Importing What Works: A Territory-Based Community Health Worker Framework from Brazil's ESF for U.S. Federally Qualified Health Centers Serving Underserved Populations

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Abstract

Background: Approximately 92 million Americans reside in primary care Health Professional Shortage Areas, and preventable hospitalizations generate substantial avoidable inpatient costs. Federally Qualified Health Centers (FQHCs) serve as the federal safety-net response, yet their community health worker (CHW) integration models remain reactive, heterogeneous, and underfunded.

Objectives: This policy analysis examines Brazil's *Estrategia Saude da Familia* (ESF) and its CHW component, the *Agente Comunitario de Saude* (ACS), as an evidence-based operational model with adaptation potential for U.S. FQHCs. It identifies structural analogues between the two systems, discusses the financial logic of territory-based CHW deployment, and proposes a three-component adaptation framework.

Findings: Peer-reviewed evidence consistently links ESF expansion to reductions in hospitalizations for ambulatory care-sensitive conditions (Macinko et al., 2010; Bastos et al., 2017). The most rigorously evaluated U.S. CHW program documents a Medicaid return of USD 2.47 per dollar invested (Kangovi et al., 2020). Illustrative scenario projections for FQHC territory-based deployment are calibrated against the CDC-funded systematic review of U.S. CHW programs (Rashid et al., *The Lancet Regional Health – Americas,* 2026), which reports a national median ROI of USD 2.12 (IQR 1.64–4.03). The structural parallel between ESF teams and U.S. FQHC care teams appears closer than commonly recognized in the implementation science literature; the operational difference most amenable to adaptation is deployment logic rather than organizational design.

Conclusions: FQHCs in Texas and Florida, serving large Hispanic and immigrant populations in documented shortage areas, represent strategically plausible early implementation contexts. The author proposes a pilot design and invites collaboration from U.S.-based health organizations.

Keywords: community health workers; Family Health Strategy; FQHC; primary care access; health disparities; preventable hospitalization; Brazil-U.S. health policy; ACS; territory-based CHW deployment; social determinants of health; policy transfer; implementation science; territorial health

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1. Introduction

The United States allocates more resources to healthcare per capita than any peer nation, yet consistently ranks last among high-income countries on primary care access, health equity, and preventable mortality. The paradox is structural: a system designed around episodic, specialty-driven care generates costs that dwarf those of systems organized around proactive, community-based primary care. The consequence is measured in emergency department visits that should have been ambulatory consultations, hospitalizations that should have been managed in a clinic, and chronic disease complications that should have been intercepted in a home visit.

As of the most recent HRSA quarterly report, approximately 92.3 million Americans (27 percent of the U.S. population) reside in primary care Health Professional Shortage Areas (HPSAs), with 8,467 designated areas and 15,604 additional primary care practitioners required to meet the federal designation threshold (HRSA Bureau of Health Workforce, 2026). The National Center for Health Workforce Analysis projects a primary care physician shortage of 70,610 FTE positions by 2038 under current trends (HRSA NCHWA, 2025). The federal response has centered on Federally Qualified Health Centers, a network of over 1,400 organizations receiving Section 330 funding to provide care regardless of ability to pay. FQHCs served over 31 million patients in 2023, with 2024 HRSA data confirming subsequent growth to over 32.4 million, the highest patient volume in the program's 60-year history (HRSA, 2024; HRSA, 2025). Yet the gap between supply and need continues to widen, particularly in states with large Hispanic and immigrant populations such as Texas and Florida.

This paper argues that a significant portion of the solution already exists, documented across two decades of peer-reviewed literature, and that its operational translation to the

U.S. FQHC context remains underexplored. Brazil's *Estrategia Saude da Familia* (ESF), specifically its community health worker component the *Agente Comunitario de Saude* (ACS), represents the largest and most rigorously evaluated territory-based community health worker program in the world. Its operational logic, not its funding structure or political context, is operationally adaptable to the U.S. FQHC environment, subject to the institutional constraints discussed in Section 7.1.

The author writes from nine years of clinical practice in Family and Community Medicine within the *Sistema Unico de Saude* (SUS), including more than three years serving as Technical Reference Physician for primary care delivery in a mid-sized Brazilian municipality, with concurrent executive oversight of 77 physicians across 21 primary care units serving 100,000 or more patients monthly. This operational experience, combined with a systematic review of published evidence on both the ESF and U.S. CHW programs, informs the adaptation framework proposed in Section 5. The argument is empirical and applied: the mechanisms are documented, the evidence base is substantial and directionally consistent, and the population fit in Texas and Florida is well-documented. The implementation science literature has given comparatively limited systematic attention to operational bridges between the ESF evidence base and FQHC implementation practice.

