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The  
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**CASE STUDY:  
BRAZIL'S FAMILY HEALTH STRATEGY**

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**Abstract:** At the core of Brazilian primary health care policy since 1994, the Family Health Strategy relies on community health workers (CHWs) to reach out to families within a local area, offering home visits and a deep understanding of the community. The program, which costs \$50 per person each year, has lessened the pressure on more-expensive care providers and led to significant improvements in clinical outcomes nationally—reducing hospitalizations and mortality and improving equity and access. A closer look at the Brazilian model, including its rapid scale-up and its effectiveness, may yield insights for health systems in the United States that are considering expanded use of CHWs, whether as part of the wider task-shifting movement in health care delivery or as a strategy for providing accountable care.

## **BACKGROUND**

Countries around the world, including the United States, are looking to reduce costly hospital care and increase capacity. In low- and middle-income countries, community health workers (CHWs) represent a tried, tested, and cost-effective approach for creating such capacity. Although as frontline public health workers they have a close understanding of their communities<sup>i</sup>—of which they are often members—CHWs have not been deployed to the same extent in high-income countries. As a low-level technical intervention, the greatest benefits to using CHWs are obtained through scaling, which requires coordinated, strategic change at regional or national levels.

This case study examines Brazil’s Family Health Strategy (FHS), which centers on the use of CHWs. It has been at the core of the country’s primary health care policy since 1994. Brazil, the fifth-largest country in both population and landmass and strikingly diverse,<sup>ii</sup> enjoyed rapid economic and social progress from 2003 to 2013, during which time 26 million people were lifted out of poverty. Although the Alma-Ata Declaration in 1978 and the 1988 constitution enshrined health care as a universal right in Brazil,<sup>iii</sup> there had been chronic dependence on secondary and tertiary care for meeting primary care needs. Primary care had become a devalued specialty.

### **WHAT IS THE FAMILY HEALTH STRATEGY AND HOW DOES IT WORK?**

Brazil’s Family Health Strategy started as a federal program in 1994. Today more than 265,000 CHWs serve nearly 67 percent of the population.<sup>iv</sup> The strategy targets prevention and basic health care provision through the deployment of multidisciplinary professional teams, usually consisting of a physician, a nurse, and about six CHWs. This core team may also be supported by a colocated dental team. Other professionals such as psychologists, community pharmacists, and physiotherapists rotate around a group of four to five health teams to provide additional community specialist care and support. Each core team is assigned a geographic area covering 3,000 to 4,000 people, with a maximum of 150 families per CHW.

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Teams are responsible for meeting a full portfolio of primary care needs for their neighborhoods: registering every family in the area; monitoring living conditions and health status; and providing primary care. Because CHWs are fully integrated in the team, any family problem is quickly referred to the right professional,<sup>v</sup> although CHWs are also able to resolve many low-level problems in the community. CHWs speak regularly with the nurse and physician, and their notes are discussed at team meetings and uploaded to the medical record when appropriate. CHWs spend part of their time at the clinic, helping to organize the waiting room and appointments, running health education sessions, and participating in team meetings. Each household receives at least one visit every month from a dedicated CHW, irrespective of need, allowing for the collection of census-quality data. While there is no patient choice, because teams do not overlap, no family who wants a visit is left out.

Overwhelmingly young and female (86% are female, and 83% are between 21 and 49 years old), CHWs are recruited from their own communities. While secondary education is usually a minimum requirement, CHWs come from all walks of life, and 67 percent have a professional diploma. Pay and benefits are set locally, although municipalities are funded nationally to pay CHWs the minimum wage. In richer areas, recruitment from within the community is more of a challenge than in poorer areas.

The CHW role is highly respected, because CHWs are often the stable and enduring presence in a family's experience with primary care. As a result, turnover is low. CHWs in dangerous areas report that their high social standing also accords them protection from violence. In addition, privileged access to local intelligence through CHWs helps protect health clinics from the effects of community tensions.

*"We register the whole family and log them onto our system—the registration is of the family, because we follow the family, as a whole. From there, we'll follow them, see what they need, not necessarily only from the health side of things, but also their education, mental health needs, even seeing what they like to do in their spare time."*

Community Health Worker, Rio de Janeiro

Delivering a structured care program in a busy health center is challenging. CHWs receive up to a month of initial training and additional informal, on-the-job training. CHWs can operate in the community without much supporting technology, although municipalities are increasingly seeing the benefits of equipping CHWs with mobile phones and tablet computers to enable real-time communication with the clinic and remote diagnoses. The extent to which CHWs have access to supporting technology depends on local needs and resources; a national program to deliver smartphones and tablets is in development.

