phcpi PRIMARY HEALTH CARE PERFORMANCE INITIATIVE

IMPROVEMENT STRATEGIES MODEL:

POPULATION HEALTH MANAGEMENT: PROACTIVE POPULATION OUTREACH

Led by: Bill & Melinda Gates foundation · The World Bank IBRD • IDA | World Bank Group · World Health Organization

In partnership with: ARIADNE LABS · RESULTS FOR DEVELOPMENT

CORE PRINCIPLES OF POPULATION HEALTH MANAGEMENT

Population health management is an approach to primary health care (PHC) provision that integrates active outreach and engagement with the community in care delivery. This approach shifts primary care service delivery from reactive to proactive management of a segment of the population. Effective population health management typically occurs both in established clinics and in the community. It requires a strong organizational structure, efficient information systems, and an appropriate mix and sufficient quantity of providers. Inherent in population health management is the provision of a broad range of health activities including curative and preventive care, health promotion activities delivered through broad public health initiatives, and engagement with social determinants of health. Within the PHCPI framework, four elements comprise population health management:

LOCAL PRIORITY SETTING

Local priority setting entails the translation of national or regional policies into local strategic action plans that respond to the burden of disease and needs and preferences of the population.

COMMUNITY ENGAGEMENT

Community engagement is a process of developing relationships that enable stakeholders to work together to address health-related issues and promote well-being to achieve positive health impact and outcomes. Community engagement plays a critical role in planning and delivering services that are person-centered and responsive to population health needs.(1) Stakeholders should comprise multiple communities including community members, patients, health professionals, policy-makers and other sectors.

EMPANELMENT

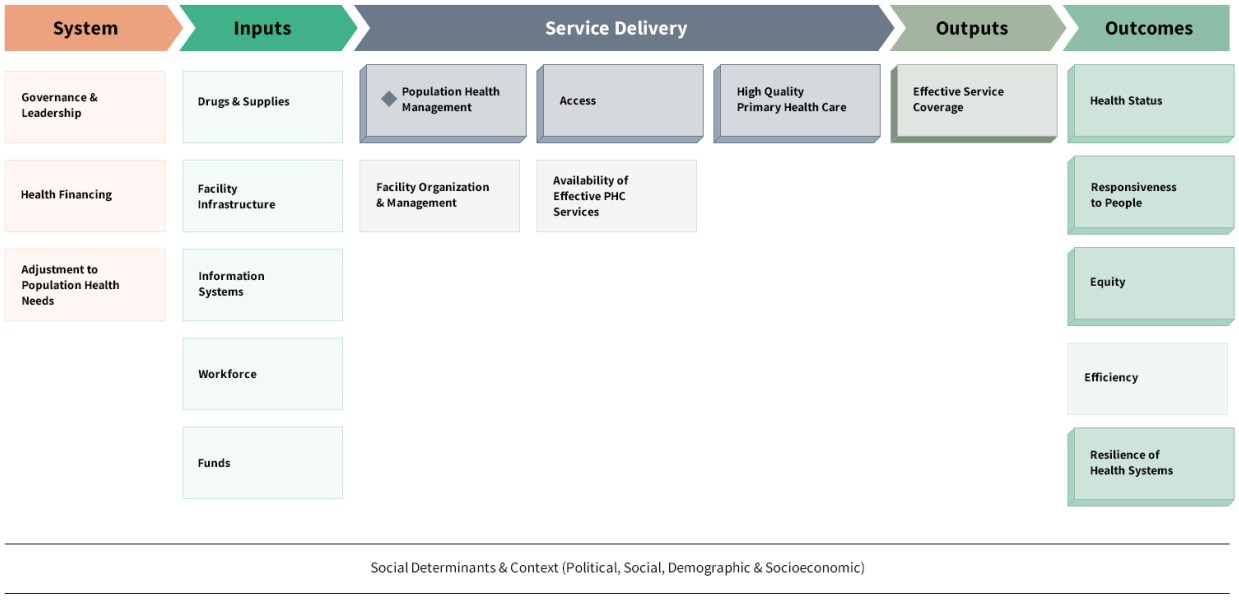
Empanelment (also referred to as population registration or rostering in some areas), a necessary aspect of primary care delivery, is an ongoing and deliberate set of actions to identify, match, and actively review and update data describing a group of people for whom a healthcare organization, care team, or provider is responsible. Additionally, both patients and providers are aware or their relationship. The listing is actively reviewed and regularly updated to ensure accuracy.