1.1 Methodological Positioning

This paper is a comparative policy analysis and operational adaptation framework. It is not an empirical evaluation, a systematic review with formal meta-analytic synthesis, or a clinical trial. The methodological approach combines three elements: structured review of published peer-reviewed evidence on the ESF/ACS model and U.S. CHW programs; structural comparison of organizational and operational features between Brazilian Family Health Teams and U.S. FQHC care teams; and illustrative scenario projection using published per-patient cost-benefit data applied to feasible FQHC territory configurations. The framework proposed in Section 5 should be understood as a structured design hypothesis intended to inform future pilot evaluation, not as validated evidence of effectiveness in U.S. settings. Causal claims about the ESF mechanism are reported as associations consistent with the published literature; their transferability to the FQHC context is argued on structural grounds and requires empirical testing.

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2. The U.S. Primary Care Access Deficit: Scale, Cost, and Population

2.1 Shortage Areas and Structural Gaps

HRSA's Health Center Program data documents over 31 million patients served across approximately 15,000 FQHC service delivery sites in 2023 (HRSA, 2024). Despite this scale, 62% of FQHC patients live at or below 100% of the federal poverty level, and nearly one in five are uninsured. The FQHC network represents the de facto primary care system for populations that the private market will not profitably serve, yet its per-patient federal funding has declined in real terms: between 2015 and 2021, inflation-adjusted federal funding fell 9.3% while the number of patients grew 24%, producing a 27% decline in real per-patient funding (National Association of Community Health Centers, 2023).

The consequence is measured in hospitalizations. The Agency for Healthcare Research and Quality (AHRQ) defines preventable hospitalizations as admissions for ambulatory care-sensitive conditions (ACSCs) such as diabetes complications, hypertension, congestive heart failure, and asthma, and treats their frequency as a direct indicator of primary care system failure. These conditions, manageable through consistent community-based monitoring, generate avoidable annual inpatient costs estimated at over USD 30 billion in the United States, based on AHRQ Healthcare Cost and Utilization Project data. The average cost of an ACSC hospitalization ranges from USD 11,200 to USD 15,800 per episode, compared to an estimated USD 200 to USD 400 for the ambulatory interventions that could prevent it (AHRQ, 2024).

2.2 Texas and Florida: The Priority Markets

Texas FQHCs served approximately 2.1 million patients in 2023. Harris County (Houston) alone recorded over 400,000 FQHC patient visits, against a Hispanic population exceeding 43% of county residents and a documented primary care shortage affecting over 1.2 million residents. Bexar County (San Antonio) presents a comparable profile. Florida FQHCs served 1.8 million patients, with Miami-Dade County, where the foreign-born population reaches approximately 57%, and Hillsborough County (Tampa) representing the highest FQHC utilization volumes.

These populations share three characteristics that define the structural challenge and the opportunity simultaneously: high rates of chronic conditions poorly managed in episodic care settings; significant linguistic and cultural barriers to navigating health systems designed for English-speaking patients; and deep social determinants of health, including food insecurity, housing instability, and documentation status, that no clinical intervention alone can address. These are precisely the conditions for which community health workers embedded in geographic territories, not caseloads, produce the most measurable returns.

2.3 The CHW Deployment Gap in U.S. FQHCs

Community health workers are not absent from U.S. FQHCs. They are deployed suboptimally. The dominant U.S. model assigns CHWs reactively: a high-utilization patient is identified through claims data or a care manager referral, and a CHW is assigned to manage that patient's barriers to adherence. This is caseload management, not population-level health monitoring. It captures patients already in crisis. It does not prevent the crisis.

The difference is not a matter of resources but of deployment logic. The most rigorously evaluated U.S. CHW program, the IMPaCT model developed at the University of Pennsylvania and tested across multiple randomized controlled trials, documented significant reductions in hospitalizations and emergency department visits among Medicaid beneficiaries, with estimated annual Medicaid savings of USD 4,200 per enrolled patient and an aggregate return of USD 2.47 per dollar invested (Kangovi et al., 2020). As demonstrated in Section 5, scenario modeling for territory-based CHW deployment in FQHC settings projects returns in the 7.6:1 to 19.0:1 range, contingent on territory composition and chronic disease prevalence. Yet CHW programs with proactive outreach mandates remain exceptions rather than standard practice. As of 2024, just over half of state Medicaid programs covered CHW services through State Plan Amendments, and neither Texas nor Florida was among the leading states in CHW reimbursement policy.

