

# IMPROVEMENT STRATEGIES MODEL: AVAILABILITY OF EFFECTIVE PRIMARY HEALTH CARE SERVICES: PROVIDER COMPETENCE

## CORE PRINCIPLES OF AVAILABILITY OF EFFECTIVE PRIMARY HEALTH CARE SERVICES

The subdomain Availability of Effective PHC Services includes the presence of competent, motivated health workers at a health facility or in a community when patients seek care. Effective PHC also requires that providers and their patients build participatory relationships and a foundation of trust and respect. Health worker motivation is critical as it is associated with technical and experiential quality as well as effectiveness. Finally, effective PHC also requires safe practices routinely followed in the delivery of care.

### PROVIDER AVAILABILITY

Availability is defined as the presence of a trained provider at a facility or in the community when expected and providing the services as defined by his or her job description. Availability is important because, while there are often shortages in human resources, deployed providers are frequently inappropriately absent or, when present, are not actively delivering health care because they are engaged in other duties.

### PROVIDER COMPETENCE

Provider competence entails having and demonstrating the “knowledge, skills, abilities, and traits” to successfully and effectively delivery high-quality services.(1) Competency can be built during pre-service education as well as in-service education and is not limited to technical knowledge. A competent provider must also have strong empathy and communication skills, and these are considered important components of “experiential quality”, from the patient perspective.

### PROVIDER MOTIVATION

“Motivation in the work context can be defined as an individual’s degree of willingness to exert and maintain an effort towards organizational goals.”(2) Motivation captures intrinsic and extrinsic characteristics that affect the behavior and performance of providers in a health system. Intrinsic motivation is the feeling of accomplishment driven by organizational goals and the impact of one’s work on patients and communities. Alternatively, extrinsic motivation is driven by monetary or non-monetary individual or environmental incentives.(2) Within motivation, the literature has a particular focus on degree of provider autonomy, degree of remunerative motivation, supportive supervision, options for professional development, and level of burnout.

### PATIENT-PROVIDER RESPECT AND TRUST

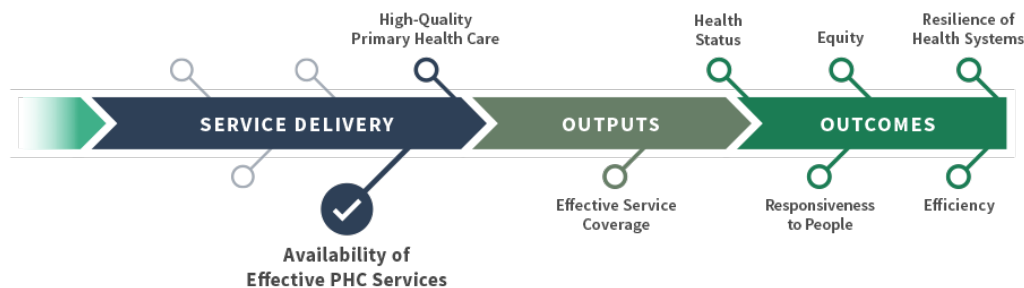
Patient-provider respect and trust refers to a relationship between patients and providers that is mutually respectful and trusting. Respect and trust between providers and patients can improve communication and provider motivation and contribute to the formation of continuous relationships over time.

### SAFETY

“Patient safety is the absence of preventable harm to a patient during the process of health care and reduction of risk of unnecessary harm associated with health care to an acceptable minimum.”(3)

## WHAT COULD YOUR COUNTRY ACHIEVE BY FOCUSING ON AVAILABILITY OF EFFECTIVE PHC SERVICES?

Improvements in availability of effective PHC services can lead to improvements in the following areas:



## AVAILABILITY OF EFFECTIVE PHC SERVICES: WHAT ARE THE FIRST STEPS?

### STEP 1: ENSURE AN ADEQUATE SUPPLY OF HEALTH WORKERS

An adequate supply of human resources for health on a national and subnational level is a foundation for implementing interventions intended to improve the availability of effective PHC services. Training, recruiting, and deploying an appropriately sized and adequately trained workforce is discussed in greater detail in the Workforce module (forthcoming). However, an adequate supply of competent providers is only a first step towards achieving high-quality, available, and effective services.(4)

### STEP 2: ENSURE THAT TRAINED AND COMPETENT PHC PROVIDERS ARE AVAILABLE TO PATIENTS

The presence of an appropriate number of providers is of limited benefit if providers are absent from their planned shifts or if service delivery is structured in such a way that patients are unable to access a skilled provider at convenient times. Patients can only receive high-quality care from competent providers if those providers are present in facilities or communities and trained in the relevant care. If provider absenteeism is driven by facility-level factors such as inadequate supervision, poor remuneration, a sense of ineffectiveness due to poor training or inadequate supplies, or a lack of professional development, improving provider motivation may concurrently address provider availability.

Even with the availability of large numbers of health workers, inadequately trained and skilled providers will likely not contribute to improving either individual or population-level health outcomes. Frontline primary care service delivery is a highly complex task, requiring the ability to diagnose and manage a wide range of possible illnesses in undifferentiated patients presenting at the first contact point with the health system. Additionally, providers health workers require appropriate and comprehensive training in prevention and promotion to engage with individuals and communities to promote health and wellbeing and address risk factors. Competency at these tasks requires substantial experience and training that often goes beyond typical academic degree-based educational programs, requiring post-graduate

experience and supervision. It is this comprehensive set of skills effectively applied in community settings that are likely to be responsible, at least in part, for overall improvements in morbidity and mortality.

### **STEP 3: ENSURE RESPECT AND SAFE PRACTICES THROUGHOUT**

There are some overlaps between provider competence and patient-provider respect and trust. Experiential quality of care - measured from the patient perspective - may influence patient choice and utilization of primary care facilities. Competence and safety have similar overlaps - a system staffed with a workforce without the necessary clinical competency will most certainly perform poorly on safety. Safety includes not only provider knowledge in safe diagnostic, prescribing, and procedural practices, but also accessibility to the necessary supplies and equipment for a provider to perform his or her job.

**What it is**What others  
have doneHow to get  
startedHow to  
succeed**PROVIDER COMPETENCE**

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**WHAT SHOULD I KNOW BEFORE BEGINNING IMPLEMENTATION?**

In order to improve health outcomes, it is important to focus on both provider availability and competence. While provider supply is a challenge in many LMIC,(5) providers’ ability to deliver high-quality care is also a limiting factor. A curious paradigm in health is the “know-to-practice” gap where providers may be appropriately trained and aware of standards of care, but they do not follow this knowledge during a typical consultation with patients.(6) Thus, it is important to distinguish if a provider is not providing high quality care due to a lack of knowledge and training or because they are limited in being able to administer care as they learned it.