PROACTIVE POPULATION OUTREACH

Proactive population outreach involves health systems actively reaching out to communities, particularly those that are underserved or marginalized, to provide necessary services aligned with local priorities and burden of disease, and link those in need to primary health care. Examples of proactive populatuion outreach include mobile health units, transport systems, health based care, telemedicine and proactive follow-up with patients chronic illness.

WHAT COULD YOUR COUNTRY ACHIEVE BY FOCUSING ON POPULATION HEALTH MANAGEMENT?

Population Health Management is the foundation of primary health care service delivery and, when done effectively, can contribute to an array of downstream effects:



SUGGESTED PATHWAYS FOR POPULATION HEALTH MANAGEMENT

STEP 1: EMPANEL THE TARGET POPULATION

To achieve effective population health management, providers or care teams must be able to list and locate the patients for whom they are responsible. Thus, empanelment – the assignment of a population of patients to a provider or care team - is a logical starting point and a necessary organizational structure for population health management.(1) While empanelment can serve as an organizational foundation for effective population health management, it may not be easily implemented in all settings. In these situations, empanelment should remain an aspiration, but other population health management activities can be implemented at the same time.

Populations may be empaneled in a variety of ways, including by geography, voluntary enrollment, or insurance scheme. Ideally, the entire population within a given area should be empaneled to provider teams. This may be difficult or impossible in dense urban areas, areas with large and transient migrant populations, and areas with large numbers of private PHC providers who do not coordinate with a government or larger organizational entity. However, empanelment in mixed public/private PHC systems is possible.(2) While a country works towards achieving complete empanelment, stakeholders may choose to start by empaneling certain subgroups of a population with specific health needs.

STEP 2: USE PANEL DATA TO INFORM LOCAL PRIORITY SETTING

After a population is empaneled, providers can shift their focus towards proactive care and health management. Data and registers from the empaneled population can help providers to track the health information of individual patients, plan public health services such as immunization campaigns, and

explore indicators of access, utilization, and health outcomes that in turn inform local priority setting.(3) The identified priorities will define the mix of services and medical expertise necessary to manage the patient panel.

STEP 3: BASED ON IDENTIFIED PRIORITIES, DESIGN SYSTEMS FOR OUTREACH IN COMMUNITIES AND HOMES

After identifying priority services, decision-makers and implementers can work with communities to determine which services would be most effectively delivered in communities and homes. Often, preventive care or education-based interventions are best suited to community-based care. Ideally, all people would receive proactive care in their communities, but often it may be more feasible to start with specific groups that require special care or attention, such as pregnant women, people with chronic diseases, or children. When planning proactive population outreach, implementers must consider which cadre of provider would most effectively deliver these services based on cost effectiveness, availability, and training. Community members should be consulted throughout the planning process to ensure acceptability of services.

PROACTIVE POPULATION OUTREACH

Proactive population outreach is the active provision of care in homes or communities rather than exclusively in facilities. These services are often preventive or promotive and initiated by the health system rather than by patients. Community health workers (CHW) or similar cadres of providers most often engage in proactive population outreach and conduct health promotion activities, education, identification of acute cases and pregnant women needing referrals to health facilities, community integrated care for common adult and child illnesses (ciMCI), family planning provision, chronic disease adherence follow-up, risk-stratified care management, and even palliative care in communities or homes.

WHAT SHOULD I KNOW BEFORE BEGINNING IMPLEMENTATION?

Often population outreach begins through targeting or stratifying a segment of an empaneled population to received particular services. Some of these segments may include patients who require specific services for preventive care or specific disease-based care, or because they are high-risk patient populations. The goal of proactive population outreach is to ensure that the population is aware of and accesses services, to increase efficiency by moving certain health activities outside the physical clinic, and to optimize health and well-being in ways that are person-centered by bringing services to patients and integrating delivery into the context of the community.(4) In order to achieve these goals, proactive outreach activities must build on local data and priority setting and providers must be supported by well-functioning facilities and supplies, referrals, training, and supportive supervision.(5,6) The key questions when implementing proactive population outreach activities are: 1) which patients, 2) which services, and 3) by whom.

WHICH PATIENTS?