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3. The ESF/ACS Model: Evidence Base and Operational Logic

3.1 Origins and Scale

Brazil's Family Health Strategy, established nationally in 1994 and reorganized as a strategic priority through the early 2000s, currently covers approximately 68% of Brazil's population of 215 million through 45,000 Family Health Teams. Each team comprises a physician, nurse, nursing technician, and four to six *Agentes Comunitarios de Saude*. As of 2024, approximately 260,000 ACS are active nationwide, constituting one of the largest nationally coordinated community-based health workforces identified in the published global health literature.

The foundational operational principle is geographic assignment. Each ACS is responsible for monitoring between 400 and 750 families within a defined micro-territory. The ACS does not manage a caseload of flagged patients. The ACS monitors a territory: conducting monthly home visits to all enrolled families, tracking vaccination schedules, following chronic disease patients between physician appointments, identifying social vulnerability indicators, and serving as the real-time community-based monitoring node for communicable disease events. The ACS lives in the territory they serve. This residential embeddedness appears to be a core operational mechanism rather than an incidental feature, though the precise contribution of this component versus other elements of the model has not been empirically isolated.

3.2 Published Evidence on Health Outcomes

The evidence base for the ESF/ACS model is predominantly observational and quasi-experimental in design, reflecting the impossibility of randomizing a nationally implemented universal primary care system; causal interpretation should be calibrated against this methodological context. With that qualification, the evidence base is among the most extensive in global primary care literature. Macinko and Harris, writing in the *New England Journal of Medicine* in 2015, characterized the ESF as a national-scale demonstration that community-based primary care organized around interdisciplinary teams and lay community agents can achieve meaningful population health improvements in a universal health system context. Their analysis, drawing on a body of work spanning fifteen years of ESF expansion data, positioned the ACS specifically as the continuity and longitudinal outreach mechanism that distinguishes the ESF from conventional primary care models.

Rasella and colleagues, in a nationwide longitudinal analysis published in the *BMJ* in 2014, found that ESF expansion was significantly associated with reductions in mortality from cardiovascular and cerebrovascular diseases across Brazilian municipalities, with a dose-response relationship between program coverage and mortality reduction. Municipalities with higher ESF coverage showed markedly lower rates of deaths attributable to conditions preventable through primary care management.

The link between ESF coverage and reductions in hospitalizations for ambulatory care-sensitive conditions is particularly well-documented and directly relevant to the FQHC context. Macinko and colleagues, in a 2010 *Health Affairs* analysis, found that a major expansion of primary care access through the ESF was linked to a significant national decline in unnecessary hospitalizations, the same category of expenditure that constitutes the largest preventable cost burden in the U.S. system. In municipalities with high Family Health Program enrollment, chronic disease hospitalization rates were 13% lower than in municipalities with low enrollment, after controlling for other factors (Macinko et al., 2010). A systematic review by Bastos and colleagues published in *PLOS ONE* in 2017 examined the ESF's impact on primary care-sensitive conditions across multiple studies, finding consistent associations between ESF coverage and improved outcomes, including reductions in child mortality and hospitalization rates.

A 2022 analysis in *Economics and Human Biology* by Ferreira-Batista and colleagues, using individual-level data from Brazilian metropolitan areas, found that adults registered in ESF households reported significantly better self-rated health than comparable unregistered adults, and that the local density of ESF health teams was a key determinant of health outcomes even for populations not directly enrolled, a spillover effect consistent with the population-level surveillance logic of the ACS model.

The COVID-19 pandemic provided an inadvertent natural experiment. Teixeira and colleagues, in a 2024 *Social Science & Medicine* analysis, examined the ESF's role during the pandemic across Brazilian municipalities, finding that higher ESF coverage was associated with better management of pandemic health impacts. This association did not reflect emergency-specific design; it reflected the detection and communication capacity that the surveillance infrastructure and community-embedded CHW network provided where reactive systems fell short.

3.3 What the Evidence Establishes for the Adaptation Argument

Three conclusions from the published literature are directly relevant to the FQHC adaptation argument.

First, territory-based CHW deployment is associated with measurable reductions in hospitalizations for ambulatory care-sensitive conditions at population scale. This is not an artifact of Brazil's specific context; it is a property of the operational mechanism: consistent monitoring of defined populations with direct escalation pathways to clinical teams.

Second, the ESF model is most effective in populations characterized by high rates of chronic disease, limited health system navigation capacity, and significant social determinants of health. This is a precise description of the populations served by Texas and Florida FQHCs.

Third, the population-level health visibility function of territory-based CHW deployment differs in scope from individual case management. The ACS model creates systematic visibility into the health status of defined populations, including patients whose clinical risk has not yet manifested as utilization. U.S. FQHCs operating on reactive caseload models capture the visible fraction of need; territory-based models are designed to capture a broader denominator.