Quality is often considered from two dimensions: technical and experiential. Technical quality includes care that meets standards and guidelines and is almost always learned during formal education or training. Conversely, experiential quality of care is measured from the patient perspective and includes a patient’s experience and satisfaction interacting with the provider.

**EDUCATION AND TRAINING****Pre-service education and training**

Pre-service education is the first opportunity for providers to receive training that will influence technical quality. Most of the literature on education relates to program accreditation and licensing of professionals, discussed within the quality management infrastructure module (forthcoming). However, the WHO Global Strategy on Human Resources for Health provides a few suggestions for strengthening health education and training. It recommends that institutions and policies should be designed to be nimble enough to respond to local human resource needs. The strategy also suggests collaboration with Ministries of Education to ensure that primary and secondary school institutions prioritizes science education in order to prepare students who choose to go into health professional education and training. Additionally, education programs and institutions should ensure that they are promoting equal opportunities for all individuals.(5) While the WHO strategy specifically discusses ensuring opportunities for women, equality of access to education should be promoted across all social strata and demographics including but not limited to caste, religion, race, and ethnicity.

In 2010, the Lancet Commission on the Education of Health Professionals for the 21<sup>st</sup> Century was established to explore an ideal vision for medical education given rapidly improving technology as well as worldwide demographic and epidemiological transitions. The Commission unsurprisingly found that medical education institutions are maldistributed across the world, with 36 countries having no medical schools at all.(7) Across countries, a fairly stagnant medical curriculum has resulted in mismatched provider competencies and patient needs. The vision of the Commission is that “all health professionals in all countries should be educated to mobilize knowledge and to engage in critical reasoning and ethical conduct so that they are competent to participate in patient and population-centered health systems as members of locally responsible and globally connected teams.”(7) Achieving this vision requires instructional and institutional reforms.

**What it is**

The Lancet Commission focused their reviews and recommendations on medicine, nursing-midwifery, and public health education though they recognized the importance of competencies for broader cadres such as community health workers. Through the development of a framework and a robust review of historical medical education, the Commission suggested 10 categories for reforms:

What others have done

How to get started

How to succeed

- ▶ Competency-based curricula - curricula should be designed based on competencies that are related to local needs
- ▶ Interprofessional education - providers should train and learn together to improve collaboration and reduce hierarchical relationships. Because team-based care organization is an aspiration for high-quality primary health care, this type of training can help prepare providers for in-service collaboration. Interprofessional education is discussed in greater detail in the team-based care organization module.
- ▶ Use of information technology (IT) - as IT becomes more pervasive, even within low and middle-income countries, educational institutions should take advantage of the learning opportunities it offers while also preparing providers to use IT in-service to improve quality of care.
- ▶ Harness global resources but adapt locally - students should be able to take advantage of global learning resources while also learning how this knowledge relates to and can be adapted to local needs.
- ▶ Strengthen educational resources - countries should invest in the professional advancement of medical educators. As with in-service medical providers, educators should have stable career paths, frequent evaluation, and incentives for good performance.
- ▶ Use competencies as criteria for classification of professionals - in order to reduce silos within medicine, all providers should receive education related to attitudes, values, and behaviors with additional specialized competencies.
- ▶ Joint planning mechanisms - educational planning should be a joint process, particularly between the Ministries of Health and Education. These planning mechanisms should ensure that opportunities are created for marginalized populations.
- ▶ Expand academic centers to academic systems - medical education should extend beyond the education institution and teaching hospitals to communities and primary health care facilities.
- ▶ Link networks, alliances, and consortia between educational institutions - using regional and global consortia and information technologies, countries should aim to share knowledge, tools, and resources, particularly to enhance medical education in countries where there is shortage of medical educators.
- ▶ Encourage inquiry - institutions should work to encourage a culture of curiosity and inquiry.

It should also be noted most curricula lack a focus on comprehensive primary care service delivery, despite the substantial workforce need. Training opportunities are often limited to hospitals, and many medical schools lack a department of family medicine or general practice, resulting in a training environment ill-suited to learning about the practical application of skills in outpatient medicine and primary care. In support of high quality primary health care specifically, institutions providing health professional education should prioritize primary care-related competencies in their curricula and integrate core principles of primary care throughout training.(8) Students benefit from early exposure in their education to comprehensive primary care settings and the accompanying competencies. Similarly, other health professionals expected to work as part of a primary health care team should have exposure to training in the core principles of primary care service delivery as a regular part of their undergraduate curriculum.(7)

The value and rigor of primary care should be a core component of strong medical professional training, with leading students encouraged to contribute to further academic study in the field. In addition,

**What it is**

students should be exposed to the importance of post-doctoral training in primary care, emphasizing the value of discipline-specific training to ensure sufficient workforce competency, as with other medical specialties.

**What others have done****How to get started****How to succeed**

The most effective primary health care systems include a formally-recognized medical discipline such as family medicine or general practice exclusively committed to the delivery of comprehensive primary care in addition to an accredited post-graduate training program focused on the development of competency in the provision of primary care. These programs should be rigorous in content and educational approach while being delivered primarily in the performance context in which graduates will be expected to practice, with at least some substantial training in outpatient facilities. The World Organization of Family Physicians (WONCA) has adapted the World Federation of Medical Education (WFME) post-graduate program guidelines, with curricula centered on the core principles of primary care but tailored to address the specific local clinical needs on the region.<sup>(9)</sup> These guidelines may be used to help develop post-doctoral program curricula and accreditation criteria in settings where primary care specialty training does not yet exist.

Graduates of such programs should be prepared to care for patients of all genders and ages, stratify illness severity, diagnose and manage a wide range of common local illnesses impacting a variety of organ systems, provide continuous and ongoing care to individuals and families, support community-based public health surveillance and prevention efforts, coordinate care across and refer patients to different levels of the health care system, take action to promote optimized access to grassroots care for the vulnerable, and adapt care plans to consider a patient's unique pattern of multi-morbidity and personal health goals and desires. Ideally, national systems for credentialing are put in place to measure and ensure the presence of these competencies in graduates before they are licensed to practice in the field. For those already practicing in primary care settings but without such competency, opportunities should be provided to complete similar in-service "up-training" close to their existing practice location in order to improve their skill sets and provide them with equivalent competency and certification.

