialties, and even their bedside manner. This process, in combination with preventive care and disease self-management, has increased patient trust in the capabilities of primary care providers and led to a decrease in hospital visits among Le-Nest members.

Product. *The following active ingredients demonstrate how medical products, vaccines, and technologies from low-income countries can provide low-cost, rugged, portable health solutions for use in resource-limited areas – particularly when coupled with innovative processes to support the implementation and adoption of innovative products. The most successful products are integrated into the healthcare delivery system to improve the efficiency and quality of current care delivery processes.*

| Active ingredient | Program examples | Health focus area |
|---|---|--|
| SMS to reinforce patient care compliance | On Cue Compliance is a South African program designed to improve TB cure rates through better compliance with TB-DOTS treatment. The program utilizes specially-designed pill bottles that will alert a health worker when they have not been opened, allowing for follow up by SMS text message to ensure the patient has taken the pill. | HIV/AIDS; tuberculosis |
| | Mobile Care, Support, and Treatment Manager (MCST) is a mobile application for HIV/AIDS patients in India that alerts the patient when drugs need to be taken. MCST also provides updates on the availability of drugs at the ART (Anti Retroviral Therapy) Centers and provides information on the various stages of medication and the patient’s medication plan, including defining specific drugs and dosages. | HIV/AIDS |
| Use of smart cards to store and manage health care records | MediSmart is a health information system that uses plastic credit card sized smart cards to encapsulate a patient’s complete health history and information, including emergency contact information, benefit status, current conditions and treatments, etc. electronically. It helps a patient to manage and navigate the complexities of any health care system by having all relevant information stored in one place and can help reduce administration costs, fraud and unchecked reimbursements and claims. | Primary care; secondary/ tertiary care |
| | RSBY’s insurance program issues every beneficiary family of coverage a biometric SmartCard containing their fingerprints and photographs. All hospitals empanelled under RSBY are IT-enabled and connected to the district server information, ensuring smooth data flow regarding service utilization. The SmartCard ensures that beneficiaries receive proper care and reduces fraud. | Primary care; secondary/ tertiary care |
| Mobile technology to allow | mPedigree is a phone-based system in Ghana that allows buyers to verify the authenticity of medicines for free by SMS. Consumers use | Drug safety |

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| consumers to verify the quality, safety, or cost of medical products | the product's RFID to verify whether the particular product is "from source." The product empowers consumers to verify the quality and safety of the medication and protect them from counterfeit drugs. | Drug safety |
| Handheld devices to connect rural health workers to specialized care practitioners to build a virtual hub and spoke model | CARE Rural Health Mission specializes in telemedicine solutions to link rural health workers in Maharashtra and Andhra Pradesh with doctors at a district-level hub. Community workers are trained as Village Health Champions and equipped with handheld devices, enabling doctors at district-level hubs to remotely attend to patients in villages. | Primary care |
| SMS-based support to improve access to social services | Wireless Health Incident Monitoring System (WHIMS) , using cloud-based tablet or smartphone software, allows rural doctors to collaborate with support specialists by sharing patient health profiles and symptoms. It also has integrated basic medical equipment to allow for seamless data capture. A hub-and-spoke model allows for a large number of rural patients to be captured by the service and increases their access to specialist support without unnecessary travel to higher-level facilities. | Primary care |
| SMS-based support to improve access to social services | The Khuluma Pilot² provides psychosocial support for HIV-positive adolescents in South Africa using SMS-based support groups. Much like a physical support group, Khuluma provided facilitated and interactive support to closed groups of 10-15 participants. Participants were able to communicate amongst themselves and with a facilitator via mobile phone SMS about a broad range of topics, while remaining anonymous if they so wished. Guest speakers were also invited into the groups to run facilitated discussions on specific topics such as sexual health, and in the future, nutrition, education, and careers advice. | Mental health |
| mHealth technology used by all stakeholders to improve the care continuum | E-counseling PULIH provides direct psychological counseling services in Indonesia through SMS. The service combats the stigma, high cost, and confusing options of mental health services and allows clients to use SMS, as well as emails and live chats such as Yahoo Messenger, to engage with psychologists five working days per week. The program engages clients with traumatic experiences, but a broad range of issues have been covered, including work-related topics, studying difficulties, drug addiction, HIV, and more. | Mental health |
| mHealth technology used by all stakeholders to improve the care continuum | M-Kifafa is a project by the Kenya Association for the Welfare of People with Epilepsy (KAWE) implementing an mHealth technology that is used by stakeholders at all touch points of the care continuum. This includes primary health workers, social service providers, caregivers, and patients who use the platform to interact with services such as seizure diaries, reminders and information, patient registration, and data collection, updating them on their condition and providing vital information towards their care. Data is further sent to the Ministry of Health to inform policymakers and aid | NCDs |