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4. Why FQHCs Are the Structural Analogue

The organizational parallel between the ESF Family Health Team and the U.S. FQHC care team is more precise than it appears from a surface comparison of two different healthcare systems. Both are designed to serve medically underserved populations. Both receive federal subsidy conditioned on demonstrating access to uninsured and low-income patients. Both operate on a panel management model in which a defined population is formally enrolled with a care team. Both are embedded in communities rather than in hospital systems. Both face chronic underfunding relative to need.

The structural difference that matters for this analysis is not organizational but operational: the deployment logic of the community health worker component. The ESF embeds CHWs in defined micro-territories with proactive surveillance mandates. U.S. FQHCs typically deploy CHWs reactively to pre-identified high-utilization patients, with limited population-level monitoring infrastructure. This difference in deployment logic plausibly contributes to a substantial portion of the observed gap in outcomes between the two systems, and it is the difference most amenable to change without structural reorganization.

Table 1. Structural comparison: ESF/ACS model versus U.S. FQHC/CHW deployment.

Dimension	ESF / ACS (Brazil)	FQHC / CHW (United States)
Target population	Low-income, underserved, uninsured	Low-income, underserved, uninsured
Federal mandate	Universal access, equity focus	Section 330: access regardless of ability to pay
Care model	Panel-based, interdisciplinary team	Panel-based, interdisciplinary team
CHW role	Proactive territory surveillance, monthly home visits, all enrolled families	Reactive caseload management, high-utilization patients after identification
CHW assignment logic	Geographic micro-territory (400-750 families)	Patient caseload (flagged individuals)
Community embeddedness	ACS lives in their territory; mandatory	Variable; not structurally required
Surveillance function	Epidemiological and social vulnerability detection	Limited; primarily clinical follow-up

The implication is not that the FQHC system is deficient by design. The FQHC model has produced measurable access gains for tens of millions of patients. The implication is that a specific operational adjustment, shifting CHW deployment from reactive caseload to proactive territory-based surveillance, would bring the FQHC CHW function into closer alignment with the mechanism plausibly associated with the ESF's documented outcomes, without requiring structural reorganization, new legislation, or new funding streams at scale.

5. Proposed Adaptation Framework

5.1 Design Principles

The adaptation proposed here is not a wholesale import of the Brazilian primary care system. It is the extraction of the core deployment mechanism plausibly associated with the ESF's documented outcomes and its operational replication within the existing FQHC organizational structure. Three design principles guide the framework.

Mechanism fidelity over system mimicry. The goal is to replicate the territory-based proactive surveillance mechanism, not the SUS's universal coverage architecture, its funding model, or its political history.

FQHC-native implementation. The adaptation must work within existing HRSA program requirements, Section 330 grant structures, and applicable state Medicaid CHW reimbursement policies. No new federal legislation is required for implementation.

Population specificity. The framework is designed for FQHCs serving predominantly Hispanic and immigrant populations, where the cultural and linguistic competence requirements most closely match the community embeddedness principle of the ACS model.

5.2 The Three Core Components

Figure 1. Three-component adaptation framework: ESF/ACS operational logic adapted for U.S. FQHCs.

Component 1	**Component 2**	**Component 3**
Territory-Based CHW Assignment	**Proactive Community Monitoring Protocol**	**Physician-CHW Clinical Integration**
One CHW per 400-600 enrolled households in a defined geographic micro-territory. Preference for candidates residing in or with deep ties to the assigned territory.	Monthly structured outreach to all enrolled chronic disease households. Standardized CHW note in the EHR; automated escalation thresholds to the supervising clinician.	Weekly CHW-physician case review meeting. CHW surveillance findings drive clinical decision-making; physician clinical context informs CHW territory prioritization.
ESF analogue: ACS territorial assignment	*ESF analogue: monthly home visits and EHR notification*	*ESF analogue: weekly Family Health Team meeting*

Note. Each component is independently implementable within existing FQHC Section 330 scope of project. Information flows from territory data generated by Component 1 through the surveillance protocol of Component 2 to the clinical integration meeting of

Component 3. Italicized rows show the corresponding ESF/ACS operational analogue for each component.

Component 1: Territory-based CHW assignment. The FQHC service area is partitioned into defined micro-territories, calibrated to the density of the patient population and the capacity of the CHW workforce. A practical starting configuration is one CHW per 400-600 enrolled households in high-density urban service areas. CHWs are assigned to territories rather than to patient caseloads. Preference is given to candidates who live in or have deep ties to their assigned territory, replicating the community embeddedness principle. Bilingual capacity in Spanish is a functional requirement in Harris County, Bexar County, Miami-Dade, and Hillsborough contexts.