### Ongoing training

Particularly when scopes of practices are expanded, it is important to make sure that health workers are licensed to deliver these tasks to ensure patient safety. There is strong evidence that the quality of care provided by mid-level practitioners is comparable to doctors for vertically-oriented outcomes in maternal health as well as communicable and non-communicable diseases.<sup>(10)</sup> Less is known about their impact on overall outcomes in routine delivery of comprehensive primary care services. Nonetheless, the existing evidence provides strong support for consideration of shifting responsibilities in targeted clinical areas to mid-level providers in many primary care settings. It is important, however, to ensure that these providers are supported by necessary inputs, training, and supervision to carry out the tasks that are delegated to them.

There is growing evidence that community-based programs may be a cost-effective strategy to improving coverage of certain health services.<sup>(11)</sup> These services are generally delivered by providers with limited training. Here, this cadre of providers is referred to as "community health workers" (CHWs) - they may be referred to differently across contexts. The benefit of community-based approaches depends on full integration into the health system. CHWs must be appropriately educated, remunerated, supervised, and integrated into multidisciplinary teams.<sup>(12)</sup> Globally, there is often little regulation and standardization of CHW training within and between countries, partially due to wide differences in CHWs' expected tasks and skills across settings.<sup>(12)</sup> As a result, the length of pre-service training for CHWs varies significantly, from a few days to more than 6 months.<sup>(13)</sup> A report from [Practitioner Expertise to Optimize Community Health Systems](#) suggests frequent and ongoing in-service training in addition to pre-service training and use of practice-based learning strategies. Determining the appropriate pre-service and in-service training depends on a number of considerations including: 1) priorities of the national healthcare system; 2)

priorities of local stakeholders; 3) local and national epidemiology and needs; 4) balancing of responsibilities between CHWs and other providers in the region; and 5) the make-up and competencies of the health workforce.

Additional resources on CHWs from the WHO can be found [here](#).

Finally, as information technology becomes more advanced and widespread, peer-to-peer learning and collaboration communities have become quite common. A few of these communities include:

- ▶ [The Joint Learning Network for Universal Health Coverage](#) - this network of global health policymakers collaborate using collective knowledge, practice, and research to create knowledge management products that will advance the agenda of Universal Health Coverage.
- ▶ [The Global Health Delivery Project](#) - This is an initiative designed by Brigham and Women's Hospital and Harvard University in the United States that includes case studies, courses, and online communities.
- ▶ [The Quality of Care Network](#) - The network has convened a number of countries to share how they have made improvements in maternal, newborn, and child health. They have created a space for country stakeholders to share their experience with improvement and learn from one another.

## Continuing Professional Development

Medical education and training should also be ongoing throughout a provider's career, and continuing professional development (CPD) is an important opportunity to keep providers' technical skills refreshed and updated. CPD typically includes certification or re-certification, and there is a dearth of evidence on the best way to administer CPD in LMIC, particularly related to primary health care. In order to promote uptake of new skills and promote group learning, CPD may be best delivered in primary care facilities, though this is often not the reality.<sup>(14)</sup> Global partnerships and private sector corporations support or provide a significant amount of CPD in LMIC, although these are often specifically focused on vertical programs. For instance, PEPFAR conducted more than 3.7 million continuing education encounters between 2003 and 2008, and the Global Fund conducted 14 million between 2002 and 2012.<sup>(15)</sup> These partnerships can be quite complex and require effective communication and buy-in from local stakeholders as well as close consideration of local context. An expert consultation with individuals involved in these global continuing medical education partnerships surfaced the following suggestions:

- ▶ Programs can address the knowledge-to-practice gaps if high and low-income countries come together to address education needs.
- ▶ Programs can work more efficiently if resource-rich countries and resource-poor countries share resources and goals for training.
- ▶ A needs assessment is an important first step for partnerships to develop educational content that is context-specific.
- ▶ Continuing medical education programs benefit from local leaders who are well versed in the local environment. <sup>(15)</sup>

Most countries will have a regulatory board for each cadre, with application, enforcement, and involvement of these regulatory boards differing significantly between and within countries. Incorporating continuing professional development requirements into these regulatory board frameworks may improve opportunities for continuing professional development and ensure some degree of accountability for professional development.



## What it is

**SUPERVISION AND MENTORING**

What others have done

Staff supervision is a form of applied, individual-level performance measurement and management and can help monitor and improve provider competence. However, not all supervision is equally effective. There has been inconclusive evidence of the effects of supervision in LMIC. A systematic review in 2011 found small improvements in provider practice and knowledge in some studies, but the data did not provide substantial evidence to support any conclusions.(16) This was echoed in another paper on support and performance improvement for PHC workers in LMIC. A review of 40 eligible papers identified supervision as one of five approaches to performance improvement. The others included mentoring, tools and aids, quality improvement methods, and coaching.(17) Although supervision was the most studied of the five approaches, the types of supervision and results from the various studies were heterogeneous. The authors concluded that while supervision did seem promising, more research was needed on how supervision is delivered to determine the effect.

How to get started

How to succeed

By contrast, supportive supervision - where supervisors focus on joint problem solving and strengthening relationships with staff rather than high-level problem solving - has been found to improve quality of care and job satisfaction in Sub-Saharan Africa.(18) Non-supportive supervision often focuses on inspection and line management resulting in punitive or corrective action which negatively affects provider motivation and satisfaction. Supportive supervision instead aims to build pathways to improvement through active collaboration between providers and supervisors.(18) However, it is important to note that supportive supervision may only be effective if providers have adequate access to necessary adequate drugs and supplies, have a reasonable caseload, and are provided with ample incentives and career development opportunities. A systematic review of supportive supervision in Sub-Saharan Africa found that supportive supervision had the greatest positive impact when the following components were in place: (18)

- ▶ Two-way communication between provider and supervisor including real-time feedback
- ▶ Non-judgmental approach, actively listening, and humility
- ▶ Cordial relationships and consensus to work together

It is important to note that supervisors cannot be expected to immediately understand how to provide supportive supervision. Supervisors should be trained on how to coach, mentor, communicate, and conduct performance planning. Additionally, supervisors can be taught adult learning and training techniques to improve their skills.