in the provision of anti-epilepsy drugs to those that need them.

Financing. *The following active ingredients outline emerging approaches to support patients in navigating health financing options, to streamline financial transactions, and to support patients in saving funds for needed healthcare services.*

| Active ingredient | Program examples | Health focus area |
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| Health camps to combine insurance enrollment with awareness, diagnosis, and treatment | Aarogyasri is a state-financed social protection scheme in India targeting individuals below the poverty line in Anhdra Pradesh. Each private and public hospital in the Aarogyasri network conducts four health camps every month where beneficiaries can receive free health consultations and medications. These health camps are open to everyone, though only those eligible for the scheme are eligible for referrals to network hospitals. Participating hospitals, which conduct the camps, receive performance-based payments for the events. | Secondary/ tertiary care |
| Using community organizations to recruit and facilitate insurance enrollment | RSBY in India provides health insurance coverage for inpatient services for those below the poverty line and informal sector workers. Insurance companies hire local organizations to ensure effective outreach at the grassroots level prior to enrollment. RSBY relies on community- based organizations and Civil Society Organizations in villages to assist in mobilizing households to enroll, facilitating the enrollment and re-enrollment process, and providing assistance to members in utilizing services after enrollment. These intermediary organizations have been effective in designing appropriate and successful strategies to reach people in the community and resulted in significant growth in coverage of India’s below poverty population. Happy Health Insurance Scheme Clinic recruits members to its insurance program through schools, institutions, universities, companies, associations, clubs, churches and religious groups, nurseries, and kindergartens. The Happy Health Youth Group also conducts outreach programs in schools, villages and churches, focusing on sensitizing and mobilizing communities around HIV/AIDS and malaria. | Secondary/ tertiary care Primary Care |
| Call center to support patient navigation of health insurance/ provider options | Hello Doctor 24x7 is a social enterprise that uses a call center and website to integrate existing healthcare infrastructure in the Indian state of Orissa to connect patients to existing healthcare resources. The service maintains up to date records on providers and healthcare services – operators will assess the caller’s medical need and socioeconomic status and connect them to the appropriate service provider. The caller receives further assistance in scheduling appointments, with a particular focus on supporting rural populations in planning their visits and supporting care compliance. | Primary care |

Appendix C. Illustrative case study

Overview

The goal of this case study is to help bring to life how the Adaptation Framework might work in practice for users. In this example, we use the perspective of a Foundation who is particularly interested in enrollment in the United States' Affordable Care Act Marketplace insurance options. In particular, the Foundation is interested in supporting ACA enrollment for communities where uninsurance is high, familiarity with ACA options is low, and the population is high-risk. Through this case study, we aim to highlight:

- Guidance for how to approach each stage
- Potential resources for information
- Trade-offs that users may face

As this case study demonstrates, the path for evaluating adaptation is not always linear. In fact, we encourage users to revisit earlier stages and apply the Framework in an iterative fashion. Additionally, users may want to revisit the entire Adaptation Framework in future phases, as the organization gathers more data and begins testing at a small scale.