Component 2: Proactive community monitoring protocol. Each assigned CHW conducts structured monthly outreach to all households with enrolled chronic disease patients, specifically those managing diabetes, hypertension, asthma, or congestive heart failure, within their territory. Outreach can combine home visits with telephone and telehealth contact, calibrated to patient preference and risk level. A standardized protocol captures medication adherence, symptom changes, social vulnerability indicators (food security, housing stability, transportation), and missed appointment patterns. This information is entered into the FQHC's electronic health record through a structured CHW note, triggering escalation to the supervising clinician when defined thresholds are crossed.

Component 3: Physician-CHW clinical integration. The CHW reporting relationship is formalized within the clinical team through weekly case review meetings between assigned CHWs and their supervising primary care physicians. This is the ESF team meeting mechanism transposed to the FQHC context. The purpose is twofold: to ensure that CHW-generated surveillance information reaches clinical decision-makers in a structured rather than ad hoc manner, and to provide CHWs with the clinical context necessary to prioritize their territory-level outreach. This integration is the structural mechanism that converts CHW observation into clinical action.

5.3 Funding Pathways

Implementation does not require new grant funding as its primary financial basis. Three existing mechanisms support CHW program costs within the FQHC structure.

Section 330 Health Center Fund grants include explicit support for enabling services, a category that encompasses health education, outreach, and case management functions consistent with the proposed CHW scope. FQHCs can designate CHW positions within their approved scope of project without additional HRSA authorization in most circumstances.

State Medicaid CHW reimbursement policies are expanding. As of January 2024, just over half of state Medicaid programs covered CHW services through State Plan Amendments. The 2024 Medicare Physician Fee Schedule introduced the first billing code for CHW services, creating a new reimbursement pathway applicable to FQHC Medicare patients. FQHCs in Texas and Florida should monitor and engage with state Medicaid policy processes to position for CHW reimbursement as these policies develop.

Return on investment modeling, using published RCT data on CHW programs in analogous populations, supports the financial case for internal FQHC investment in territory-based CHW expansion even before Medicaid reimbursement is available. Published evidence from the IMPaCT program documents USD 4,200 in annual Medicaid savings per enrolled patient with two or more chronic conditions (Kangovi et al., 2020). Applied to a 600-household FQHC territory with an estimated 40% chronic disease prevalence, this figure produces a return sufficient to cover CHW salary costs within a two-year horizon under conservative assumptions. Table 2 presents projected cost-benefit estimates across three implementation scenarios. **These scenarios are illustrative exploratory projections rather than expected implementation outcomes; their interpretation requires the empirical calibration provided in Section 5.4.**

Table 2. Projected annual cost-benefit of territory-based CHW deployment in FQHC settings (illustrative scenarios).

Parameter	**Conservative**	**Moderate**	**Optimistic**	**Source / Assumption**
Territory size (enrolled households)	400	500	600	ACS model range (400-750)
Chronic disease prevalence	30%	40%	50%	FQHC ACSC patient profile
Patients eligible for CHW intervention	120	200	300	Calculated
Annual Medicaid savings (USD 4,200/patient)	USD 504,000	USD 840,000	USD 1,260,000	Kangovi et al., 2020
Fully-loaded CHW cost (salary + 30% benefits)	USD 66,339	USD 66,339	USD 66,339	BLS OEWS, May 2024
Net annual benefit	**USD +437,661**	**USD +773,661**	**USD +1,193,661**	Calculated
Estimated first-year ROI	**7.6:1**	**12.7:1**	**19.0:1**	Calculated

Note. The ratios presented (7.6:1, 12.7:1, 19.0:1) represent **gross benefit-to-cost ratios** (annual savings divided by annual program cost), the most common reporting convention in CHW economic evaluation literature. Calculated as **net return on investment** (annual savings minus annual program cost, divided by annual program cost), the corresponding values would be 6.6:1, 11.7:1, and 18.0:1. This distinction is presented for methodological transparency consistent with health economics conventions.

Savings estimates derived from Kangovi et al. (2020), *Health Affairs*; per-patient figure of USD 4,200 represents annual Medicaid savings per enrolled patient with two or more chronic conditions, as reported in the IMPaCT randomized controlled trial cost analysis. CHW salary based on BLS OEWS median annual wage for community health workers (SOC 21-1094), May 2024 (USD 51,030); employer burden estimated at 30% for benefits and payroll taxes. Savings represent the Medicaid payer perspective and do not capture broader societal costs including emergency department and inpatient avoidance. These are illustrative projections, not empirical estimates. The returns presented are first-year nominal estimates and are sensitive to three primary variables: chronic disease prevalence within the assigned territory, CHW retention over the measurement period, and the proportion of enrolled patients with active Medicaid coverage. Actual program returns will require empirical measurement under defined pilot conditions. Section 5.4 places these projections within the broader U.S. CHW empirical evidence base.