Supportive supervision can be linked with mentoring and coaching to facilitate longitudinal, supportive learning relationships between providers and supervisors.(19,20) While mentorship refers to broad skills and support, coaching is focused on specific performance activities.(21) Unlike common continuing medical education which often takes place in centralized locations, mentorship and coaching occurs in service delivery locations to drive real-time application of new knowledge and skills. The Mentorship and Enhanced Supervision for Healthcare and Quality Improvement (MESH-QI) program was implemented in Rwanda in 2010 as a collaboration between the Doris Duke Charitable Foundation's African Health Initiative, Partners in Health, and the Rwandan Ministry of Health to improve mentorship and supervision for HIV, NCDs, and maternal and child health.(22) MESH-QI involves clinical mentorship, on-site education, quality improvement coaching, and data collection. Findings from the program suggest that it has improved care, processes, and patient safety. The [MESH-QI Implementation Guide](#) was developed based on learnings from implementation in Rwanda, and it was designed to provide guidance for countries seeking to implement mentorship and supervision reforms to improve quality of care. The guide includes chapters on 1) self-assessment; 2) pre-implementation; 3) active implementation; 4) monitoring, evaluation, and data utilization; and 5) sustainability. However, it is important to note that, as with any

**What it is**

other implementation guide, it is crucial to consider local context and resources and adapt implementation to meet local needs.

What others  
have done

How to get  
started

How to  
succeed

## PROTOCOLS AND TOOLS

### Protocol-based approaches

There are a number of protocol-based approaches and decision-making tools that are used to improve technical quality of care in low and middle-income settings. Three such strategies - developed by the WHO - are: Integrated Management of Childhood Illness (IMCI), Integrated Management of Adolescent and Adult Illness (IMAI), and the Package of Essential Non-Communicable Disease Interventions (PEN). Some of the decision-making tools and charts for the three strategies are available on the WHO website:

- ▶ [Integrated Management of Childhood Illness \(IMCI\)](#)
- ▶ [Integrated Management of Adolescent Illness \(IMAI\)](#)
- ▶ [Package of Essential Non-Communicable Disease Interventions \(PEN\)](#)

The three strategies include curative and preventive interventions that can be administered in communities and homes as well as in facilities; however, there is significantly more published literature on IMCI relative to the other two. IMCI presents stepwise approaches to case management of sick children including checking vital signs, identifying danger signs, and inquiring about symptoms and nutritional and immunization status.(23) However, findings from implementation of these strategies are mixed. A 2015 systematic review explored the effectiveness of four programs that implemented IMCI, finding low-certainty evidence that IMCI may lead to fewer deaths among children under five but has little or no effect on the number of children suffering from stunting and probably no effect on the number of children suffering from wasting or receiving measles vaccines.(24) An evaluation of IMCI implementation in Ghana found that adherence to guidelines was poor and did not influence outcomes.(23) Further, it seemed that providers may have been too overburdened and unmotivated to adequately implement IMCI guidelines. This suggests that these protocols may need to be adapted to facility needs, better integrated into the coordinated workflow of comprehensive primary care service delivery, and coupled with interventions to improve the quality of the work environment and provider motivation in order to be effective.

A similar tool is PACK (Practical Approach to Care Kit) Adult, a primary care guide developed by the Knowledge Translation Unit at the University of Cape Town.(25) The guide begins with 40 common symptoms and uses checklists and algorithms to help providers manage 20 chronic conditions. The guide is supplemented by a robust training program where trainers visit the implementing clinics regularly to ensure integration of PACK with existing facility practices. The trainings are collaborative and interactive, encouraging peer-to-peer learning. PACK has been implemented in a number of different countries. In four instances, PACK was implemented as a randomized controlled trial, and researchers have found improvements in care for a number of different communicable and non-communicable conditions, effective training, and high acceptability with providers. More information on the tool and its adaptation to multiple settings can be found on the PACK Adult [website](#).

### Safe childbirth checklist

The WHO Safe Childbirth Checklist is another tool that can be used in primary care settings to improve maternal and perinatal care practices. The checklist outlines practices for birth attendants at four points: 1) upon admission; 2) just before pushing (or before Caesarean); 3) soon after birth; and 4) before discharge. The checklist is meant to guide practices and give providers opportunities to pause and ask important questions regarding the progression of labor, maternal, and neonatal health. The [WHO Safe Childbirth Checklist](#) is accompanied by an [Implementation Guide](#).(26)

**What it is****Telemedicine**

What others have done

Various telemedicine projects have demonstrated potential in increasing access to higher levels of care without substantial investments in workforce or infrastructure. Project ECHO is a telemedicine initiative that was launched in the United States in 2003 and now operates in 23 countries.(27) Project ECHO supports primary care providers in the treatment and management of complex conditions and is particularly beneficial in areas with limited access to specialized or tertiary care.(28) The services provided through Project ECHO differ according to the burden of disease, need, and access in each location. Using telecommunication, primary care providers can communicate with specialists and learn how to administer higher-level or specialized care. For instance, in Namibia, Project ECHO was instituted in 2014 to improve HIV care, and the project currently facilitates 30 weekly HIV clinics for providers at ten sites across the country. While this technology has the potential to improve quality of care, the success of this initiative depends upon adequate facility infrastructure to support telecommunication, availability of primary care providers to administer care as directed, availability of specialized providers to educate and direct care via telecommunication, and availability of drugs and equipment necessary for treatment.

How to get started

How to succeed

A similar use of telemedicine is utilized in Alaska, United States, where the Southcentral Foundation's Nuka System of Care regularly sends care teams to rural, underserved areas. During these consultations, primary care providers can use telecommunication to discuss complex care treatment with specialists stationed in larger cities, as needed.(29) This use of telemedicine for access to specialized care promotes continuity and coordination of care.

**Evidence-based clinical resources**

Many providers use evidence-based clinical resources (EBCRs) to readily access reliable, evidence-based clinical content and reduce knowledge gaps at the point of care. (30) The use of EBCRs have been shown to reduce diagnostic errors and improve patient outcomes. (31,32) [UpToDate](#) is a leading digital EBCR that gives providers the informational tools they need to improve care. (30) Providers can use [UpToDate](#) to immediately access medical education resources, including evidence-based clinical knowledge and actionable recommendations for effective diagnosis and treatment. To ensure that the resource aligns with current evidence, standards, and guidelines, the resource is continuously updated and authored by world experts in all clinical fields. (31) Over 80 studies have demonstrated improved patient outcomes and hospital performance with the use of [UpToDate](#). (32)

[UpToDate](#) is a commonly used tool in high-income settings but can be prohibitively costly for providers in low- and middle-income countries to access. (30,32,33,34) Since 2009, free [UpToDate](#) subscriptions have been facilitated by the [Better Evidence Project](#), and studies have shown that the removal of cost barriers to accessing [UpToDate](#) in low-income and middle-income countries has resulted in the frequent use of the tool and salient examples of improved clinical practice (33,34). However, even with increased access to the resource, providers continue to deviate from Clinical Practice Guidelines. (33,34) Changes to clinical practice and appropriate use of EBCRs will require both reduced cost barriers and ongoing behavior change interventions. (33,35) Users can learn more about how to effectively integrate EBCRs into practice [here](#) and apply for free subscriptions to [UpToDate here](#).

