IMPROVING THE ACCESSIBILITY OF FRONTLINE SERVICES...
FOR QUALITY CARE AMIDST INFRASTRUCTURE AND RESOURCE CONSTRAINTS

THE CHALLENGE

In low- and middle-income countries, distance and cost can keep people in rural communities from seeking and receiving care—even from the frontline health system. Even where public health facilities exist, these barriers—paired with (often justified) perceptions that the care available is low quality—can lead to extremely low use of available services, despite high need. Together, these forces create systemic gaps in essential health service coverage. To effectively engage rural communities in essential primary care, frontline health systems must develop innovative, locally-appropriate, and cost-effective approaches to staffing, logistics, and financing that overcome entrenched barriers to care.

PUBLIC HEALTH FACILITIES ARE FEW AND FAR BETWEEN

By their very nature, rural areas are sparsely populated; families may need to travel long distances to reach the nearest government services, including public health facilities. In rural Ghana, for example, the trip to the nearest health facility often more than 20 kilometers across poor terrain; as a result, families only use health centers in dire emergencies, foregoing preventative services and potentially delaying treatment for acute episodes. In Niger, where most transportation takes place on foot, less than a quarter of the population lives within a one-hour walk of the nearest health facility during the rainy season—and children who live outside the one-hour radius are roughly half as likely to be fully vaccinated as children who live within in it. The journey to a distant health facility can be costly for individuals who may need to pay for transport and take time away from work and household duties. And even where facilities exist, they may not be consistently staffed with qualified health personnel given absenteeism and persistent health workforce shortages in low-income, rural areas (see Brief 15a).
Frontline Facilities Are Underutilized and Unproductive

In the popular imagination, rural health posts are crowded and chaotic, with just a few staff members serving huge numbers of needy patients who have come for care. In reality, patient caseloads in primary care facilities are often extremely low: 5.2 outpatient visits per day per provider in Togo, 6 in Uganda, and 7.3 in Tanzania, for example. In Nigeria, the average health worker sees just 2.8 patients per day, spends 11 minutes with each patient during his or her visit, and is unable to correctly diagnose a common condition (pneumonia) or manage maternal and neonatal complications.

Financial Barriers Deter the Poor and Marginalized from Seeking Entering Care

While rates of extreme poverty have dropped dramatically since 1990, hundreds of millions of people still live on less than $1.90 a day. The specter of financial ruin can keep families and individuals away from needed care. Every year, out-of-pocket expenditures on health care push about 100 million people into extreme poverty. Even during an emergency, financial considerations can prevent pregnant woman from seeking facility-based delivery services.

THE PATH FORWARD: TOWARD ACCESSIBLE CARE FOR ALL

Extending Care Beyond Static Facilities

Creative staffing models can help extend care into remote rural communities and proactively engage families in health-improving behavior—but efforts to date have yielded mixed results at best (see Brief 7a). Many countries have deployed lay community health workers (CHWs) into rural communities. Common CHW engagement strategies have included home visits, patient tracing, individual needs assessment for special populations, role modelling, and accompanying patients to health care appointments.

Top Interventions

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Evidence Strength</th>
<th>Research Findings</th>
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<tbody>
<tr>
<td>Community health workers</td>
<td>Moderate</td>
<td>Mixed</td>
</tr>
<tr>
<td>Self-testing for HIV</td>
<td>High</td>
<td>Positive</td>
</tr>
<tr>
<td>Self-testing for HPV</td>
<td>Moderate</td>
<td>Positive</td>
</tr>
<tr>
<td>Drone deliveries</td>
<td>Low</td>
<td>Mixed</td>
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<tr>
<td>Conditional cash transfers</td>
<td>High</td>
<td>Positive</td>
</tr>
<tr>
<td>Vouchers</td>
<td>High</td>
<td>Positive</td>
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Small-scale studies have offered cause for optimism, but evaluations of large-scale CHW programs reveal uneven effectiveness and many implementation problems. Evidence concerning the more successful programs suggests potential positive effects on use of family planning services, access to maternal health interventions, and the deployment of child survival strategies, among others. Historically, CHW programs have been largely ad hoc; the focus on volunteerism, particularly among poor rural women, has likewise led some to
characterize the initiatives as exploitative and reinforcing local gender norms.\textsuperscript{xix} Formalizing and professionalizing the work of CHWs (as in Ethiopia and Iran), paired with integrating CHWs into a broader care team (as in Brazil and Costa Rica; see Brief 7a), can help increase the legitimacy and effectiveness of CHWs and address common criticisms. Examples of other programs designed to bridge the geographic distance to care include the home-based midwifery program in Indonesia and Ghana’s nurse-led Community-based Health Planning and Services (CHPS), both which have been associated with some improvements in access to maternal and child care services.\textsuperscript{xiii} Given mixed historical results, the potentially high cost of training and maintaining a large and novel salaried cohort, and pervasive challenges in maintaining effectiveness at scale, all such programs should be rigorously evaluated if introduced.