Health system stakeholders must define which patients they will contact for proactive population outreach. However, it may not be feasible to provide proactive population outreach to all patients initially. Implementers can begin the process of proactive population outreach by identifying segments of the population that have specific needs that can be addressed and managed in community settings. This strategy is also discussed in the empanelment module as it may be a useful strategy for beginning the process of full empanelment while also identifying and targeting populations in need of specific services based on national or international targets (such as the SDGs). All of these activities require that providers have actively updated patient registers to track the specific health needs of these sub-populations. As discussed in the empanelment module, this rests upon the presence of a civil registration and vital statistics (CRVS) system. More information on CRVS is available through the WHO. Some strategies for selecting segments of the population include: targeting by specific or acute health need, targeting by preventive need, targeting by chronic disease, and targeting by risk strata.

Targeting by specific or acute health need

Patients within any given catchment will have diverse and specific health needs. For example, health needs differ significantly between pregnant or post-partum women, post-discharge patients, and children, and all of these groups are often recipients of community-based outreach. One example of targeting by specific health need is in Mali where Muso Health collaborated with the Malian Ministry of Health in 2008 to deliver a multifaceted intervention to improve community based care in Mali.(7) Community health workers engaged in active case finding among children under 5 years old by focusing on the identification of 16 danger signs. While results cannot be mapped to these activities alone, researchers observed a

significant decrease in childhood illness and under-five child mortality. Additionally, the intervention targeted pregnant women and connected them with prenatal care. More details on the intervention can be found here.

There are many programs that focus on the treatment of acute needs in communities. Integrated Management of Childhood Illness (IMCI), a WHO/UNICEF initiative, has been implemented in many countries across the world and can be integrated into population outreach activities. The steps for implementing IMCI include: adopting an approach to child health in national health policy, adapting clinical guidelines to country needs, upgrading care by training health workers in local clinics, ensuring availability of necessary equipment and medicines, strengthening hospital care for children who cannot be treated in communities or clinics, and developing concurrent initiatives to strengthen preventive care.(8) Rwanda is among many countries that have introduced integrated community case management of childhood illness. Evaluations found that IMCI in Rwanda resulted in a decrease in child mortality and health facility use.(9) Information on the implementation of these services in Rwanda can be found here.

Targeting by preventive need

Preventive services are particularly strong opportunities for community-based outreach because they often do not require significant diagnostic knowledge or training and can be carried out by community-based providers with specific but limited knowledge. The specific preventive services that should be delivered in a given community will differ between group and should be determined through consideration of demographics and burden of disease within the catchment. For example, preventive care may be specific to age, gender, vulnerability such as poverty or malnourishment, or tuberculosis contact. Vaccines or routine care such as cervical cancer screenings are examples of preventive services that may be delivered to target populations during population outreach.

Targeting by chronic disease

Population outreach may be an effective strategy for ensuring that patients with chronic diseases have necessary support and medications. For instance, community health workers may facilitate anti-retroviral treatment adherence for HIV-positive patients or provide medication for diabetes management. In 2005, a program implemented by the Rwandan Ministry of Health and Partners in Health in southeastern Rwanda supplemented national program guidelines for HIV care with a community-based program.(10) Patients received daily visits that included social support, monitoring, identification of barriers to adherence, and observed ingestion of medications. Additionally, patients received a food ration and transportation stipends as well as accompaniment to clinic visits for a patient's first four monthly visits. This comprehensive community-based component was associated with higher retention and suppressed viral load at one year after implementation. More details on this intervention can be found here.

Targeting by risk strata

Determining target groups for population outreach according to risk profile (for morbidity or mortality) can improve coordination of care and direct resources towards those in the greatest need. Essential activities for ensuring comprehensive care for these patients include: developing a method for risk stratification, working as a team to assess patient needs, building care treatment plans, and coordinating care among all providers. After defining target outcomes of interest, stakeholders can conduct risk stratification using a variety of methods including algorithm based tools using data from health records, referrals from providers, or a combination of these approaches.(11) More information on risk stratification approaches as well as evidence-based best practices can be found in this paper.

Migrant populations are another community that can benefit from targeted outreach efforts. Often, migrants are excluded from entitlements to health services and financial protection in health. (12,13) Further, some subgroups, especially refugees have a greater burden of disease than the indigenous

population. (14,15) To address migrant populations' specific health needs and improve their access to care, many governments have implemented specialized community-based health interventions. The Refugee Health Program is one such program that began in 2005 to respond to the complex needs of refugees arriving in Victoria, Australia. (16,17) Under this program, community health nurses, allied health professionals and assistants, and bicultural workers provide culturally-sensitive, comprehensive services in areas with high numbers of newly arrived refugees. In addition, the teams coordinate access to primary and tertiary health care and other support services such as housing and employment services. (16)

WHICH SERVICES?