**PATIENT-PROVIDER INTERACTIONS**

Patient-provider interactions and experiential quality of care are important elements of care encounters. Patients who are dissatisfied by their interactions with a provider or within a health facility may choose to bypass care during their next illness episode, contributing to poor health outcomes.(36) Despite the importance of experiential quality of care, there is little evidence on how to tangibly improve

## AVAILABILITY OF EFFECTIVE PRIMARY HEALTH CARE SERVICES > PROVIDER COMPETENCE

experiential quality in low and middle-income settings. Experiential quality is discussed in greater detail within [patient-provider respect and trust](#) and person-centered care (forthcoming).

What it is

## WHAT HAS BEEN DONE ELSEWHERE TO IMPROVE PROVIDER COMPETENCE?

What others have done

How to get started

How to succeed

### COMMUNITY HEALTH WORKER TRAINING - IRAN

Comprehensive pre-service and in-service training of community-based providers can help contribute to successful implementation of task shifting between providers. Iran has demonstrated this through the robust training that accompanies the country's national community-based care strategy that was first implemented in 1979. Community-based providers - called Behvarz - are employed by the health system, and in 2007 there were approximately 31,000 Behvarz serving 28 million people.(37) To support this program, Iran has a District Behvarz Training Centre that is responsible for recruitment, administration of entrance exams and interviews, implementation of training and exams, supervision and support during training, and provision of a safe learning environment. Behvarz first receive a two-year pre-service training that is structured to promote both theoretical and practical knowledge, including hands-on experiential learning in Health Houses and Rural Health Centers. The Behvarz curricula is updated regularly, and in certain areas, Behvarz receive supplementary training to adapt to local health needs. Behvarz reported high satisfaction with pre-service training, particularly in regard to the training environment, relationships with trainers, and trainer competence. (37) Following pre-service training, Behvarz receive in-service training that is typically administered by doctors or other health workers. The high-quality Behvarz training in Iran is facilitated by the nationally-coordinated CHW policies and allocated financial support for all aspects of training. Additionally, CHWs have benefited from rapidly adapting curricula and training materials that match their expected competencies and skills and reflect the local reality of health care needs in the communities they serve.(37)

### RETRAINING PROVIDERS - ESTONIA

Estonia's independence from the Soviet Union in 1991 sparked a series of reforms that strengthened primary health care through provider training.(38,39) Estonia accomplished this by establishing family medicine as a specialization for both doctors and nurses. This change to curricula was coupled with robust training and guidelines on management of chronic illnesses for primary care providers and strong gatekeeping mechanisms that financially incentivized patients to visit a primary care provider before seeking specialist care. These interventions were designed to improve the comprehensiveness and coordination of care by increasing the competency of providers to manage complex cases and also establishing clear structures for referral when necessary. In fact, following these interventions, it was found that patients who attended a PHC visit in the previous year had fewer inpatient admissions.(39) All of these reforms were supported by strong support, collaboration, and commitment from the Ministry of Social Affairs and the Estonian Health Insurance Fund. Additionally, Estonia has empaneled a significant amount of its population, and this has given patients a clear point of entry into the health system and a point of contact to coordinate care. A more detailed case study on Estonia's revitalization of their primary health care system can be found [here](#).

### TRAINING OF INFORMAL SECTOR PROVIDERS - INDIA

A program in India highlights some value in training informal providers - those with no formal medical training - in locations where there is minimal formal provider availability. In rural India, up to 75% of primary care visits are made to informal providers.(40) Although this practice is illegal, it is driven by widespread shortages in formally trained health care providers. Training of informal providers is a controversial practice; while some argue that it will improve the quality of care for patients who utilize their services, others believe that it encourages an illegal and unsafe practice. Regardless of views on training of informal providers, it is clear that provider availability and competence is a major barrier to

What it is

quality care in parts of India. A nine-month program in West Bengal provided training to informal providers. Average attendance to these trainings was 56% and was influenced by distance to the training and weather conditions. The three outcomes studied related to a provider's ability to refer for severe conditions, manage conditions, and appropriately diagnose and treat conditions. Training had the greatest effect for providers who delivered low quality of care at baseline. The program resulted in increased adherence to condition-specific checklists, increased correct case management, and an increased patient caseload in villages without a public-sector clinic.(40) This latter finding may address concerns that training informal providers will make their practice more widespread; where patients had the choice to attend a formally trained provider, caseloads in the informal sector did not increase. This study shows the value of training to improve provider availability and competence but should be used in tandem with system-wide efforts to bolster the formal health workforce.

What others have done

How to get started

How to succeed

## MENTORING AND ENHANCED SUPERVISION FOR HEALTH CARE - RWANDA

The Mentoring and Enhanced Supervision for Health Care (MESH) program was introduced in Rwanda to improve quality of care, with a particular focus on the WHO's Integrated Management of Childhood Illness (IMCI) protocol. The goals of MESH were twofold: 1) improve the skills of health workers through mentoring in health centers and 2) support quality improvement efforts to improve facility systems and operations.(41) The program introduced qualified nurse mentors into health centers to provide mentorship, coaching, and support. There were three important elements that distinguished MESH from traditional IMCI implementation: 1) MESH training was provided in the health facilities rather than off-site, 2) additional, intensive supervision was provided, and 3) clinical supervisors were responsible for improving the use of data for performance monitoring.(41)

There was both a qualitative and quantitative evaluation of this program. Qualitative findings showed that providers appreciated the supportive nature of their supervision, including active listening and a focus on improvement and learning rather than supervision for punitive action. Additionally, providers reported that mentors were able to identify important areas for system improvement within the facility which ultimately made their work more efficient.(41) Quantitative results found that most indicators of IMCI assessment, classification, and treatment improved after one year with the exception of use of a growth chart.(42) Barriers to the implementation of MESH were primarily related to inputs; insufficient infrastructure and frequent stock-outs often made it challenging for both providers and mentors to carry out their responsibilities.