The case study below is framed in three parts:

1. Overview of each stage in the Adaptation Framework, including specific nuances for each stage
2. Process and approach that “we”, from the perspective of a Foundation focused on ACA enrollment, used and trade-offs in the decisions made
3. Snapshot of our analysis and assessment, based on the questions from each phase of the Adaptation Framework

Phase I: Search for program models

Exploring this phase from the perspective of a Foundation interested in supporting ACA enrollment for high-risk populations, we first begin by identifying the primary challenge and root cause of this challenge. We decide to focus specifically on innovations that target high risk populations and reach clarity on our overall challenge of more effectively enrolling communities of high-risk populations with low insurance enrollment and low uptake of health services. Digging deeper into this challenge, we identify many root causes, including, but not limited to:

- 1) Physical and geographic barriers: distance to providers for basic screening and sense of distance to anyone who can answer questions around insurance enrollment;
- 2) Knowledge barriers to access: lack of knowledge about available health insurance coverage and lack of awareness about coverage; and
- 3) Cultural and language barriers: lack of translator services to ask questions and enroll in health insurance.

As a team, we consider which aspect we as a Foundation can most strongly influence and which root cause, when addressed effectively, can lead to greatest impact towards our main challenge. We agree to focus on the first: physical and geographic barriers. Knowing that other countries similarly struggle with this challenge of access and geographically hard-to-reach populations, we are hopeful that there are examples of innovations that have worked in other contexts. One important aspect throughout the process is that we continually return to the root cause to the challenge – namely, the physical and geographic barriers; distance to insurers and intermediaries who can answer questions about enrollment, and distance to providers for basic screening.

| Search for Program Models | |
|---------------------------|---|
| Challenge | More effectively enrolling communities of high-risk populations with low insurance enrollment and low uptake of health services |
| Root Cause | Physical and geographic barriers: distance to insurers/ intermediaries who can answer questions about enrollment; distance to providers for basic screening |

Returning to the Adaptation Framework, our team looks next at Optional Additional Filters, such as health focus areas, other program characteristics, and active ingredients. At this point, we decide to cast a wide net, as the team is not aware of many programs outside the U.S. focused on this challenge of enrollment. Therefore, we do not use any of the optional additional filters, yet flag this to potentially return to at later stages of the Adaptation Framework.

To identify programs, we first use the [CHMI database](#) and type “enrollment” into the search bar. From an initial list of 1,262 programs in the database, this search narrows the list of programs to 72. These programs include the Aarogyasri Community Health Insurance Scheme, PhilHealth KaSAPI, Pride Microfinance Health Microinsurance, Grameen Koota, and others. We use this as an initial list and then turn to other resources. Given the challenge of enrollment, a team member suggests we look at systems focused on universal health coverage – these programs would surely have challenges and potential solutions for enrolling hard-to-reach populations. We turn to resources such as [the Joint Learning Network for Universal Health Coverage](#), which includes case studies in its website. Thinking through comparable challenges in industries outside healthcare, we consider programs that address the challenge of enrollment in primary education in rural and hard-to-reach areas. We identify programs within the UN MDG of achieving universal primary education to see whether any may be applicable to the challenge we identified.

Phase II: Identify the active ingredient(s)

Based on our initial list of programs identified, we move onto the next phase of identifying the active ingredient. Out of these 72 programs in the CHMI database under “enrollment”, we select a smaller number to review. Here, we walk through one specific model - Aarogyasri Community Health Insurance Scheme - to illustrate this phase.

