DESIGN OF COMMUNITY-BASED PRIMARY HEALTH CARE PROGRAMS

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START CENTER
STRATEGIC ANALYSIS, RESEARCH & TRAINING CENTER
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START OVERVIEW

Leverages leading content expertise from across the University of Washington

Provides high quality research and analytic support to the Gates Foundation and global and public health decision-makers

Provides structured mentorship and training to University of Washington graduate research assistants

AGENDA

1. Project Background & Objectives
2. High-level Recommendations
3. Cost- Effectiveness Analysis
4. CHWs Evolution Analysis
5. Limitations & Future Directions

PROJECT BACKGROUND

REASON FOR REQUEST

- Countries and global partners, including the Gates Foundation, are increasingly seeking to institutionalize Community Health Workers (CHWs) as part of primary health care (PHC) and universal health coverage (UHC) agendas, but lack clear guidance on which design, governance, and financing approaches work best at scale

- Although strong evidence shows that CHWs improve access and outcomes, existing research is fragmented and often disease-specific, providing limited insight into system-level decisions required to move from pilots to sustainable national programs

- This project synthesizes cross-country evidence to understand how CHWs programs have evolved across contexts and to identify lessons that can inform future investment, design, and financing decisions in community health systems strengthening

START TEAM OBJECTIVES

Synthesize cross-country evidence on CHWs programs to inform design, governance, and financing decisions for institutionalized community-based PHC

Analyze how CHWs scope of practice, workforce models, and management arrangements have **evolved over time across selected countries**

Assess evidence on CHWs program **effectiveness and cost-effectiveness**, including health system contributions and economic value where available

Compare approaches to recruitment, training, supervision, remuneration, financing, and system integration to identify factors associated with scale and sustainability

Identify evidence gaps and limitations relevant to investment, implementation, and future research on CHWs programs

PROJECT APPROACH

INCLUSION & EXCLUSION CRITERIA

Literature review

- Peer-reviewed literature including (PubMed, Google Scholar, MEDLINE, Scopus, CENTRAL, Cochrane Database of Systematic Reviews)
- Grey literature (reports, news, websites, social media) & Deep internet search

Geography

Primarily LMICs with more focus on SSA and exemplar SA countries

CB-PHC models

Prioritization of Community Health Workers archetype

Horizontal/integrated vs Vertical CHWs programs

Evolution of CHWs

Scope vs management models

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FOCUS AREAS

Evaluation and Design of CB-PHC

Cost-Effectiveness

- ICER
- BIA
- ACER
- Summary of findings

Effectiveness

- Clinical Outcomes
- HSS Outcomes
- Directionality

Scope of Practice

- Description of Country CHEWs Programs
- CHWs Terminologies
- Services offered by CHWs
- Evolution of CHWs

Management Model

- Recruitment
- Accreditation
- Integration
- Training
- Supervision
- Supply chain
- Reporting
- Electronic data use

Abbreviations: ICER- Incremental Cost-effectiveness Ratio; BIA- Budget Impact Analysis; ACER- Average Cost-Effectiveness Ratio

FINDINGS

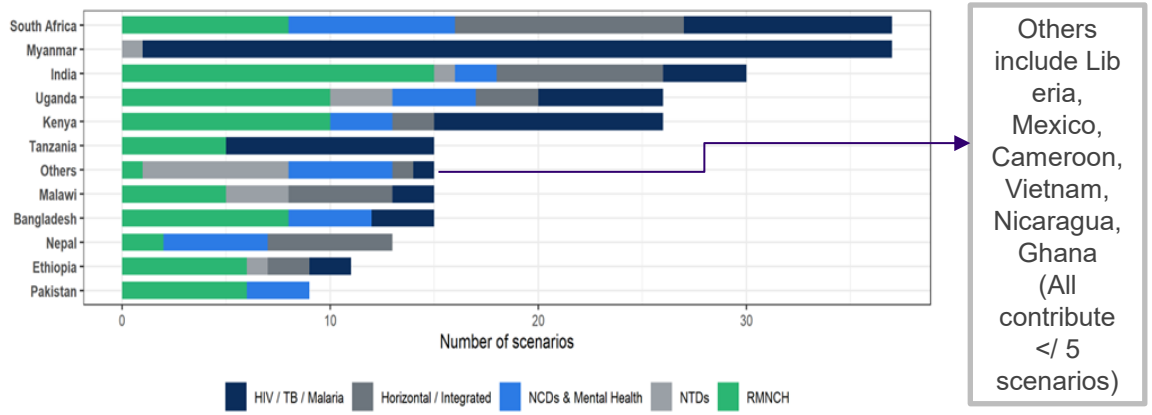
CHWs COST EFFECTIVENESS EVIDENCE LANDSCAPE

KEY RECOMMENDATIONS

The current cost-effectiveness evidence strongly supports CHWs in priority disease areas, but its uneven distribution, combined with limited evidence on affordability, budget impact, and long-term financing, constrains decision-making for sustainable scale across health systems.