## SAFE CHILDBIRTH CHECKLIST - INDIA

The WHO Safe Childbirth Checklist was introduced in 60 facilities in Uttar Pradesh, India along with an eight-month coaching program. Previous evaluations had found that the checklist improved the planning and performance of 28 essential birth practices, and a matched-pair, cluster-randomized, controlled trial was designed to evaluate the impact of the checklist and coaching intervention - called the BetterBirth program - on maternal and perinatal outcomes within seven days of delivery.(26) There were three tiers of mentors and trainers within the intervention: childbirth quality coordinators, coaches, and coach team leaders. Childbirth quality coordinators were selected at each facility. Coaches visited facilities to help identify and solve barriers related to use of the checklist, and coach team leaders accompanied coaches on every other visit to help support communication and identification of resource gaps and solutions. During the trial, birth attendants adhered to 72.8% of the 18 childbirth practices in the intervention sites compared to 41.7% in the control sites at two months, and although this adherence diminished after the program ceased, it was still significantly higher in intervention facilities. However, there was no significant difference in maternal or perinatal outcomes between the two groups. The authors suggested that the conclusions from this trial were likely contextual. The practices within the Safe Childbirth Checklist all have substantial evidence of impact individually. However, even the increased level of

What it is

adherence observed in the intervention facilities may not have been sufficient to improve outcomes. The relevance of these findings for implementation of tool-based interventions are twofold. First, increasing adherence to practices through the use of tools may be more effective when implemented in tandem with facility-based coaching. Second, increased adherence to safe or health-promoting practices may not be sufficient to improve health outcomes; it is important to explore contextual factors such as social determinants and health promoting behavior outside of the facility. It is also important that health care workers have a sufficient level of base training knowledge and skills practices before such tools are implemented.

What others have done

How to get started

How to succeed

## MOBILE-BASED DECISION-MAKING TOOLS - TANZANIA

D-tree International has developed mobile-based decision-making tools for use in low and middle-income countries for a variety of health services including maternal health, child health, chronic and infectious diseases, and health systems strengthening. D-tree was initially tested for effectiveness in Tanzania. (43) A partnership between FHI 360, Pathfinder International, and D-tree International in collaboration with the Tanzanian Ministry of Health and Social Welfare initiated a mobile job aid intervention for improved contraceptive counseling in Tanzania in 2011. Prior to implementation, community health workers (CHWs) used paper forms and flip charts for contraceptive counseling in communities. This was physically challenging and led to unnecessarily long data collection and transfer. The mobile job aid included three components: 1) a decision-support tool for CHWs to use during counseling, screening, and referrals; 2) electronic data collection to record services and referrals, and 3) a SMS tool to record and send CHW status reports and remind CHWs of follow-ups. While the use of this job aid was shown to be feasible, patient use of contraceptives was still dependent on the CHW's knowledge, patient readiness, and availability of methods, suggesting that a job aid can provide the most utility when paired with effective training and inputs.

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What others  
have doneHow to get  
startedHow to  
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## WHAT QUESTIONS SHOULD BE CONSIDERED TO BEGIN IMPROVEMENTS?

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

### ARE PROVIDERS EQUIPPED WITH THE NECESSARY TRAINING, DRUGS, AND SUPPLIES TO BE EFFECTIVE?

Inputs such as drugs, equipment, and infrastructure are important dependencies to improve provider competence. Without access to these necessary inputs, providers may not be able to effectively apply technical skills. Thus, it is important for managers to understand if the root cause of poor quality is skills-based or due to insufficient infrastructural support.

### ARE HEALTH PROVIDERS RESPONSIVE TO THE POPULATION AND INDIVIDUAL NEEDS? DO PATIENTS FEEL THEY RECEIVE HIGH-QUALITY CARE?

Experiential quality of care should be assessed from the perspective of patients. Regardless of technical quality, if patients do not believe they are receiving high-quality care or if they are not treated with respect, they may not return for follow ups, adhere to recommendations, or seek care for subsequent preventive or curative needs. Therefore, consulting with the community and understanding their concerns can help guide provider training and changes in service delivery. More information on experiential quality of care is discussed within [patient-provider respect and trust](#) which is one component of experiential quality.

### HOW IS HEALTH PROFESSIONAL EDUCATION AND TRAINING STRUCTURED? IS IT FINANCIALLY ACCESSIBLE? HOW IS THE CURRICULUM PLANNED AND REVISED, WHAT IS THE ACCREDITATION SYSTEM, AND WHAT KIND OF FOCUS IS GIVEN TO PRIMARY CARE?

Pre-service medical education is the first point when providers will receive training related to technical quality of care. When planning interventions related to pre-service and in-service training, it is important to understand the baseline medical curriculum and what emphasis is given to comprehensive primary care provision. Additionally, it is important that medical education is widely accessible, particularly to rural and poor populations. This can also improve provider availability in underserved areas.

### WHAT IN-SERVICE TRAINING DO PROVIDERS RECEIVE? IS IT PAIRED WITH SUPERVISION OR MENTORING? DOES IT TAKE PLACE IN FACILITIES?

In-service training can take many different forms and has been found to be most effective when paired with supervision and mentoring.<sup>(21)</sup> Additionally, while many trainings particularly for vertical programs may take place off site, it is important to integrate training, supervision, and mentoring into facilities where providers work to promote uptake of skills.

### WHAT KIND OF SUPERVISION DO PROVIDERS RECEIVE? HOW OFTEN DOES IT OCCUR AND WHAT IS THE QUALITY OF THE FEEDBACK? IS IT MOSTLY PUNITIVE OR IS IT LINKED WITH PROBLEM SOLVING AND SKILL BUILDING?

There are many different forms of supervision ranging from purely punitive to supportive supervision characterized by joint problem solving and forming strong, trusting relationships. Supportive supervision has been found to be the most effective form of supervision and focuses on joint problem solving,



What it is

longitudinal relationships between providers and supervisors, and linkages to appropriate training or professional development opportunities. (18)

What others  
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**BASED ON INFORMATION SYSTEMS AND CONNECTIVITY, WHAT TOOLS COULD BE USED IN A GIVEN CONTEXT? ARE MOBILE-BASED APPLICATIONS OR TELECOMMUNICATION INTERVENTIONS FEASIBLE?**

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Competency could be promoted through mobile-based interventions, but these require adequate infrastructure and training. Understanding the baseline access to such infrastructure and the opportunities for integrating them into facilities can help stakeholders assess what interventions are feasible.