Through the team’s review of Aarogyasri, which is a public private partnership to provide poor families access to treatments for serious illness and mitigate catastrophic expenditure, we learn about the program’s **use of health camps for both enrollment and awareness, diagnosis, and treatment**. By going to the communities themselves, health camps seem to address the root cause we had identified earlier of physical and geographic barriers (as a process note: our focus in pinpointing the active ingredient points directly to this root cause, rather than the overall challenge itself). We use the Adaptation Framework to test whether the use of health camps may indeed be an active ingredient for our challenge, asking ourselves the following questions:

1. What are the **core components/attributes** of the program that contribute to desired outcomes?¹
2. What are the **sub-components or underlying activities** that support the active ingredient and are inherent to its success?
3. What are the **key assumptions** around this active ingredient?
4. **Who** makes the active ingredient “happen”?

The findings are summarized in the table below:

| Identify the Active Ingredient | |
|--|--|
| Core components/ attributes | <ul style="list-style-type: none"> • Use of health camps to increase awareness of insurance scheme and engage in basic health screening |
| Sub-components/ underlying activities | <ul style="list-style-type: none"> • Education of insurance scheme • Basic health treatment given to patients • Presence of basic hospital equipment, such as blood pressure monitors and ECG machines |
| Key assumptions | <ul style="list-style-type: none"> • Health camps provide quality care (Aarogyasri Trust and Star Health Insurance Company monitor health camps to ensure quality) • Patients perceive health camps as providing quality care • There is a space to hold these health camps in the community • Patients are willing to attend a health camp in the community; no sense of stigma |
| Key stakeholders/ leadership | <ul style="list-style-type: none"> • Hospital nursing staff willing to travel • Specialists • Medical officer from nearest primary health center • Insurance broker(s) to help with enrollment questions and sign-ups • Patients who show up |

The process of answering these key questions gives the team confidence that health camps are indeed an active ingredient worth examining. As a final check on the relevance of health camps to the U.S. setting, the team explores contextual factors, or elements of the active ingredient that are context-dependent and therefore cannot be adapted. Additionally, we assess the impact potential in the U.S.

The biggest challenge we face is not knowing whether this active ingredient has been tested and tried in the U.S. Searching online proves a difficult search, so we expand beyond the search terms, “health camp” and “outreach health camp” to health insurance outreach and enrollment publications, focusing on the ACA and rural America specifically.

Our answers to the key questions from the Adaptation Framework for Aarogyasri can be seen below:

| Final check on the relevance of the active ingredient to the receptor site | |
|--|---|
| Contextual factors | <p><u>Context-specific factors</u></p> <ul style="list-style-type: none"> • Information related to health camp spread by pamphlets and loud speakers; communication and awareness-raising of the camp itself would need to be thought about differently in the U.S. • Six days of information, education, and community activities occur in the targeted community • “Community” likely has a different connotation in the U.S. versus rural India, where women may spend a large part of the day in one another’s homes • Health camps often occur in a tent or at a local school; perceptions of quality in the U.S. would need to be assessed <p><u>System-level factors required for program’s success</u></p> <ul style="list-style-type: none"> • Systems level incentives needed for health camps to occur and ensure |

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| | they are high quality (In Aarogyasri model, scheme provides hospitals incentives and reimbursements to conduct health camps and quality of health camps is a key indicator of monthly hospital evaluations) |
| Impact potential | <ul style="list-style-type: none"> • Yes, active ingredient directly addresses the root cause problem of physical and geographic barriers • It is a novel approach that flips the traditional approach of patients going to providers, instead, bringing providers to patients in their communities and serves as an entry point to enrollment and basic care • In this way, offers a relative advantage to existing approaches in the U.S. and improves status quo, though greater assessment needed of how effective • Research shows that similar community-based approaches tried (e.g. mobile health clinics and rural community outreach for ACA, rural health insurance enrollment for ACA, Medicaid, and Medicare), though unable to find specific tests of health camps |

Phases I and II revisited

Now that we have identified an active ingredient that addresses our root cause, the team decides to revisit Phase I programs and dig deeper into other programs that may have this active ingredient. None of the programs seem to have a “health camp” component, so we search additional resources to identify other potential models.