COUNTRIES DRIVING CHWs ECONOMIC EVALUATION EVIDENCE

Over the past two decades, the economic evidence on CHWs program has been generally unevenly across countries. A small number of settings account for a disproportionate share with SSA providing the most diverse evidence base, covering nearly every health area. While SA are the primary drivers for RMNCH.



Others include Liberia, Mexico, Cameroon, Vietnam, Nicaragua, Ghana (All contribute </ 5 scenarios)

Myanmar's contribution is 97% concentrated in HIV/TB/malaria modeling, whereas South Africa presents a highly diverse portfolio spanning horizontal programs (30%), NCDs (22%), and infectious diseases. India serving as the primary driver for RMNCH evidence, while East Africa deliver substantial multi-disease evidence, focusing on RNMCH, HIV/TB/Malaria and NTDs

FOCUS ON CHWS EFFECTIVENESS

In RMNCH, community based educational interventions have significantly reduced early neonatal mortality by 26% and perinatal mortality by 17%, while increasing timely breastfeeding initiation by 56% compared to SOC (Lassi ZS et. al., 2019), Community health education increased the utilization of ANC by 16%, and clean delivery by over 340% in Parkisna and India

Hypertension control: Net reduction in SBP of 3-6 mmHg (US study) and 4-7 mmHg (Taiwan study) (Gaziano et al., 2014). In South Africa, a 20% increase in adherence facilitated by CHWs is estimated to lead to a 4-mmHg BP reduction, which translated to a 22% reduction in CHD events and 41% reduction in stroke (Gaziano et al., 2014)

Malaria mortality: Pre-referral rectal artesunate administered by CHWs followed by inpatient care reduced mortality from severe malaria by 49%(Rakuomi et al., 2017)

Mental health: Community based rehabilitation program decreased seizure frequency by 88.8% after 15 months of program in Guinea-Bissau (Wagner RG 2020)

Epilepsy: A CHW-led intervention in South Africa is projected to result in 90% adherence levels within 2 years, leading to seizure freedom in 60% of patients, and 40% reduction (Wagner RG 2020)

Neglected tropical diseases (NTDs): ICCM by CHWs reduced diagnostic cost per patient by 5-fold ($714 vs 3942), and treatment by 10-fold (1151 vs 13800) compared to vertical programs

Integrated programs: Demonstrated 100% cost-effectiveness in improving service coverage across multiple diseases simultaneously (Donovan et al, 2024)

CHWs COST-EFFECTIVENESS EVIDENCE LANDSCAPE

Full cost-effectiveness analysis (ICER): Constitute about half (68 studies), followed closely by HIV/TB/Malaria and NCDs. These evaluations utilize cost-utility analyses (Cost per DALY/QALY) to compare CHWs against facility-based standards of care, consistently finding that CHWs extend the reach of health systems to remote populations more efficiently than alternative delivery channels[2]

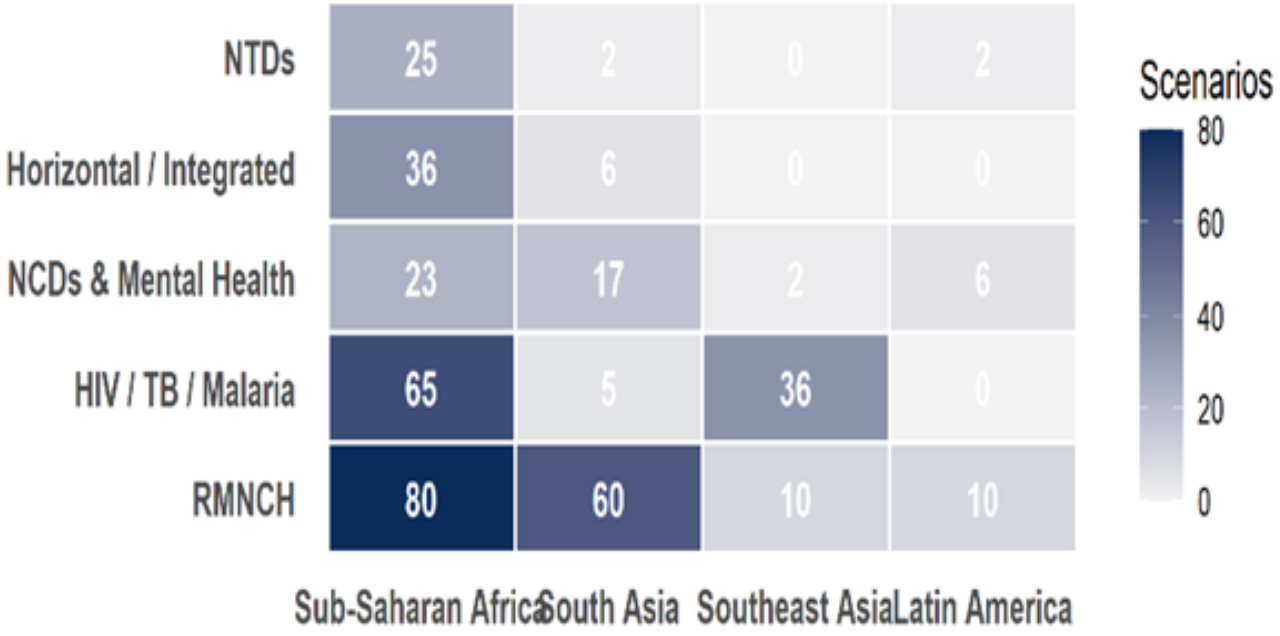
Partial economic evaluations (ACER): Partial evaluations, primarily cost analyses, make up the remaining half of the landscape, and serve as the primary source of evidence for horizontal programs and HIV/TB/Malaria interventions. The downside of this evaluations is that they do not link cost to health outcomes, limiting their utility for allocative efficiency decisions [3]