What it is

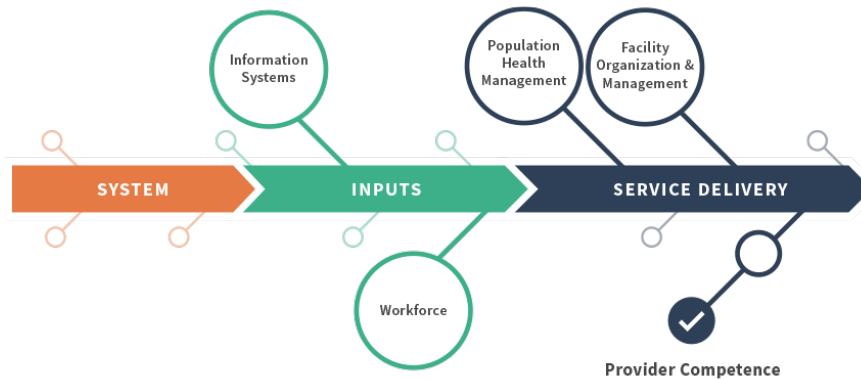
What others have done

How to get started

How to succeed

## WHAT ELEMENTS SHOULD BE IN PLACE TO SUPPORT EFFECTIVE IMPROVEMENTS?

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



### WORKFORCE & PROVIDER AVAILABILITY

In order to improve the technical quality of providers and the experiential quality of care as perceived by patients, healthcare providers must be available in sufficient quantities to meet population health needs. The presence of a well-trained and equitably distributed workforce is only one component of ensuring an adequate supply of providers. They must also be present in facilities when they are expected and have sufficient time to see patients. Additionally, it is important to ensure that there is adequate time built into their schedules to receive relevant training or work on improvement with supervisors.

### INFORMATION SYSTEMS

Certain strategies for improving provider competence rely on strong information systems and communication technology. Some of these strategies include: distance provider, mobile-based job aids, training apps, peer-learning platforms, and online evidence-based clinical resources. Thus, in order to implement these strategies, there must be functional and reliable information systems in place, and providers must be adequately trained to use them.

### COMMUNITY ENGAGEMENT

Communities should be consulted to understand what experiential quality competencies they value and how changes in their interactions with providers may help facilitate greater adherence, follow-up, or general health seeking behaviors. These lessons can be integrated into ongoing supervision and trainings.

### TEAM-BASED CARE ORGANIZATION

The establishment of multidisciplinary teams paired with thoughtful and appropriate delegation between team members can ensure that each provider is delivering care consistent with his or her training and within the scope of practice. Additionally, thoughtful delegation of tasks between team members and effective team communication may help create time in a provider's day to focus on improving technical skills through in-service training.

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## C1.A LOCAL PRIORITY SETTING

What others have done

Understanding the local burden of disease, health needs of communities, and socio-cultural practices can help facility leaders and managers better understand the technical skills they need to build within a facility. For instance, if there is a growing burden of non-communicable diseases within the facility's panel, leaders and managers should focus on improving provider competence to identify and manage these diseases through in-service training and continuing professional development.

How to get started

How to succeed

## C2.B FACILITY MANAGEMENT/LEADERSHIP

Facility managers should be champions for ensuring that providers are receiving relevant training and supervision and have the necessary infrastructure, supplies, and equipment to carry out their responsibilities. Effective managers should create protected time for providers to receive training while also ensuring that patients can access available providers, plan ongoing supportive supervision, and conduct robust observational reviews of providers to bolster both technical and experiential quality of care and identify gaps.

## C2.D PERFORMANCE MEASUREMENT AND MANAGEMENT

In order for facility managers to understand the training needs of providers, there should be performance measurement and management system in place to track provider performance. Methods for instituting performance measurement and management are discussed in greater detail in the Facility Organization and Management Improvement Strategies package.

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## REFERENCES - AVAILABILITY OF EFFECTIVE PHC SERVICES: PROVIDER COMPETENCE

1. Kak N, Burkhalter B, Cooper M-A. Measuring the Competence of Healthcare Providers. *Qual Assur*. 2000;2(1):1-28.
2. Franco LM, Bennett S, Kanfer R. Health sector reform and public sector health worker motivation: a conceptual framework. *Soc Sci Med*. 2002 Apr;54(8):1255-66.
3. WHO. WHO | Patient safety [Internet]. [cited 2019 Oct 25]. Available from: <https://www.who.int/patientsafety/en/>
4. Cometto G, Witter S. Tackling health workforce challenges to universal health coverage: setting targets and measuring progress. *Bull World Health Organ*. 2013 Nov 1;91(11):881-5.
5. World Health Organization. Global strategy on human resources for health: Workforce 2030. 2016;
6. The Economist. In poor countries, it’s easier than ever to see a medic. *The Economist*. 2017;
7. Frenk J, Chen L, Bhutta ZA, Cohen J, Crisp N, Evans T, et al. [Health professionals for a new century: transforming education to strengthen health systems in an interdependent world]. *Rev Peru Med Exp Salud Publica*. 2011 Jun;28(2):337-41.
8. Fazio SB, Demasi M, Farren E, Frankl S, Gottlieb B, Hoy J, et al. Blueprint for an undergraduate primary care curriculum. *Acad Med*. 2016;91(12):1628-37.
9. WONCA. WONCA Global Standards for Post Graduate Medicine Education. WONCA; 2013.
10. Lassi ZS, Cometto G, Huicho L, Bhutta ZA. Quality of care provided by mid-level health workers: systematic review and meta-analysis. *Bull World Health Organ*. 2013 Nov 1;91(11):824-833I.
11. McPake B, Edoka I, Witter S, Kielmann K, Taegtmeier M, Dieleman M, et al. Cost-effectiveness of community-based practitioner programmes in Ethiopia, Indonesia and Kenya. *Bull World Health Organ*. 2015 Sep 1;93(9):631-639A.
12. Campbell J, Admasu K, Soucat A, Tlou S. Maximizing the impact of community-based practitioners in the quest for universal health coverage. *Bull World Health Organ*. 2015 Sep 1;93(9):590-590A.
13. Ballard M, Schwarz R, Johnson A, Church S, Palazuelos D, McCormick L, et al. Practitioner Expertise to Optimize Community Health Systems. 2017;
14. Pérez-Cuevas R, Reyes H, Guiscafré H, Juárez-Díaz N, Oviedo M, Flores S, et al. The primary care clinic as a setting for continuing medical education: program description. *CMAJ*. 2000 Nov 14;163(10):1295-9.
15. Sriharan A, Harris J, Davis D, Clarke M. Global Health Partnerships for Continuing Medical Education: Lessons from Successful Partnerships. *Health Systems & Reform*. 2016 Jul 2;2(3):241-53.
16. Bosch-Capblanch X, Liaqat S, Garner P. Managerial supervision to improve primary health care in low- and middle-income countries. *Cochrane Database Syst Rev*. 2011 Sep 7;(9):CD006413.
17. Vasan A, Mabey DC, Chaudhri S, Brown Epstein H-A, Lawn SD. Support and performance improvement for primary health care workers in low- and middle-income countries: a scoping review of intervention design and methods. *Health Policy Plan*. 2017 Apr 1;32(3):437-52.
18. Bailey C, Blake C, Schriver M, Cubaka VK, Thomas T, Martin Hilber A. A systematic review of supportive supervision as a strategy to improve primary healthcare services in Sub-Saharan Africa. *Int J Gynaecol Obstet*. 2016 Jan;132(1):117-25.
19. Rowe AK, Labadie G, Jackson D, Vivas-Torrealba C, Simon J. Improving health worker performance: an ongoing challenge for meeting the sustainable development goals. *BMJ*. 2018 Jul 30;362:k2813.