**Technological Innovation for “Off the Grid” Care**

Beyond novel staffing strategies, technological innovation can also facilitate community or patient-led entry into care—sometimes without direct involvement from health workers. Self-testing, for example, offers promise in settings with few qualified health personnel, since it transfers a layer of work from the health care provider to the patient and can help surmount socio-cultural barriers to the uptake of certain sensitive procedures. HIV self-testing (discussed further in Brief 6b) is now well-established, and self-testing for cervical cancer screening has been piloted in several African countries; a systematic review finds that self-testing for HPV (human papillomavirus) is cost-effective when it expands coverage to otherwise unserved populations.\textsuperscript{xiv} Drone deliveries for certain medical products are likewise much-hyped and are increasingly used in health systems logistics systems, particularly in East Africa; while modelling suggests potential benefits and cost-effectiveness under some conditions, there is still limited empirical evidence to support drone-based delivery models (see Spotlight).

**Toward Affordability at the Frontline**

Financial barriers often deter people from seeking care. In the long-run, affordable front-line services are best delivered through a comprehensive health financing strategy that mobilizes resources and pools them mobilization; creates a locally-appropriate and affordable prioritized package of health care services; and uses sustainable models to pay providers that improve incentives while also lowering or eliminating out-of-pocket expenditure all these measures should be considered in far greater depth as core elements of health system reform (see Topics 9, 12, and 13).

Where national-scale universal health coverage or national health insurance is underdeveloped—or where transport and opportunity costs prevent families from accessing even services offered with zero direct user fees—conditional cash transfers and vouchers can help improve uptake of specific health services within targeted populations. Conditional cash-transfer programs, which offer payments to eligible beneficiaries when they meet pre-specified conditions, are among the best evaluated health-enhancing programs within lower- and middle-income countries (LMICs). Systematic reviews show an enormous range of health and access benefits even when the conditions are not specifically health-related—from increased contraceptive uptake\textsuperscript{xv} to maternal health care,\textsuperscript{xvi} dietary diversity,\textsuperscript{xvi} reduced sexual risk behavior,\textsuperscript{xviii} and better preventative and curative care.\textsuperscript{xix} Voucher programs likewise offer individuals free or subsidized vouchers for a specific health service, often accessible from a range of networked private providers. These programs have been widely...
used to improve access to family planning services, with extensive literature mostly supporting their effectiveness at increasing contraceptive uptake. Systematic reviews also find moderate to strong evidence that vouchers can improve uptake of antenatal care, skilled birth attendance, facility births, and postnatal care.

**SPOTLIGHT**

**Drones**

- In remote areas of LMICs, unmanned aerial vehicles—UAVs or “drones”—have emerged as a potential strategy to improve the reach and timeliness of medical deliveries. The technology is growing quickly in East Africa, with national scale-up in Rwanda and Tanzania of drone-based blood deliveries; empirical evidence for their impact is still limited, but drone operators report cutting typical blood delivery times from hours to under 30 minutes. Early modelling studies from LMICs suggest that UAVs can be cost-effective or cost-saving for certain use cases; *cost-effectiveness typically increases with scale and density of in-range health facilities, as capital costs are amortized over a larger number of deliveries.* In Mozambique, for example, modelling finds that universal adoption of drones for routine vaccine delivery could increase vaccine availability and decrease logistics costs by about 20% compared to land-based transport networks; savings on fuel, personnel costs, time, and road vehicle wear-and-tear can sometimes help offset the increased cost of the technology.

However, the limited weight and distance capacity of drones, combined with their cost, may limit their routine use. Multi-scenario modelling in Malawi finds that drones were only cost saving for one of four simulated scenarios (hub-and-spoke delivery models with a single product), though the modelling did not consider health or system-level benefits from faster delivery times. *Given the current costs of drone deliveries, they appear most appropriate for products with relatively infrequent but extremely urgent usage;* that is, products that are not typically stocked in local health facilities but are needed immediately during emergencies. Products falling into this category include blood supplies, anti-snake venom, and rabies post-exposure prophylaxis.

**Long-Term Thinking: Using Vouchers to Increase the Accessibility of Long-Acting Contraception**

- In 2011, Marie Stopes Uganda introduced a voucher program to make long-acting contraceptive methods more financially accessible to poor Ugandan women. Poor women would learn about the availability of vouchers through community meetings, advertisements on radio dramas, and direct outreach; they could then purchase the vouchers for roughly $1 from local distributors after verifying their eligibility through a household assets questionnaire. With the voucher in hand, the women could visit any of 400 partner facilities across Uganda to receive family planning counselling and a method of their choice, plus coverage for any follow-up services (e.g. removal of the contraceptive device). Marie Stopes trained and qualified eligible providers; oversaw voucher...
distribution; and reimbursed the providers for the full cost of the service, effectively subsidizing care for participating women. xxvii

Over a 4-year period, Marie Stopes Uganda provided over 330,000 women with contraceptive services through this program, helping increase the modern contraceptive prevalence rate by an estimated 1.4 percentage points. In 2014 alone, estimates suggest that the program averted over 200,000 unwanted pregnancies and 520 maternal deaths, and saved $14 million in direct health care costs. xxvii

ENDNOTES


Owusu-Addo, Renzaho, and Smith.

Owusu-Addo, Renzaho, and Smith.


Hunter et al., “The Effects of Cash Transfers and Vouchers on the Use and Quality of Maternity Care Services.”


Bellows et al.
REFERENCE