5.4 Empirical Calibration Against U.S. CHW Programs

The illustrative projections in Table 2 sit at the upper end of the published U.S. CHW return-on-investment literature. Methodological transparency requires explicit calibration against this empirical evidence.

A 2026 systematic review by Rashid and colleagues, published in *The Lancet Regional Health – Americas,* synthesized 35 studies representing 41 distinct CHW programmes across 23 U.S. states, with all programme costs and savings annualized and inflation-adjusted to 2024 U.S. dollars. The review reports a median inflation-adjusted annual programme cost of USD 155,275 and median annual savings of USD 403,298, yielding a median return of USD 2.12 per dollar invested (interquartile range: 1.64 to 4.03; mean: 4.11, SD: 4.81). The review notes that programmes most frequently targeted patients with diabetes (19.5 percent of analyses) and patients at high admission risk (19.5 percent), and that Latino and Hispanic populations were the most frequently targeted patient group (19.5 percent), characteristics that align directly with the FQHC populations identified in Section 2.2 as the priority adaptation targets. Geographic distribution is also relevant to the present analysis: Texas was the most represented state in the systematic review (7 studies, 17.1 percent), and the Southern U.S. region achieved a median ROI of USD 3.17 per dollar invested (IQR: 2.04 to 10.04), substantially above the national median of USD 2.12, suggesting that geographic and policy context materially influence financial returns (Rashid et al., 2026).

Federal-level institutional evidence further supports the financial case. The Medicaid and CHIP Payment and Access Commission (MACPAC), the body that advises the U.S. Congress on Medicaid policy, reported in its 2022 review of Medicaid CHW coverage that the Arkansas Community Connector Program, which deployed CHWs to identify Medicaid beneficiaries with unmet long-term care needs in three disadvantaged counties, achieved a 23.8 percent average reduction in annual Medicaid spending per participant over a three-year demonstration period, generating net savings of USD 2.6 million for the Arkansas Medicaid program (Felix et al., 2011; MACPAC, 2022).

The projections in Table 2 (gross benefit-to-cost ratios of 7.6 to 19.0) sit above the national median of this distribution but within its observed range, which extends to ROI values exceeding USD 38 per dollar invested in the Rashid et al. systematic review. Three structural features of the proposed framework plausibly explain this positioning. First, the framework targets FQHC patient populations with concentrated chronic disease burden (30 to 50 percent prevalence in the modeling), substantially higher than the patient panels in many of the studies synthesized in the systematic review. Second, the framework operationalizes the Kangovi et al. (2020) per-patient savings estimate of USD 4,200, which derives from a population of Medicaid beneficiaries with two or more chronic conditions, a subgroup overrepresented in the proposed territory configurations. Third, the framework targets the Southern U.S. region (Texas and Florida), where Rashid and colleagues observed a regional median ROI of USD 3.17 (IQR: 2.04 to 10.04), with documented returns reaching the upper deciles of the national distribution. The framework's emphasis on proactive territory-based deployment rather than reactive caseload management would, if effective, position implementations toward the upper end of the observed empirical distribution rather than its median.

The framework's projections should therefore be read as upper-bound scenarios within an empirically established range, not as expected values. Pilot implementations should anticipate first-year returns closer to the published median (USD 2.12, IQR 1.64 to 4.03) before territory-based proactive surveillance achieves operational maturity, with returns at the upper end of the modeled range contingent on full implementation fidelity, the structural population characteristics described above, and the regional policy context in which the Southern U.S. has historically demonstrated favorable conditions for CHW program returns.

6. Implementation Considerations and Pilot Design

6.1 Recommended Entry Points

Not all FQHCs are equally positioned to pilot this model. The highest-return initial targets are organizations that combine three characteristics: a service area with geographically concentrated patient populations (apartment complexes, defined neighborhoods) rather than dispersed rural coverage; a patient panel with high rates of chronic disease in the ACSC categories (diabetes, hypertension, asthma); and existing CHW staff who can be retrained and reassigned to territory-based roles rather than requiring new hires.

Harris County, Texas FQHCs present the strongest fit by these criteria. The density of the Houston metropolitan area's low-income Hispanic population, combined with the county's documented HPSA designations and Harris Health System's existing community health infrastructure, creates the conditions for a defined pilot with measurable outcomes within a 12 to 18 month implementation horizon.

6.2 Measurement Framework

A pilot implementation should track four primary outcome measures, all reportable through existing FQHC Uniform Data System (UDS) reporting requirements.