When planning proactive population outreach activities, stakeholders should consider which services can be provided effectively outside of the facility. A series of eight papers published in 2017 explored the effects of community-based primary health care with the goal of summarizing the impact of these community-based approaches on maternal, neonatal, and child health.(9,10) The authors identified specific services that could be effectively delivered in communities and homes:

- Recognition, referral, and treatment of serious childhood illness by mothers and/or trained community-based providers
- Routine visits to homes to identify community members in need of specific health services
- Routine visits to homes to provide health education
- Facilitator-led participatory women's groups
- Health service provision at outreach sites by mobile health teams

Another common population outreach activity performed by CHWs is community case management, an approach that has been shown to reduce childhood mortality.(18) The World Vision Sustainable Health toolkit on community case management provides comprehensive information on program quality, essential resources, curricula, strategic frameworks, and focuses for malaria, diarrhea, and pneumonia programs.(18)

In addition to identifying who is in need of services, certain questions stakeholders can ask to identify which services can be provided in communities include:

- What medicines and supplies are needed to provide these services?
- Having identified necessary equipment and drugs, are they mobile? Do drugs require refrigeration? Does equipment require electricity or running water, and is everything able to be physically transported?

BY WHOM?

Another important consideration is which providers are capable of delivering proactive population outreach. Often, certain cadres within a multi-disciplinary care team – such as community health workers (CHWs) – have designated outreach roles. Stakeholders can begin to decide which individuals are most suited to carry out these activities by asking some of the following questions:

- Which providers have the training and competence to deliver the identified services?
- How will these providers be supervised and trained to deliver community-based care?
- How will community-based providers be integrated into the health system to ensure continuity?

When selecting providers to deliver proactive population outreach activities, countries may consider task shifting to different cadres of providers, commonly CHWs. Many services provided in communities and

homes can be delivered by providers with less training than doctors or nurses. However, it is important to ensure that there are clear referral pathways in place for emergent or more complex health needs and that providers receive comprehensive training. The WHO has compiled a guideline on task-shifting as well as a database of relevant resources.

Selecting providers for proactive population outreach is an opportunity to solicit and respond to community values and opinions. Community members may have preferences regarding the providers' proximity to the community or other traits. For instance, in Ghana, evaluations of the CHPS pilot program found that the community preferred that Community Health Officers be from the general area so they are familiar with the customs, values, and language of the community but also felt it was important that they not live directly in the community to avoid any concerns about confidentiality that may compromise trust and ultimately quality of care.(19) The CHPS program also ensures community engagement throughout the selection and deployment of community health volunteers (CHVs). After identification of CHVs, community meetings are held to finalize selection and solicit approval from the community.(20)

In some settings, proactive population outreach is provided by community volunteers. While this approach is less costly, and community members may be more attuned to community values, volunteers may provide unreliable, low-quality services compared to those who are professionalized and paid. A qualitative study of Nepal's Female Community Health Volunteer network found that while some volunteers were motivated by the pride they felt in their work, others felt distress that they were working without compensation. Additionally, volunteers in Nepal experienced a lack of respect from highly-trained providers which posed challenges when working together.(21)

WHAT HAS BEEN DONE ELSEWHERE TO IMPROVE PROACTIVE POPULATION OUTREACH?

EQUITY – COSTA RICA AND BRAZIL

Population outreach activities have the potential to improve health equity if implemented with a pro-poor focus. By nature, population outreach and community-based activities can improve geographic access to primary health care in areas where patients lack geographic access to facilities. Both Brazil and Costa Rica considered health equity when implementing the outreach activities central to their reforms. In Costa Rica, EBAIS teams were first established in rural communities that had historically experienced inadequate access to health services. Additionally, data collected by the EBAIS teams have been used to identify at-risk populations and effectively allocate resources, ensuring effective service coverage.(22) Similarly, a 2011 analysis found that one region in Brazil determined panel sizes for family health teams based on the social vulnerability index, calibrating the size and need of a family health team's panel to deliver an effective dose of care.(23)