Budget impact analysis (BIA) and affordability: Evidence regarding affordability remains the most critical gap with only 13% of studies assessing fiscal feasibility of CHWs programs within national budget constraints. Affordability assessment are nearly non-existent in horizontal and NCD domains, leaving policymakers with a "fiscal blind spot". This impact data required to scale these programs nationally[4]

CHWs COST-EFFECTIVENESS EVIDENCE: WHERE IT COMES FROM AND WHAT IT MEASURES

Geographic Distribution

Counts = trials/scenarios (not countries)



Evidence Landscape

Counts = unique studies by evaluation type

Abbreviations: ICER = Incremental Cost-Effectiveness Ratio; ACER = Average Cost-Effectiveness Ratio; BIA = Budget Impact Analysis.

Miyares et al., 2026
"There is too little evidence to conclude whether these interventions are affordable to governments, an important area for future research"

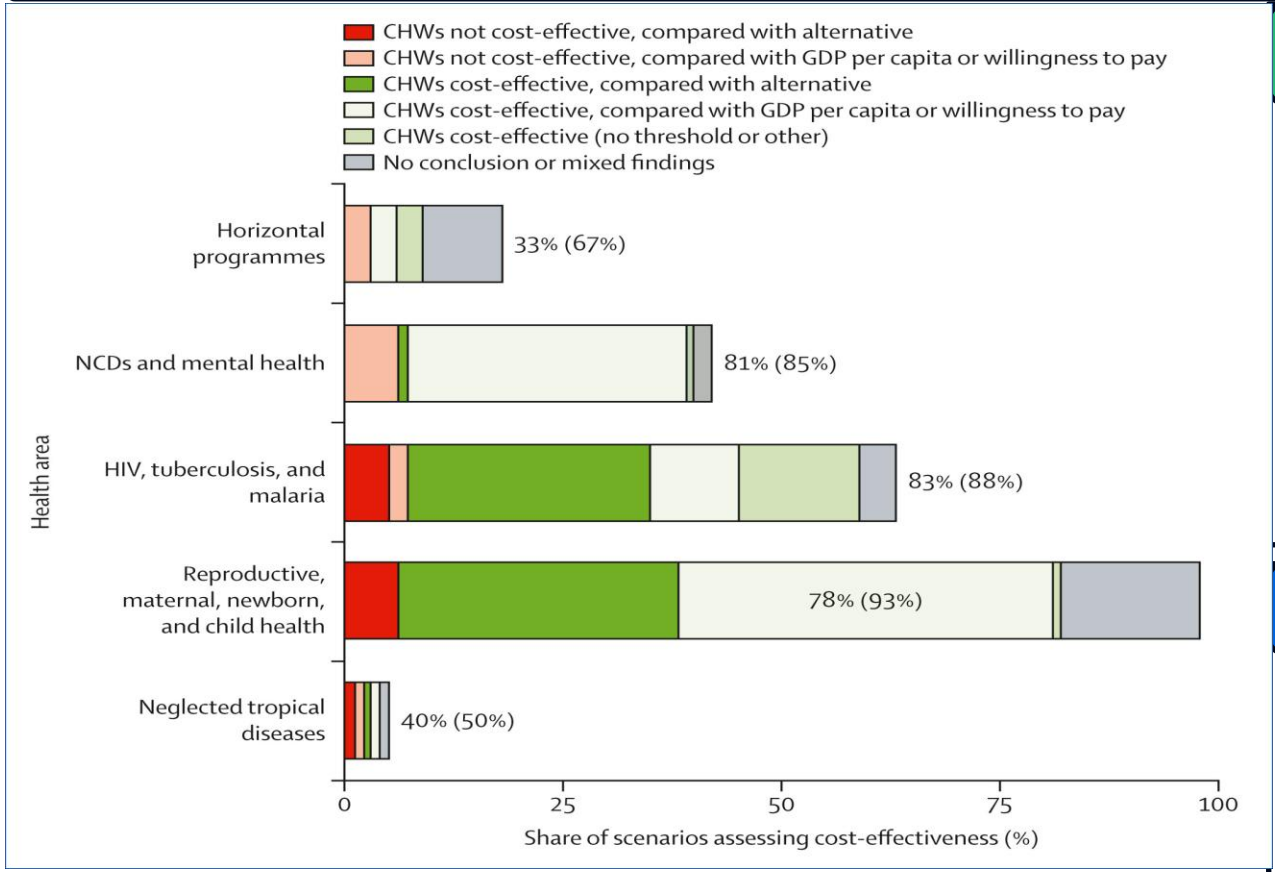
TEMPORAL TRENDS IN CHWs ECONOMIC EVALUATIONS (2004 - 2024)