Hospitalization rate for ambulatory care-sensitive conditions, per 1,000 enrolled patients, compared to pre-implementation baseline and to matched non-pilot FQHCs. Emergency department utilization rate, per 1,000 enrolled patients, specifically for conditions manageable in primary care. Chronic disease control rates (HbA1c control for diabetes, blood pressure control for hypertension) for patients within CHW territories, compared to non-territory patients at the same FQHC. Patient outreach coverage: percentage of enrolled chronic disease patients in the territory receiving at least one structured CHW contact per quarter.

Secondary measures include CHW-documented social vulnerability indicators (food insecurity screening completion, housing instability identification), missed appointment rates, and patient-reported experience with care coordination. These secondary measures capture the population-level health visibility function that defines the ACS model, rather than downstream clinical outcomes alone.

6.3 Challenges and Mitigation

Three implementation challenges warrant explicit attention.

Electronic health record integration. The structured CHW note protocol requires EHR systems that support CHW-specific documentation workflows. Most FQHC EHR platforms (eClinicalWorks, NextGen, Epic) support configurable note templates; the primary requirement is administrative configuration, not system replacement. Pilot FQHCs should budget for 40 to 60 hours of EHR configuration and staff training prior to implementation.

CHW scope of practice and liability. State scope of practice regulations for CHWs vary. In Texas, the Department of State Health Services certifies CHWs under a defined scope that is compatible with the proposed monitoring and outreach functions. Florida's CHW workforce policies are less standardized; pilot FQHCs in Florida should conduct a specific regulatory review prior to implementation.

Organizational culture. The shift from reactive caseload to proactive territory management represents a change in how CHW work is understood and valued within the clinical team. This requires explicit attention in implementation planning: communicating the rationale to clinical staff, redesigning CHW performance metrics, and building the weekly team meeting structure that integrates CHW findings into clinical decision-making.

7. Discussion

The central argument of this paper is straightforward: the operational mechanism most plausibly associated with the ESF's documented outcomes, specifically proactive territory-based community health worker deployment, is operationally adaptable to the U.S. FQHC context, requires no structural reorganization of the FQHC system, and addresses the primary care access and preventable hospitalization challenge in a manner consistent with the existing U.S. CHW program literature.

The argument is not that Brazil's health system should be replicated in the United States. The SUS operates under a constitutional guarantee of universal health coverage in a middle-income country with a different disease burden profile, workforce structure, and regulatory environment. These differences are real and material for system-level comparison. They are not material for the narrower question this paper addresses: can a specific deployment logic for community health workers, proven effective in producing population-level surveillance gains and hospitalization reductions, be adapted for use within U.S. FQHCs serving analogous populations?

The published evidence, reviewed in Section 3, supports an affirmative answer. The structural analysis in Section 4 identifies the specific organizational conditions under which the adaptation is feasible. The framework in Section 5 translates the mechanism into implementable components within existing FQHC regulatory and funding structures.

Two U.S. programs have approached the territorial and proactive logic described in this paper, and their experiences are instructive. The IMPaCT program at the University of Pennsylvania, studied in multiple randomized controlled trials, demonstrated that CHWs operating with defined patient panels and proactive outreach protocols produced significant reductions in hospitalizations and emergency department visits, with an estimated Medicaid return of USD 2.47 per dollar invested (Kangovi et al., 2020). The Camden Coalition's Accountable Health Communities navigation model similarly demonstrated reductions in inpatient admissions and emergency department visits when CHWs engaged patients proactively rather than reactively (Camden Coalition, 2025). Neither program, however, implements the micro-territory assignment and whole-population surveillance mandate that characterizes the ACS model. IMPaCT assigns CHWs to patient panels by chronic disease burden and social risk score, not by geographic residence. The Camden model operates through hospital discharge referral pathways, not community-based proactive monitoring. The structural gap this paper identifies is therefore real and remains unaddressed by existing U.S. programs: no FQHC-based CHW model currently assigns workers to defined residential micro-territories with a mandate to monitor all enrolled households regardless of clinical risk stratification.

Despite these structural similarities, the implementation science literature has examined this adaptation opportunity relatively rarely. The ESF has been extensively studied in the international health literature. The ACS model has been cited by the World Health Organization, PAHO, and the World Bank as a replicable mechanism for primary care systems in low- and middle-income countries. Yet the translation to U.S. FQHCs, organizations that share the ESF's target population, funding logic, and team-based care structure, has received limited systematic attention in the implementation science literature. This paper provides the operational scaffolding for that translation.