COMMUNITY HEALTH WORKERS (CHWS) - BRAZIL

In Brazil, the CHW system was introduced in the early 1990s and was eventually scaled nation-wide as part of the unified health system in 1997. CHWs in Brazil visit families in their homes once a month where they deliver a range of services including, but not limited to: identification of risk factors; referrals; monitoring growth of children; maintaining registers of pregnant women; ensuring vaccination compliance; guidance on HIV/AIDS prevention; provision of preventive care to the elderly; accompaniment to antenatal care visits; and education related to food and nutrition.(24) Outside of the home, CHWs also organize community meetings for educational activities. Much of the success of CHWs can be attributed to the support systems that are present within the health system. CHWs are connected to a team of providers, called Family Health Teams (FHTs). FHTs comprise a physician, nurse, and four to six CHWs, and each team is responsible for a catchment of approximately 1000 families. Additional specialists including nutritionist, social workers, psychologist, obstetricians and gynecologists, and public health workers also serve each empaneled population.(25)

CHWs are a valuable important tool for proactive population outreach but must be supported by adequate referral structures, infrastructure (including drugs and supplies and transportation), and transportation. CHW Impact has developed a report on CHW programs and levers for success. Additional information on CHWs and suggestions for building a strong and sustainable CHW program can be found at www.chwimpact.org.

EBOLA CRISIS - LIBERIA

In Liberia, proactive population outreach activities occured throughout the 2014 Ebola crisis and beyond, and were critical to maintaining access to PHC services, demonstrating the impact that population outreach can have on resilience. Prior to the Ebola crisis, a number of different primary health care related interventions had been implemented in Liberia including the National Strategy and Policy for Community Health Services which provided health promotion, case management, and integrated community case management (iCCM) by community health volunteers (subsequently referred to as CHWs). Although there were some challenges in implementation including unreliable drug supply, inadequate supervision, and lack of incentives, this infrastructure persisted throughout the Ebola crisis even as facility-based primary health care became inaccessible.

It is important to also note that approximately two thirds of CHWs surveyed reported that they were afraid of contracting Ebola through their iCCM activities. "No-touch" iCCM guidelines were put in place

during the outbreak to reduce the risk of Ebola transmission for CHWs, but it was challenging to disseminate these guidelines. Therefore, an important lesson from this outbreak was the importance of training CHWs in infectious disease prevention guidelines prior to outbreaks. Although the primary health care system in Liberia suffered immensely during the 2014 Ebola crisis, CHWs were able to ameliorate some of these consequences, particularly for children in need of treatment for pneumonia and diarrhea, due to their existing activities and ties to communities.(26)

OUTREACH FOR NON-COMMUNICABLE DISEASE (NCD) CARE – MEXICO

An observational, stepped-wedge evaluation of an intervention designed by the NGO Companeros en Salud (CES) in Chiapas, Mexico found that CHWs providing outreach in communities improved disease control and medication adherence for patients with diabetes and/or hypertension.(27) The evidence for CHW contribution to non-communicable diseases (NCDs) in LMIC is limited, and this intervention – initiated in 2014 – provided an opportunity for a robust evaluation. The intervention, "Acompanantes', trained CHWs who were nominated during community meetings to provide basic diagnosis and treatment for diabetes and hypertension during home visits. These CHWs worked with four to eight patients each, visiting their homes regularly, accompanying them to clinic visits, and discussing their care management with providers. CHWs received compensation in the form of food and consumable items. The intervention was associated with an 86% increased odds of optimal adherence and twofold increase in positive adherence behavior in community members who received the intervention compared to those who did not receive the intervention. It is important to note that in this intervention and following the "community-based accompaniment" approach, CHWs' roles are intended to improve access to existing care rather than fill gaps or task-shift responsibilities. Therefore, strategies such as this one are most effective if they are added to an already functional primary health care system. In health systems with substantial gaps in the delivery of comprehensive primary health care at facilities, proactive outreach may not be the most effective initial intervention.