ICER: Early period (2004 - 2014)- foundational studies established cost-effectiveness of CHWs for key conditions (Manandhar et al. Trial in Nepal, 2004 & Gaziano et al. Hypertension model in South Africa, 2014) . Late period (2015 - 2024) studies by Wagner et al. Epilepsy study, 2020 & Miyares et al. RMNCH review, 2026. This shows consistent growth and actively publishing of ICERs to prove CHWs offer value for money

ACER: Trend show steady and sustained growth. The studies which report "cost per beneficiary" or "cost per service" without a comparator, appears consistently throughout the two decades. High volume of recent partial evaluation (e.g., in the HIV/TB/malaria review) suggest that implementers continue to prioritize operational cost data for budgeting over comparative efficiency

BIA & affordability: Trend shows this metric is lagging behind/stagnant. While we know CHWs are cost-effective, we increasingly lack current data on whether they are affordable (feasible within current MoH budgets). Miyares et al review found 53 new studies, only 8 assessed affordability and O'Donovan et al NCD review 2014-2024, identified 20 studies, but only one (Finkelstein et al., 2021) providing BIA

DEEP DIVE: CHWs PROGRAM COST-EFFECTIVENESS EVIDENCE



Source: [1]Katzen LS, et al (2025)

CHWs based interventions are highly cost effective in comparison to facility-based models

- Usage of CHWs to improve IPT uptake and ANC was found cost-effective in 4 settings. Cost per DALY averted:
  - $9–$119 (Congo, Madagascar); $2–$66 (Nigeria); $104–$543 (Mozambique)[2]
- Mixed findings for CHW delivered intervention in NTDs
  - Cost-effective among the low-income but not high income ($0.72 vs $3.14)[3]
  - Same intervention cost effective in Mexico but not in Nicaragua[4]
    - ICER of $29 618 per DALY averted (3 x PC GDP)
    - ICER of $29 196 per DALY averted (16 x PC GDP)

CHWs reduce program costs from both community and health system perspectives

- CHW-based DHSM was cost-saving in Mozambique reducing costs by[5]
  - ~$6 million from the health system perspective
  - ~$32.5 million from the societal perspective
- CHWs for aPS reduced the program budget in Kenya[6] by
  - ~$360,000 annually compared with using nurses in Kenya
  - Reducing costs by 71.2% with 5 year upper bound of ~$1.26milion

CHWs delivered interventions found to be highly cost-effective:

- ✓ 67% in horizontal programs (multi-disease programs)
- ✓ 85% of NCD and mental health
- ✓ 88% in HIV, TB and malaria
- ✓ 93% in reproductive, maternal, newborn and child health
- ✓ 50% in NTDs

Potential areas of improvement

- Most cost-effectiveness studies in **MRCNH and infectious disease** programs
- **Grant funding** (donor funding) limited interpretation of cost-effectiveness findings
- **Affordability studies** are the least done even in MRCNH and infectious disease programs
- **Lack of standardization** on what is cost-effective: studies just reporting cost-effective with no reference or criteria

[1]Katzen LS, et al (2025); [2]Cirera L , et al (2023); [3]Hounsome N (2019) [4]Tschampl et al, (2020);; [5]Uetala DAM, et al (2024); [6]Cherutic P, et al (2018)

EVOLUTION OF CHWs

KEY RECOMMENDATIONS

Evidence from five countries shows that how CHWs programs evolve institutionally matters as much as what they deliver

- **Institutionalize before expanding scope:** Across countries, CHWs programs that prioritized clear governance, supervision, and financing arrangements before adding tasks achieved more consistent performance and resilience than programs that expanded scope first and institutionalized later. Effective institutionalization links CHWs roles, supervision, and pay to PHC financing and domestic budget lines, rather than relying on donor-driven support

- **Design CHWs as part of the health system workforce, not parallel delivery programs:** Sustained impact depends on embedding CHWs within workforce, financing, and accountability systems, aligning with recruitment, renumeration, training, supervision, and protections with broader PHC structures. Measurements should move beyond isolated outcomes to capture system contribution and implementation fidelity, including coverage, continuity, surveillance, workload, and quality to close persistent policy-practice gaps

ANALYTIC LENS: WHAT COUNTRY PATHWAYS INFORM CHWs DESIGN, FINANCING, AND SCALE?