We conduct a second search through the database for “health camps” and find that one program, BasicNeeds, uses Mental Health camps that are held on a monthly basis, where mentally ill community members all come together to be seen by a visiting psychiatrist. The psychiatrist diagnoses them or checks their progress, and then prescribes medication. The patients can go to a medication dispensary, which is part of the camp, to get their medication. Other components of the camp include therapy sessions, occupational therapy sessions, consultation meetings, or advocacy groups.

With examples of health camps as an active ingredient from both an insurance focus, as well as through the lens of mental health, we feel ready to proceed with the Framework. The team assesses whether to next tackle determining effectiveness of the active ingredient or assessing adaptability in the context of the U.S. Given the challenges of finding examples of health camps in the U.S., we hypothesize that Assessing Adaptability in the U.S. setting will prove difficult. Therefore, the team decides to first explore whether health camps are effective in their local setting.

Phase III: Determine Effectiveness

The team begins by considering which unit of analysis to begin research on: the active ingredient, the program level, or a literature review on meta-analyses of the active ingredient or comparators. We decide to begin with assessing the active ingredient itself, and decide to turn to program-level and meta-analyses if we are unable to find information on health camps themselves.

We return to the two programs - Aarogyasri and BasicNeeds - and explore assessments of health camps within these contexts, particularly the active ingredient’s ability to address the root cause of physical and geographic barriers. We first look for third party evaluations that may report on the effectiveness of each program’s health camps in terms of impact and results; affordability and cost

effectiveness; and scalability and replicability. Unfortunately, we do not find formal evaluations that focus on these areas. We do find, however, a case study that points to strong anecdotal evidence around the effectiveness of Aarogyasri's health camps. We use this to assess effectiveness of the active ingredient. Where data is missing, we supplement by examining effectiveness at a program level. Findings are summarized below:

| Determine the Effectiveness of Health Camps within Aarogyasri | |
|---|--|
| Impact and results | <ul style="list-style-type: none"> • Case study from Joint Learning Network attests to strong anecdotal evidence suggesting that camps improve awareness of both basic health information and Aarogyasri insurance scheme - results in increased utilization of health services • Though "increased utilization of health services" not an outcome in itself (such as "improved health outcomes"), this does address original root cause identified • At a program level, World Bank Policy Research Working Paper finds that inpatient admissions per capita for all income groups and surgery admissions increased in Andhra Pradesh (with Aarogyasri) vs. Maharashtra (no similar scheme) • Beyond Aarogyasri, studies cite the success of outreach eye camps to increase the number of screenings in rural populations in West Bengal and Andhra Pradesh |
| Affordability and cost effectiveness | <ul style="list-style-type: none"> • Little data found to support cost effectiveness of program • Reimbursements that hospitals receive (Rs. 5,0000 / \$100) are well below cost of conducting camps, especially in hard-to-reach areas • Therefore camps operate at a loss, though presumably at a systems level, should save Aarogyasri money by increasing access and identifying individuals in need of higher-levels of care earlier • Through this logic model, design of program <i>should</i> improve cost-effectiveness of system • At program level, World Bank Policy Research Working Paper finds a slower growth in out-of-pocket payments for both inpatient and outpatient care for residents of Andhra Pradesh (with Aarogyasri) vs. Maharashtra (no similar scheme) |
| Scalability and replicability | <ul style="list-style-type: none"> • Appear capable of large-scale growth: health camps have reached almost every village in Andhra Pradesh • Camps from 4/2011 to 4/2014 have screened almost 4.5 million individuals and referred 250,000 for further treatment |

While this data is far from perfect, the team (from the perspective of a Foundation) feels comfortable to proceed and continue exploring the relevancy of testing this active ingredient. Our hypothesis beginning this engagement was that not many initiatives like this active ingredient exist, and we are more willing to take risks. The team will also begin to conduct in-depth interviews with program staff to learn more about the effectiveness of Aarogyasri and BasicNeeds' health camps in their current context and setting.