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<b>Main Activities of a Community Health Worker</b>	
<p><b>Health</b></p> <ul style="list-style-type: none"> <li>• Support chronic disease management</li> <li>• Triage, for example anemia or dehydration</li> <li>• Social determinants</li> <li>• Disease-specific programs, for example, tuberculosis</li> <li>• Sexual health advice</li> <li>• Pre- and postnatal care, including breastfeeding</li> <li>• Child development</li> <li>• Screening</li> <li>• Supporting immunization programs</li> <li>• Health promotion advice</li> </ul>	<p><b>Administration</b></p> <ul style="list-style-type: none"> <li>• Education</li> <li>• Planning</li> <li>• Community liaison</li> <li>• Registration of families</li> <li>• Community development and engagement</li> <li>• Advice to families on navigating the system</li> <li>• Support with territory definition</li> <li>• Infectious disease monitoring</li> </ul>

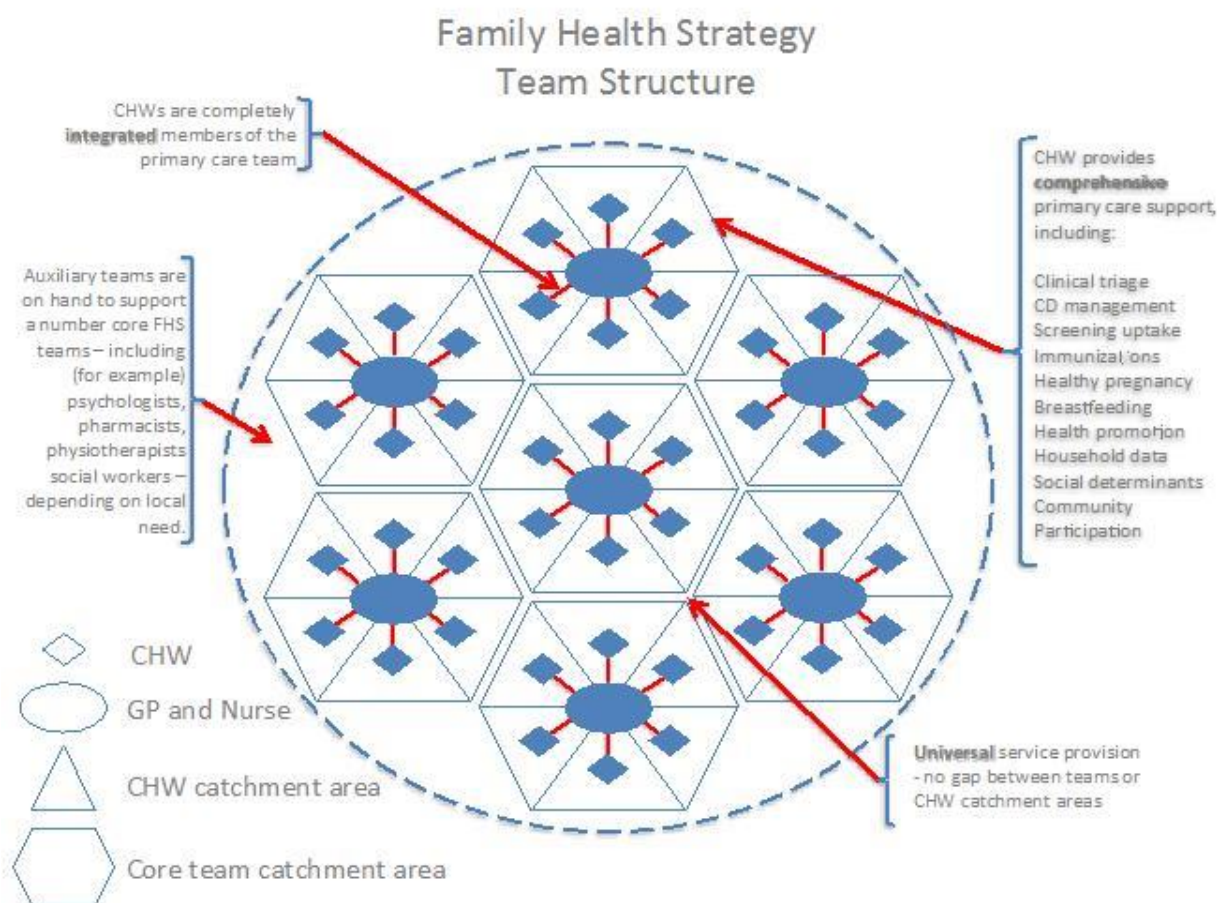
The Family Health Strategy is entirely publicly funded. The federal primary care budget has multiplied sixfold in the past 13 years. Just over half of the primary care budget is currently devoted to the FHS.