Country name and CHWs overview	Key Features
 **Burkina Faso** operates a nationally standardized CHWs program embedded within PHC system and formally recognized by MoH	Major turning point occurred with 2010 National CHS, which moved CHWs from fragmented NGO-led roles into a formal, government-managed carder. This will allow for analysis of how political commitment and national policy alignment accelerate CHWs professionalization
 **Kenya's** CHVs form the backbone of PHC, historically operating as volunteers linked to health facilities. Recent reforms involves integrating CHVs into UHC, and mHealth	Key transitions include the 2014 community health policy, the 2020 CHS, and county-level formalization under UHC pilots This will illustrate sequencing over time, how volunteer programs gradually evolve through reforms rather than abrupt redesign
 **Malawi's** Health Surveillance Assistants (HSAs) are the most established professional CHWs cadres	Early formalization created a system stability but limited flexibility as new responsibilities accumulated without commensurate adjustments in scope
 **Mozambique's** CHWs program has alternated between national and donor-led models, with varying levels of integration	After post-independence expansion, the program deteriorated during civil conflict and was later rebuilt through donor financing This will illustrate **system fragility and recovery**
 Tanzania has long relied on disease-specific and volunteer CHWs, complemented by formal health workers at facilities	The WAJA policy (2012) marked a shift towards integrated primary care roles, yet financing and supervision mechanisms lagged, as a result, practice remained largely vertical and donor-driven This will allow for analysis of **policy-practice gaps**

These five countries were selected to align with Gates Foundation programmatic interests, combining settings of active investment with contexts prioritized for learning to inform future health systems strengthening efforts. Together, they maximize variation in CHWs design and governance models, offer longitudinal evidence of program evolution, provide documented policy, implementation, and effectiveness data, and remain directly relevant to questions of scale, financing and UHC integration

Sources: Burkina Faso Community Health Roadmap_2021; Malawi National Community Health Strategy 2017 - 2022; Malawi Community Health Roadmap_2021

CHWS WORKFORCE REALITY CHECK ACROSS FIVE COUNTRIES

What the CHWs workforce looks like in practice across the priority countries: Why system design and financing choices matter

Indicator	Burkina Faso	Kenya	Malawi	Mozambique	Tanzania
Estimated CHWs density (per 10000 pop.)	~1.4	~16	~5.3	~2.1	~3.2
Female share of CHWs %	~34%	~69%	~45%	~22%	~29%
Minimum education requirement	Primary	Secondary/Post-secondary (CHA)	Primary	Secondary	Secondary
Pre-service training duration	~1 month	~1 year	~84 days	3-6 months	~6 months
Recognized in national policy	Yes	Yes	Yes	Yes	Yes
Legally formalized cadre	No	Yes	Yes	No	Yes
Guarantee minimum wage	Yes	No	Partial	Yes	Partial
Access to PPE required by policy	No	No	Partial	Yes	Partial
Access to social protection	No	No	Partial	No	Partial
Planned vs deployed CHWs %	~98%	~101%	~65%	~36%	~13%

Sources: CHDP Community Health Dashboard; NHWA 2022; O'Neill Institute Health & Care Worker Policy Lab (2024); UNICEF country roadmaps; national policy documents; Investing in Community Health Workers to Accelerate Primary Health Care

CHW Case Study: Malawi

Malawi is a country located in South-East Africa. Biggest burden of diseases include malaria, HIV, TB, NCDs
Per capita spending on health is $40. 56% of Total Health Expenditure is from donors[1].

1960-90s

- Introduced as "vaccinators"
- Supported smallpox, cholera and outbreak control
- Recruited as community volunteers with on job training
- **Scope**: preventative
- Supervision provided by AEHOs
- Incentivizes: in kind
- Paper-based reporting
- Linked to primary health facilities

2000-2010s

- Formalization of HSAs into health system
- Training (12 weeks)
- Recruited formally through advertisement by local government (criteria apply where you stay)
- Expanded scope: preventative and some curative service
- Government payroll and in-kind occasional incentives
- Supply chain based at facility: acquire and return supplies

2015-2020s

- Scope expansion to include curative services such as ICCM, ART, TB, ANC through community-based clinics
- Recruitment harmonization through local councils
- Establishment of training schools, curriculum, and expanding training to 6 months
- Extending digital reporting
- Expanding human resource to match strategic goals