PROACTIVE COMMUNITY CASE MANAGEMENT – MALI

Recently, as parts of sub-Saharan Africa have undergone rapid urbanization, there has been increased attention to urban health. Many health programs, such as integrated community case management (iCCM), a package of services for malaria, acute diarrhea, pneumonia, acute malnutrition, and newborn survival, have been implemented extensively in rural areas, but there is little evidence regarding how these programs translate to urban settings. Proactive community management (ProCCM) is a model for not only delivering iCCM services but also implementing them at scale, taking into account a number of barriers. ProCCM includes the provision of free proactive outreach services by CHWs in patients' homes. In 2008, ProCCM was implemented in periurban areas across Mali.(28) The five components of this program were:

- Proactive case detection where CHWs traveled door-to-door
- Doorstep care including counseling, diagnosis, treatment, and referral
- Monthly individual supervision and weekly group supervision of CHWs from a dedicated supervisor
- Removal of user fees for patients who reported to CHWs that they were unable to pay for services
- Improvements to the infrastructure of primary health care centers

CHWs received 36 days of pre-service training, were selected from the community, and were remunerated. A number of outcome measures improved following implementation of ProCCM, including the percent of febrile children under 5 years who received effective antimalarial treatment within 24 hours, the percentage of children 0-59 months with all-cause febrile illness, and under-five mortality.

Although the evaluation of ProCCM was not designed to conclude causation between the intervention and health outcomes, ProCCM has successfully brought proactive case management to many periurban communities that previously lacked access to care.

WHAT QUESTIONS SHOULD BE CONSIDERED TO BEGIN IMPROVEMENTS?

The questions below may be a useful starting place for determining whether proactive population outreach is an appropriate area of focus for a given context and how one might begin to plan and enact reforms:

IF PROACTIVE POPULATION OUTREACH ACTIVITIES WERE IMPLEMENTED, HOW WOULD PROVIDERS KNOW WHOM TO VISIT AND WHICH SERVICES TO PROVIDE?

If there is not a clearly defined panel, it may be necessary to begin by empaneling the population and segmenting by need, disease type, or preventive goal. Additionally, the mix of services provided during proactive population outreach should be identified through local priority setting.

WHAT ARE THE NEEDS OF THE POPULATION, HOW ARE THEIR LIVING CONDITIONS, AND WHAT ARE THEIR HEALTH NEEDS?

Specifically, it is important to know the number of children, women of reproductive age, and elderly individuals in a given population. Identification of patients depends upon the services being provided. This means that after targeted outreach activities are planned, there must be clear systems for ensuring that providers can identify the appropriate recipients. Also, information about access to amenities such as running water and latrines as well as other contextual factors such as exposure to mosquito or water-borne diseases will help inform the mix of services.

WHICH PROVIDERS ARE CAPABLE OF DELIVERING THE SERVICES IDENTIFIED? ARE THERE SUFFICIENT NUMBERS OF THESE PROVIDERS, AND DO THEY NEED TRAINING?

The selection of providers presents an opportunity to engage with the community and solicit their preferences. The appropriate cadre of provider will differ between contexts and depends on the skill mix, training, and roles and responsibilities within the country.

HOW WILL PROVIDERS BE INTEGRATED INTO THE HEALTH SYSTEM AND ENSURE CONTINUITY OF CARE AND COMMUNICATION?