To help expand the program, municipalities only receive full payment for primary care if their service model aligns with the strategy. The program has demonstrated robust progress, scaling up across the country in a sustainable and steady fashion.

The FHS has been instrumental in reducing inequities in access to care.<sup>vi</sup> However, regional variations in health outcomes, infant mortality, and nutrition remain a problem, with the south of the country faring better than the north. Differing population needs and municipal resources mean scaling-up requires continuous local adaptation.<sup>vii</sup>

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**Figure 1. Structure of the Family Health Strategy Team**



### IMPLEMENTATION AND SCALE

The FHS took inspiration from local CHW initiatives in Brazil’s northeast, introduced to combat a cholera outbreak in the early 1990s. The program was piloted nationwide in 1994 and adopted as national policy in 2006 with support from the World Bank.<sup>viii</sup> Today 39,905 family health teams are active in 5,477 of Brazil’s 5,570 municipalities.<sup>ix</sup> Although the program did not formally target the poor, its expansion prioritized improved access for low-income and vulnerable groups. There is a strong level of community and patient involvement in policymaking and implementation at the federal, state, municipal, and local levels.

Steps to diffuse FHS nationally included:

- legislating a full working week for primary care doctors;
- enabling CHWs to be municipal employees with worker rights enshrined in law;
- expanding primary care residency programs;
- increasing federal primary care funding by 110 percent from 2010 to 2015;
- initiating the “More Doctors” program to recruit Brazilian and foreign doctors; and

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- working to better integrate health and education at the federal level.

The expansion of the FHS model has been a story of continuous adaptation and change. External factors, such as the shifting epidemiological profile of the country and advances in technology, have driven some changes. There has also been an organic learning process, as the strategy moved through initial pilots and early stages of implementation—for example, pay for performance has been introduced to drive up quality.

Future prospects include:

- expanding the model to the most remote areas;
- increasing trainee doctor involvement in primary care;
- mandating primary care residencies for trainee doctors;
- spreading the model to the middle and upper classes; and
- adapting the role of the CHW to the changing demographic needs of the population, with a stronger focus on chronic disease.

## **CHALLENGES**

**Maintaining an adequate supply of primary care doctors.** This continues to be one of the biggest challenges. There is a strong culture of specialization among medical students and doctors, with few choosing to become generalists. Legislation that increased the work week for primary care doctors and allowed entry of more than 13,000 doctors from Cuba and elsewhere has only been partly successful in meeting demand. In many areas, municipalities have used financial incentives to encourage more doctors to take up primary care, and there is now a much greater focus on attracting trainee doctors into primary care through residencies and recruitment campaigns. There is still a way to go before the primary care supply is well developed and sustainable.

**Expanding the program's reach beyond lower-income populations.** The fact that CHWs now serve two-thirds of the population is impressive. The main barrier to full coverage is the reliance on private health care by the middle and upper classes. It is arguable that further expansion of coverage may yield diminishing returns.

**Integrating electronic health records.** Many FHS teams report a poor relationship with secondary care providers. Part of the problem is the lack of integration of electronic patient records. Primary care professionals are unable to see secondary care records and vice versa. The FHS is notable for its ability to capture, in real time, significant volumes of data. However, these data are poorly utilized and not exploited to inform policy or the general public in a meaningful way. Data capture is often activity-based, with little focus on outcomes. Plans for integration and expansion of eHealth elements of the FHS are under way.

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Finally, it is perhaps most important to note that the FHS is not simply a product of national policy: facilitating the innovation were long-term social movements, strong political will, and career-long professional commitment from key individuals.