Effectiveness of CHW Program in Malawi

- ✓ Mobile Health clinics by CHWs resulted in immediate increase of facility-based births (aIRR 1.22, 95% CI= 1.12-1.33 P <0.001) and long-term increase in ANC attendance in 1st trimester (aIRR 1.03 95% CI 1.00 -1.07, P = 0.046)[3]
- ✓ CHW decreased by 20% defaulters to NCD clinics; increased ANC attendance by 30% reduced peadiatric malnutrition by 10%[4]
- ✓ Malaria prevalence reduced by 52% between 2011 and 2021; incidence and mortality has reduced by 12% and 63% respectively between 2016 and 2021[5]
- ✓ HIV prevalence and incidence have decreased from 10.6% and 0.37% in 2015-16 to 8.6% and 0.22% in 2002-21 respectively[6]
- ✓ 49% increase in uptake of DMPA for family planning in 2010[7]

Policy targets and results[8,9]

Target: By 2022, 75% of HSAs deliver majority of EHP

- ✓ **Status**: 82% of EHP delivered by HSAs

Target: By 2022 ratio of HSAs to population ~ 1:1346

- ✓ **Status**: HSAs population ratio 1:1260, target now is 1:1000. Only 47% reside in the community vs target of 75%

Target: By 2022 75% of HSAs report using standardized village register and 50% report using mHealth tools

- ✓ **Status**: Integrated Community Health Information System under development. 5 modules out of 12 developed. 1754 HSAs trained

Target: By 2022 95% receive durable bicycles to support travel to hard to reach areas

- ✓ **Status**: 3000 bicycles for HSAs distributed and field assessments for houses for HSAs started

Target: By 2022 70% of VHCs have regular monthly meetings

- ✓ **Status**: This indicators not met. But other activities included: aligned of MoLGRD with existing structures; community day awareness days; clarification on roles of DEC

Target: By 2022 community health actors will have completed 80% of all agreed coordination activities

- ✓ **Status**: Community Health Strategy TWG at national and district level set up and road map of NCHS activities being followed

[1]UNICEF 2024/25 Budget brief; [2]Wilfed R 2012; [3]Kachimanga C, 2025; [4]Wroe, 2021; [5]Mategula D, 2023; [6]Payne D, 2022; [7]FHI report, 2010; [8]National Community Strategy 2017-22; [9]National Community Health framework 2023-2030

KEY PATTERNS FROM THE CROSS COUNTRY ANALYSIS

Countries included in the analysis: Burkina Faso, Kenya, Malawi, Mozambique, and Tanzania

PATTERN #1

Formalization and institutional anchoring matter more than scope alone

Strategic implication: Investments that prioritize governance, financing, and supervision are more likely to yield sustained impact than those focused on scope expansion alone

Expanding CHW scope is common, but consistent effectiveness depends on formal institutional anchoring

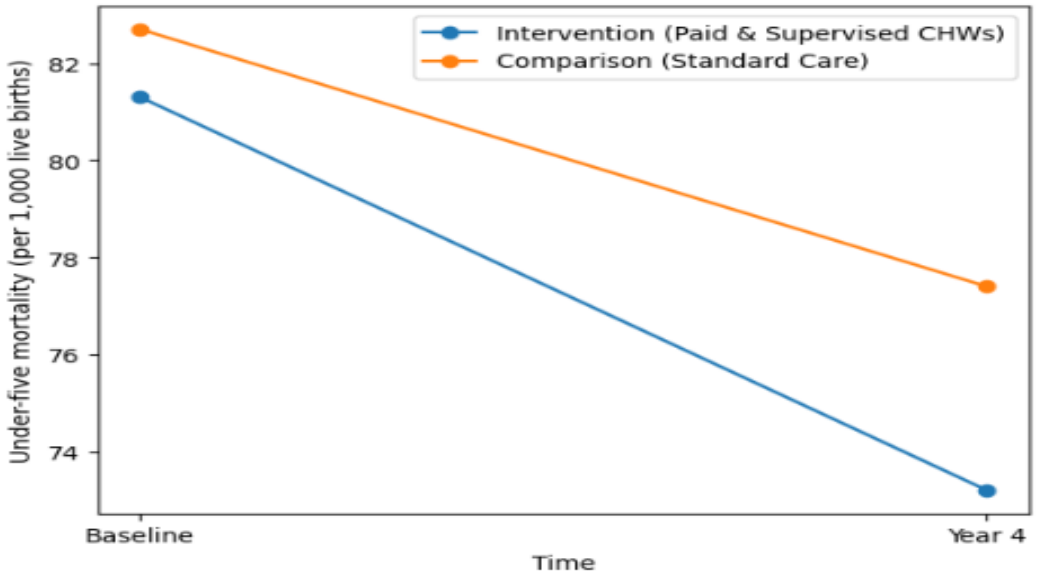
Malawi :Inspection based supervision[1] (Only 16% of CHWs had received a supervision visit that included an actual clinical observation in the prior three months)[2]