The author's clinical and managerial experience within the ESF framework informs this analysis in ways that secondary literature review alone cannot. The operational dynamics of physician-CHW team integration, the practical requirements of territory assignment in urban settings, the surveillance protocols that produce timely epidemiological signals, and the organizational conditions that sustain proactive CHW outreach over time are all dimensions better understood through operational experience than through published data alone. This practitioner perspective does not substitute for rigorous evaluation; it complements it by grounding the adaptation framework in the operational realities of implementation rather than in idealized models.

7.1 Limitations

Several limitations of this analysis warrant explicit acknowledgment.

First, this paper is a policy analysis and adaptation framework, not a systematic review or meta-analysis. The evidence cited for ESF effectiveness derives from observational studies subject to confounding, and effect sizes vary considerably across study designs, geographies, and time periods. Causal claims about the ACS mechanism, while supported by a consistent body of literature, require cautious interpretation in the context of cross-national adaptation.

Second, the transferability of the ESF/ACS model to the U.S. FQHC context is argued on structural and mechanistic grounds; it has not been empirically validated in U.S. settings at the scale proposed. The adaptation framework in Section 5 is a design hypothesis, not a tested protocol. Rigorous pilot evaluation with defined comparison conditions is required before conclusions about effectiveness in U.S. populations can be drawn.

Third, the author writes from the perspective of a practitioner trained and experienced within the Brazilian SUS, which may introduce familiarity bias toward the ESF model. Every effort has been made to subject the adaptation argument to the same evidentiary standards applied to U.S. CHW literature, but readers should weigh this contextual positioning.

Fourth, FQHC regulatory and funding environments are subject to change; the Section 330 and Medicaid reimbursement analysis reflects publicly available data as of early 2026 and should be verified against current HRSA guidance prior to implementation planning.

Fifth, a structural difference between the Brazilian and U.S. CHW workforce that this analysis does not fully resolve warrants acknowledgment. In Brazil, the ACS is a permanent civil servant, competitively selected, and legally required to reside in the territory assigned. This tenure structure creates the long-term relational continuity that underlies much of the ACS surveillance effectiveness. U.S. CHWs employed by FQHCs occupy a different institutional position, with higher turnover rates and no residential requirement. The adaptation framework proposed here assumes that community embeddedness can be approximated through hiring practices and program design rather than legal mandate, but this assumption has not been empirically tested. Pilot evaluations should explicitly track CHW retention and residential proximity as implementation variables.

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8. Conclusion

The U.S. primary care access crisis is not primarily a problem of insufficient knowledge about what works. It is a problem of insufficient translation between what works in documented operational contexts and what is implemented in the organizations responsible for serving the most vulnerable populations. Brazil's community health worker model, specifically the territory-based proactive surveillance logic of the *Agente Comunitario de Saude* within the Family Health Strategy, represents a two-decade body of operational evidence whose translation into the U.S. FQHC context remains underexplored.

FQHCs in Texas and Florida, serving millions of Hispanic and immigrant-origin patients in documented shortage areas, face a preventable hospitalization burden that contributes substantially to avoidable healthcare expenditures and, more critically, to adverse health outcomes for millions of patients. A targeted adaptation of the ESF/ACS operational framework addresses this burden through a mechanism with strong evidentiary support and a clear implementation pathway within existing FQHC structures. The three core components are territory-based CHW assignment, proactive surveillance protocols, and formalized physician-CHW clinical integration. The proposed framework is intended as a supplemental operational adaptation to existing U.S. healthcare structures, not as a replacement for current FQHC care delivery models.

The author invites collaboration from U.S.-based FQHCs, county health departments, state primary care associations, and public health researchers interested in designing, implementing, and evaluating a pilot program. The operational framework proposed in this paper provides a structured basis for pilot evaluation within interested U.S. FQHC settings. The empirical question of whether the mechanism replicates the outcomes observed in the Brazilian context can be answered through rigorous implementation research in collaboration with U.S. health system partners.

Conflicts of Interest and Funding

The author declares no financial conflicts of interest. This research received no specific funding from any public, commercial, or not-for-profit agency. All data cited derive from publicly available peer-reviewed publications, HRSA program reports, and CMS administrative datasets. No proprietary or confidential administrative records were used. The views expressed in this paper are the author's own and do not represent the official position of any affiliated institution.

Ethics Statement

This policy analysis is based exclusively on published literature and publicly available administrative datasets. No primary data collection involving human subjects was conducted. Institutional Review Board review is not applicable.

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Research interests: operational translation of community-based primary care models between Brazil and the United States; FQHC systems strengthening; community health worker program design; epidemic surveillance infrastructure; physician workforce development in underserved settings.

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Version 1.0 — May 2026. This is a working paper that has not been peer reviewed. The findings and conclusions expressed herein are those of the author alone and do not represent the positions of any affiliated institution. Feedback and correspondence are welcome at ivoneparadela@yahoo.com.br.