**EVIDENCE OF IMPACT**

The FHS marks a shift in the provision of basic health care in Brazil away from higher-cost hospitals and toward cheaper and more effective preventive care. Also new is the program's holistic approach that looks at many of the wider determinants of health. Several studies demonstrate that this innovation is a powerful tool for improving individual and population health outcomes. FHS coverage has been linked to:

- more accurate mortality statistics;<sup>x</sup>
- improvements in breastfeeding rates;<sup>xi</sup>
- a decrease in inequality and inequity in health care utilization;<sup>xii,xiii</sup>
- immunization uptake at almost 100 percent;<sup>xiv</sup> and
- greater reduction in avoidable hospitalizations for certain chronic diseases and other primary care-sensitive conditions.<sup>xv</sup>

Compared to families with neither FHS enrollment nor private health plans, adult FHS enrollees are more likely to have a usual source of care, to have visited a doctor or dentist in the past 12 months, to have access to medications, and to be satisfied with the care they receive. These effects are most significant for urban dwellers, females, and the very poorest.<sup>xvi,xvii</sup>

There has also been a reduction in mortality across age groups, as well as reduced fertility, improved school enrollment, and increased labor supply.<sup>xviii</sup> A statistically significant 4.5 percent decrease in the infant mortality rate, controlling for other determinants, is associated with a 10 percent increase in coverage.<sup>xix</sup>

Generally, patient satisfaction is very high, with 85 percent approval rates for CHWs.<sup>xx</sup> Of patients who access services regularly, 61 percent consider primary care units the best services offered by the public health system.<sup>xxi</sup>

Finally, at a cost of just \$50 per person per year, FHS is extremely cost-effective and helps lessen pressure on more-expensive hospital providers.<sup>xxii</sup>

**HOW CAN THE INNOVATION BE ADOPTED TO WORK IN THE UNITED STATES?  
The Need for CHWs with Brazil FHS Principles**

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The U.S. spends a higher percentage of gross domestic product on health than any other country, but its health coverage and outcomes do not reflect this.<sup>xxiii</sup> Innovative strategies that support improved patient experiences, outcomes, and reduced spending are needed.<sup>xxiv</sup>

The key component of the Family Health Strategy that could be adopted more broadly in the U.S. is the role of the CHW. Similar evidence of cost-effectiveness for CHW models exists in the U.S., and policies have been developed in the last 10 years to expand the role of these professionals. Continuing this momentum will be essential for adoption of the FHS model by regional health systems, particularly those serving large Medicaid and Medicare populations.

### **Three Core Challenges to Adoption**

The first challenge to adoption is regulation, which affects training and accreditation of CHWs. Training of CHWs in the U.S. should reflect the essential success factors of the FHS model in Brazil: universality, comprehensiveness, and integration. In addition, the recruitment process must identify individuals with an intimate knowledge of the community and the ability to build trust.

The second challenge is to ensure sustainable funding through appropriate payer reimbursement. Various reimbursement models have been discussed in light of studies to improve care for diabetes among Hispanics in the U.S.<sup>vii</sup> Pilot projects would be necessary to determine the health and financial impact of the new CHW role, especially within integrated care systems. Secondary and tertiary providers have the greatest potential to see gains, through reduced hospitalization and better chronic care management.

The third challenge is the integration of the new workforce with current care teams. In integrated settings, such as accountable care organizations (ACOs), the CHW role can provide an additional level of screening to prevent hospital admissions. In less integrated delivery systems, the role of CHWs may be to take on tasks currently performed by other members of the care team, such as nurses.

### **The Way Forward**

Political will and momentum are essential to the adoption of the FHS model. The Affordable Care Act galvanized federal efforts toward delivering integrated care that is centered on primary care medical homes. The law also recognized the value of CHWs in delivering both effective and cost-reducing care in these models, as supported by recent studies.<sup>xxv,xxvi</sup>

Moreover, the U.S. Department of Labor recommended a standard occupational classification of CHWs in 2009, which is the basis for a number of workers' rights and professional standards that are set by states. These ensure the role is full-time and paid. The involvement of professional associations such as the American Academy of Family Physicians and the American Public



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Health Association would provide a firmer foundation for wider use of CHWs. States with Medicare Pioneer ACOs that are primed to adopt CHWs could be an ideal place to pilot the FHS model.

**An Outline for Implementation: Who and Where**

Early implementation efforts, whether undertaken by ACOs or care consortia, should begin in states where formalized and approved curricula grant CHWs accredited status and where reimbursement arrangements are in place. Regions with relatively large low-income, disadvantaged populations are likely to reap the greatest benefit, given their levels of unmet need. Therefore, Pioneer ACOs taking the form of integrated delivery systems or multispecialty groups may be most appropriately configured to adopt the CHW role. The explicit inclusion of CHW roles in Medicaid health home programs in Maine, New York, Oregon, South Dakota, Washington, and Wisconsin<sup>xxvii</sup> indicates that these states may be primed for pilot efforts. Maine now pays CHWs through Beacon Health, which is a Pioneer ACO.