- **Low classification accuracy:** Overall agreement with clinician diagnosis was **44%**[2]
- **Inappropriate care: 31%** received unnecessary antibiotics[2]
- **Referral gaps:** Only **55%** of children with danger signs were appropriately referred[2]

Tanzania: Supportive Supervision[1]

- Correctly assessed **treatable illnesses in 90%** of cases[3]
- Correctly assessed **general danger signs in 89%** of cases[3]

RCT in Tanzania in Connect project salaried, supervised and supplied with logistics model



This RCT from the Connect Project shows that communities receiving **paid , supervised and well supplied with logistics community health workers** experienced a **larger reduction in under-five mortality** (**81.3 to 73.2 per 1,000 live births**) over four years compared to standard care **82.7 to 77.4 per 1,000**, demonstrating a clear survival benefit of the intervention[4].

Bradley S , et.al (2013) ; Gilroy K.E et.al (2013) ; Baynes C et.al (2018) ; Kante A.M et.al (2019) ;

PATTERN #2

Scope of practice tends to expand faster than management systems can adapt

Strategic implication: Sustainable CHWs program scale requires management reform to move in parallel with scope, not after it.

Example of Rapid Scale-Up Program of Burkina Faso

Expanded Scope:

Trained High Volume of CHWs(4012 from nine districts)

Added Malaria , Diarrhea, and Pneumonia (Pilot) in their scope

Management gaps:

Training: Only 52% of CHWs providing iCCM services received clinical practice; Written materials were used even for illiterate ASBCs

Supervision: Only 38% of CHWs providing iCCM services had been supervised in the past 3 months.

Drug stockouts: Only 9% had a fully stocked drug kit

Health Outcome:

All aspects of case management, including assessment, classification, treatment, and counseling were poor

Only 36% of sick children correctly treated by CHWs; 18% of children with diarrhea and 34% of children with pneumonia were correctly managed.

Munos M, et.al.(2016)

PATTERN #3

CHWs effectiveness increasingly manifests as system contribution, not just clinical outcomes

Strategic implication: CHWs should be designed, funded, and evaluated for how they extend reach, strengthen information flow, and build trust across the health system, not only for clinical outcomes.

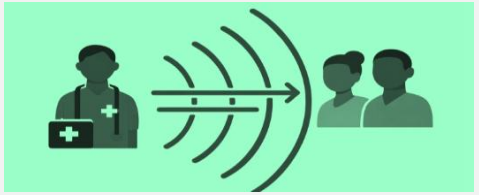
Beyond Clinical Cures: The three pillars of infrastructures of service delivery

Geographic Equity
"System Stretching"

Tanzania: Facility-based care reaches **~45%** of populations(within 1 km of HF) ; **~70%** of populations(within 5 km of HF)[1]

50,620 CHWs were deployed nationwide across 26 regions and 164 councils[2]

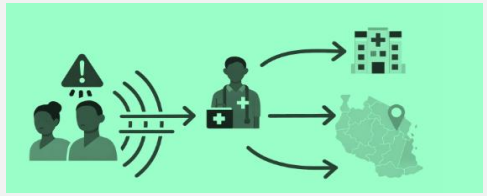
Reach: In pilot districts (e.g., Buhigwe-one of the **rural council** in Tanzania), a small group of just 80 workers was able to provide timely care to over **91,000 people** across 42 communities[3]



Information infrastructure
" The nervous system"

Tanzania -The "Marburg Outbreak": In early 2025, CHWs in Kagera raised early alerts on unexplained deaths and fevers, providing critical data for national planning and faster outbreak containment[4]

Burkina Faso: Community-based contraceptive information and services delivery by CHWs achieved higher uptake than facility-based care[5]



Social infrastructure
"The bridge of trust"

Evidence from Kenya:

High trust on CHWs : The mean trust in CHWs score was **~3.39 out of 4,** reflecting consistent perceptions of CHWs as respectful, competent, and informative[6]

Service utilization: Use of CHWs for child fever care rose from **2% to 35%**, while care-seeking from government facilities declined (67%→48%). CHW use was highest among the poorest households (≈38–39%) compared with the least poor (17%)[7]

Sources: Magaka K (2016) ; UNICEF (2025) ; WHO (2025) ; Amref Health Africa(2025); Ouedraogo L,et al.(2021) ; Sripad P, et.al (2021) ; Kisia J, et.al(2012)