Phase IV: Assess adaptability

In assessing adaptability, our team begins with a checklist that assesses:

1. Regulatory and legal requirements

2. Resource considerations
3. Contextual factors that increase the likelihood of success

One challenge we face is the lack of details on state or national regulations for outreach health camps. Therefore, we break this active ingredient into its core components and examine comparators. A core aspect of health camps is bringing health professionals from the facility to the community level, closer to the doorstep of individual patients. This is similar to mobile clinics, which falls within the current regulatory and legal framework of healthcare in the US. In exploring whether system-level requirements can be met (for instance, linking providers), we look at other comparators in the U.S., such as City Health Works! operating in Harlem. We show the outcomes of our adaptability assessment below:

| Assess Adaptability: Checklist | |
|---|---|
| Regulatory and legal requirements | <ul style="list-style-type: none"> • Looking at comparators such as mobile clinics, active ingredient appears to be able to legally operate in the current legal and regulatory environment • Examples of other innovations linking community health coaches in the community level with hospitals and health plans/insurers |
| Resource considerations | <ul style="list-style-type: none"> • Difficult to assess due to lack of cost data • However, appears that health camps can be a cost-effective solution in the U.S. given the few resources that are required: health professionals, basic medical equipment, transportation, a place to hold camps, and education/marketing • Business case exists for insurers to increase enrollment and reduce overall systems costs due to earlier preventative services and referrals to higher-level care |
| Contextual factors that increase likelihood of success | <ul style="list-style-type: none"> • Fertile ground exists; likely test users include insurance companies in the U.S. focused on the challenge of enrollment in rural and hard-to-reach areas • Humana Inc., based in Louisville, Kentucky, may be one such test user; spoke with during stakeholder interviews; Humana very interested in health innovations abroad that can help them better serve their customer base. One current focus is on a community in rural Mississippi, which includes the community identifying their own problems and working towards solutions with Humana’s support • Big question of whether active ingredient is culturally appropriate in the U.S. needs to be tested: American patients likely have strong cultural associations of what “good” health care is – which may be linked to a physical location. A transient location such as a health camp may be seen as lower quality – even if primarily focused on enrollment. • At the same time, anecdotal evidence that health camps can be successful in the US: the Remote Area Medical (RAM) Expedition worked with uninsured or underinsured populations in Virginia Appalachian Mountain area, transforming fair grounds to mobile field hospital providing free care to those in need over 2.5 days; seen as successful with over 2,715 patients seen. However, unclear whether medical care was coupled with insurance enrollment. |

With the checklist completed, the next step is to begin developing a plan for adaptation using specific criteria around stakeholder analysis and adapting essential elements.

| Assess Adaptability: Plan for Adaptation | |
|--|--|
| Stakeholder analysis | <ul style="list-style-type: none"> • Insurers and any organizations/individuals focused on increasing enrollment would benefit from this active ingredient. • At the same time, these same organizations may be resistant to change and therefore oppose the testing of this. • Key is focusing on areas of the system with the will to change, e.g. Humana is already actively looking at international innovations in order to increase access and better serve their customers. May be possible to test at a small scale to gather evidence for change. • Competing priorities may be other existing community-based initiatives, e.g. mobile health clinics. |
| Adapting essential elements | <ul style="list-style-type: none"> • Numerous organizations and initiatives have focused on rural enrollment for ACA, Medicare, and Medicaid, as well as health camps in rural fairgrounds (such as Remote Area Medical Expedition, described above). Additionally, other comparators, such as mobile health clinics, have been seen as successful in reaching hard-to-reach areas. • Possibility exists for testing at a small scale with users who are motivated to increase enrolment; may be a business case for this as well. |

Having gone through the Adaptation Framework, health camps seem like an active ingredient worth further exploration and examination, taking research to the next level of interviews with key experts in both global health and US healthcare. Based on this initial secondary research review, it appears worth consideration as a test to improve the challenge of under-enrollment and low uptake of services within high-risk populations.