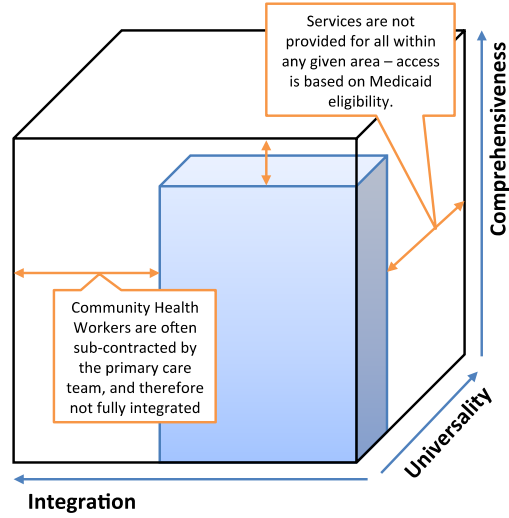
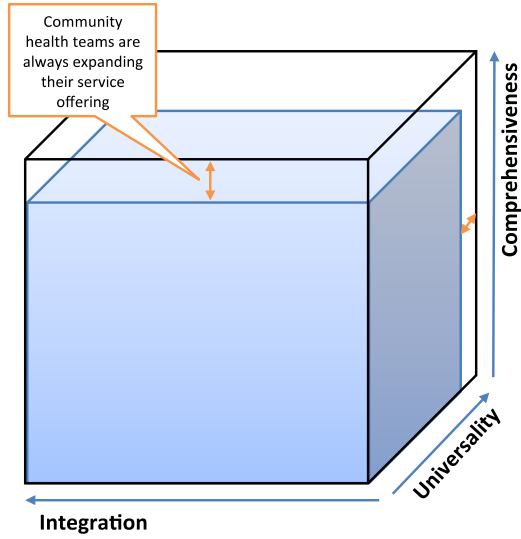
In the longer term, implementation and expansion will require robust evaluation. Demonstration of the economic value of CHWs has historically supported favorable reimbursement policy decisions; for example, Minnesota's legislature made provision for direct hourly reimbursement of CHWs under Medicaid in 2007 on the basis of budget impact modeling.

**Figure 2: How a CHW Model in the U.S. Compares to Brazil's Family Health Strategy on Universality, Integration, and Comprehensiveness**

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**Family Health Strategy in Brazil**

**Community Health Workers in Maine**



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**Greg Parston, Ph.D.**, is executive adviser to Professor the Lord Ara Darzi of Denham. He is responsible for leading global research on diffusion of health care innovation, use of behavioral simulations in policy making and citizen engagement in public policy debates. In 1989, he cofounded the Office for Public Management, an organizational development company that he led as chief executive, and later established Accenture's global Institute for Health & Public Service Value. Earlier in his career, Dr. Parston was deputy director of the King's Fund College and vice president of SUNY– Downstate Medical Center.

**Professor the Lord Ara Darzi of Denham** holds the Paul Hamlyn Chair of Surgery at Imperial College London, the Royal Marsden Hospital and the Institute of Cancer Research. He is director of the Institute of Global Health Innovation at Imperial College London and an honorary consultant surgeon at Imperial College Hospital NHS Trust. Research led by Professor Darzi is directed toward achieving best surgical practice through innovation in surgery and enhancing patient safety and the quality of health care through global health policy. His contribution within these research fields has been outstanding, publishing over 950 peer-reviewed research papers to date. In recognition of his achievements in the research and development of surgical technology and health care innovation, Professor Darzi has been elected as an Honorary Fellow of the Royal Academy of Engineering, a Fellow of the Academy of Medical Sciences and a Fellow of the Royal Society. In 2013 he was elected a foreign associate of the Institute of Medicine.

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**Notes**

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<sup>ii</sup> S. G. Philander. *Encyclopedia of Global Warming and Climate Change*, Second Edition (Princeton University, 2012).

<sup>iii</sup> Constituição da República Federativa do Brasil, 35º ed. 2012. Art. 196º e 197º.

<sup>iv</sup> Histórico de Cobertura da Saúde da Família, [http://dab.saude.gov.br/portaldab/historico\\_cobertura\\_sf.php](http://dab.saude.gov.br/portaldab/historico_cobertura_sf.php).

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Suggested financing mechanisms for sustainable employment for CHWs:

- reimbursable by public payers (e.g., Medicaid, Medicare, SCHIP) and private payers, including fee-for-service and managed care models
- reimbursable in specific domains (e.g., federally qualified health centers, community health centers)
- reimbursable to public health and to community-based organizations
- reimbursable on levels that are commensurate with a living wage

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