## AVAILABILITY OF EFFECTIVE PHC SERVICES > REFERENCES

20. Guidelines for Implementing Supportive Supervision: A step-by-step guide with tools to support immunization. 2003;
21. Manzi A, Hirschhorn LR, Sherr K, Chirwa C, Baynes C, Awoonor-Williams JK, et al. Mentorship and coaching to support strengthening healthcare systems: lessons learned across the five Population Health Implementation and Training partnership projects in sub-Saharan Africa. *BMC Health Serv Res*. 2017 Dec 21;17(Suppl 3):831.
22. Manzi A, Kirk C, Hirschhorn LR, Goldsmith J, Magge H, Gupta N, et al. Implementation guide.
23. Baiden F, Owusu-Agyei S, Bawah J, Bruce J, Tivura M, Delmini R, et al. An evaluation of the clinical assessments of under-five febrile children presenting to primary health facilities in rural Ghana. *PLoS ONE*. 2011 Dec 13;6(12):e28944.
24. Gera T, Shah D, Garner P, Richardson M, Hs S. Integrated management of childhood illness ( IMCI ) strategy for children under five ( Review ) SUMMARY OF FINDINGS FOR THE MAIN COMPARISON. 2016;(6).
25. Fairall L, Bateman E, Cornick R, Faris G, Timmerman V, Folb N, et al. Innovating to improve primary care in less developed countries: towards a global model. *BMJ Innov*. 2015 Oct;1(4):196-203.
26. Semrau KEA, Hirschhorn LR, Marx Delaney M, Singh VP, Saurastri R, Sharma N, et al. Outcomes of a Coaching-Based WHO Safe Childbirth Checklist Program in India. *N Engl J Med*. 2017 Dec 14;377(24):2313-24.
27. Project ECHO: Our Story. 2017 [cited 2017 Aug 23]; Available from: <https://echo.unm.edu/about-echo/our-story/>
28. Hostetter M, Klein S, Mccarthy D. Project ECHO's Complex Care Initiative: Building Capacity to Help "Superutilizers" in Underserved Communities. 2016;22.
29. Gottlieb K. The Nuka System of Care: improving health through ownership and relationships. *Int J Circumpolar Health*. 2013 Aug 5;72.
30. Better Evidence. Better Evidence | Ariadne Labs [Internet]. [cited 2019 Oct 3]. Available from: <https://www.ariadnelabs.org/better-evidence/>
31. Weintraub R, Valtis Y, Bonis P. An Online Medical Database Is Reducing Diagnostic Errors. *Harvard Business Review*. 2015 Oct 27;
32. Isaac T, Zheng J, Jha A. Use of UpToDate and outcomes in US hospitals. *J Hosp Med*. 2012 Feb;7(2):85-90.
33. Valtis YK, Rosenberg J, Bhandari S, Wachter K, Teichman M, Beauvais S, et al. Evidence-based medicine for all: what we can learn from a programme providing free access to an online clinical resource to health workers in resource-limited settings. *BMJ Glob Health*. 2016 Apr;1(1):e000041.
34. Valtis YK, Rosenberg JD, Wachter K, Kisenge R, Mashili F, Chande Mallya R, et al. Better evidence: prospective cohort study assessing the utility of an evidence-based clinical resource at the University of Rwanda. *BMJ Open*. 2019 Aug 8;9(8):e026947.
35. Gawande A. Sharing Slow Ideas | The New Yorker [Internet]. *The New Yorker*. 2013 [cited 2019 Oct 2]. Available from: <https://www.newyorker.com/magazine/2013/07/29/slow-ideas>
36. Manning A, Schaaf M. Disrespect and Abuse in Childbirth and Respectful Maternity Care. 2015;1-6.
37. Javanparast S, Baum F, Labonte R, Sanders D, Rajabi Z, Heidari G. The experience of community health workers training in Iran: a qualitative study. *BMC Health Serv Res*. 2012 Aug 31;12:291.
38. Primary Health Care Performance Initiative. Estonia: Establishing family medicine as a specialty to strengthen primary health care. 2015 Sep;
39. Atun R, Gurol-Urganci I, Hone T, Pell L, Stokes J, Habicht T, et al. Shifting chronic disease management from hospitals to primary care in Estonian health system: analysis of national panel data. *J Glob Health*. 2016 Dec;6(2):020701.
40. Das J, Chowdhury A, Hussam R, Banerjee AV. The impact of training informal health care providers in India: A randomized controlled trial. *Science*. 2016 Oct 7;354(6308).
41. Manzi A, Magge H, Hedt-Gauthier BL, Michaelis AP, Cyamatare FR, Nyirazinyoye L, et al. Clinical

## AVAILABILITY OF EFFECTIVE PHC SERVICES > REFERENCES

- mentorship to improve pediatric quality of care at the health centers in rural Rwanda: a qualitative study of perceptions and acceptability of health care workers. *BMC Health Serv Res.* 2014 Jun 20;14:275.
42. Magge H, Anatole M, Cyamatare FR, Mezzacappa C, Nkikabahizi F, Niyonzima S, et al. Mentoring and quality improvement strengthen integrated management of childhood illness implementation in rural Rwanda. *Arch Dis Child.* 2015 Jun;100(6):565-70.
  43. Agarwal S, Lasway C, L'Engle K, Homan R, Layer E, Ollis S, et al. Family planning counseling in your pocket: A mobile job aid for community health workers in Tanzania. *Glob Health Sci Pract.* 2016 Jun 20;4(2):300-10.