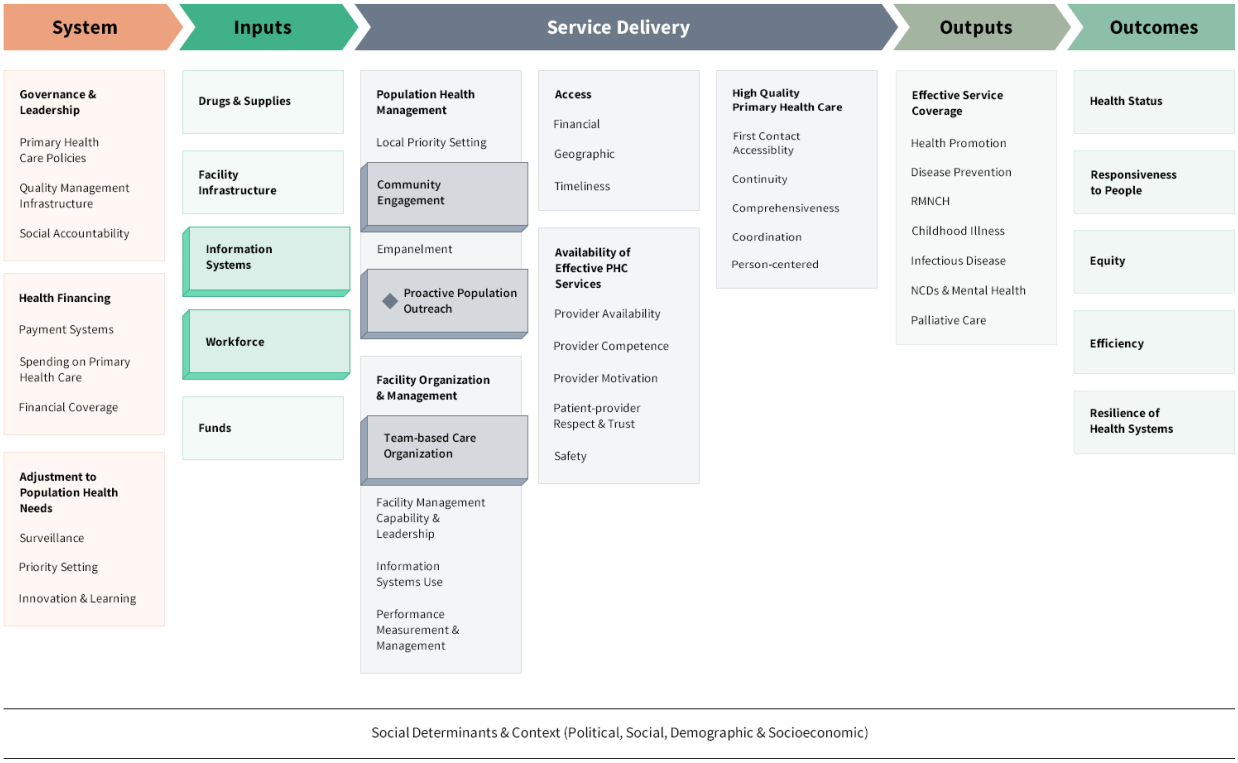
Most often, community health workers or similar cadres of providers are responsible for delivering proactive care in communities and homes. It is critical that these providers have contacts within health facilities in order to effectively refer patients who need higher-level care and communicate about patient needs and necessary follow-up.

WHAT DRUGS, SUPPLIES, EQUIPMENT AND OTHER INFRASTRUCTURE WOULD THESE PROVIDERS NEED TO DELIVER SERVICES EFFECTIVELY? IS THERE A SYSTEM IN PLACE TO PROCURE THESE?

The drugs, supplies, equipment, and other infrastructure needed to effectively deliver comprehensive care in communities and homes will depend on the local priorities, burden of disease, and competence and training of the providers delivering care. It is also important to ensure that providers are equipped with all of the necessary tools to make their work efficient, such as transportation, communication technology, and means of carrying their equipment.

WHAT ELEMENTS SHOULD BE IN PLACE TO SUPPORT EFFECTIVE IMPROVEMENTS?

In order for interventions aimed at improving Proactive Population Outreach to be most successful, the following elements of the PHCPI Conceptual Framework should be in place or pursued simultaneously:



INFORMATION SYSTEMS

Successful proactive population outreach depends on information systems with broad, fundamental capacities to track and stratify a given patient population. Patient registers and civil registration and vital statistics systems are necessary for care teams to locate, contact, and enumerate their panel, particularly when outreach is targeted at specific patient segments or for specific services. These information systems must be coupled with medical record systems that enable a provider to track the health of individual patients in order to provide the most appropriate, continuous, and coordinated care both in the facility and in the community.(29)

Learn more in the Information Systems Improvement Strategies module.

WORKFORCE AND TEAM-BASED CARE ORGANIZATION

There must be an adequate supply of appropriately trained, reliable, and available community-based providers to effectively provide community-based proactive outreach and care. Proactive population outreach may be most effective when there is an established national cadre of community-based providers; however, these programs can be developed at a sub-national scale as well.

Learn more in the Workforce and Team-Based Care Organization Improvement Strategies modules.

COMMUNITY ENGAGEMENT

As with any change to service delivery, it is important to ensure community engagement during implementation of proactive population outreach, particularly when services are delivered outside of facilities. Community members may have specific concerns or suggestions about the type of provider they interact with, confidentiality, and the services that are provided in their community.

Learn more in the Community Engagement Improvement Strategies module.

Suggested citation: "Population Health Management: Proactive Population Outreach." *Improvement Strategies*. Primary Health Care Performance Initiative, 2019, https://improvingphc.org/proactive-population-outreach. Accessed [insert date].

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