PATTERN #4

Financing stability and purchasing mechanisms shape program resilience

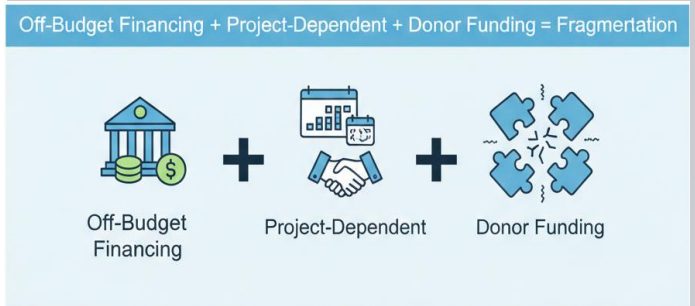
Strategic implication: CHW system resilience is less about “more donor funding” and more about how financing is structured and aligned: on-budget public financing + clear purchasing mechanisms + coordinated partner support are the strongest predictors of stability, coverage, and retention.

On -Budget Financing +Clear purchasing= Stability

When CHWs are financed through government budgets and formal purchasing mechanisms (salaries on payroll, PBF/PforR tied to PHC outputs), programs are more stable, professionalized, and embedded in the health system.

Malawi HSAs on government payroll

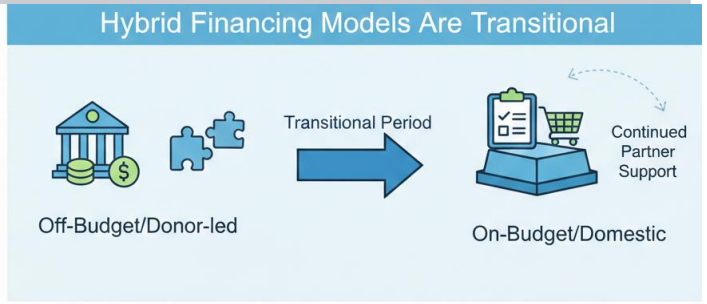
Off- Budget Financing, Project dependent, Donor funding= fragmentation



Heavy reliance on geographically targeted, off-budget partner projects creates uneven CHW coverage, stock-outs, and fragile supervision systems, with exposure to funding shocks and turnover.

Mozambique’s historical dependence on donor financing for APE. Funding disruptions caused program suspension[1,2]

Hybrid financing Models are transitional



Mixed financing (government budgets + external aid + PBF pilots) can expand resources in the short term, but without strong alignment to national systems, these models risk parallel structures and administrative burden.

Tanzania’s mix of budget support, donor aid, and PBF pilots

Mozambique’s Agentes Polivalentes Elementares CHW Central , Ndima, Sozinho Daniel et al.(2015),Chilundo, Baltazar Gm et al., World Bank Group. *Working Toward Better Health*, Davis, Alyssa L et al.(2024), Baynes, et al(2016)

PATTERN #5

Policy recognition does not guarantee workforce protection

Strategic implication: The policy-practice gap varies significantly across contexts, influenced by governance structures, financing mechanisms, and institutional capacity. Cross-country learning should focus on how policies are operationalized, not just what they state.

What we see across countries	Strategic implication

What we see

- Most countries articulate ambitious CHW policies
- Actual implementation varies by district, donor, and capacity
- Effectiveness reflects **practice**, not policy intent

Country anchors

Country	Policy Ambition	Implementation Reality
Tanzania	Comprehensive WAJA role defined for integrated case management & RMNCH.	Heterogeneous: Recruitment and pay vary by district; tasks are often dictated by local NGO priorities rather than national strategy.[2]
Kenya	Long-standing national strategy with clear CHP (Promoter) guidelines.	Devolved Variance: 47 county "variants" created a zip-code lottery for CHW support and incentives until recent national standardization.
Mozambique	Consistent APE policy focused on promotion and iCCM.	Institutional Disruption: Scale-up remains patchy due to historical disruptions and heavy reliance on fluctuating donor funding cycles.
Burkina Faso	National reforms linking policy to PHC-oriented financing.	Tight Alignment: Stronger linkage between national design and district purchasing, resulting in a narrower policy-to-practice gap[3].

Singh, Akriti et al.(2025) , Rafiq, Mohamed Yunus et al(2019), Ridde, Valéry et al.(2017)

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PATTERN #6

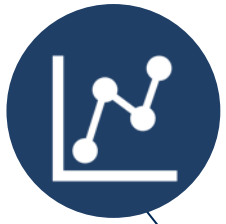
No single “best” CHWs model, countries reflect different trade-offs

Strategic implication: CHW system design is a portfolio of trade-offs across four dimensions: stability vs. flexibility, speed of institutionalization, coordination burden, and fiscal sustainability. The policy question is not “Which model is best?” but “Which mix fits country context and how do we actively mitigate the downsides?”

DIMENSION	THE POLICY TENSION	STRATEGIC PROFILE (EVIDENCE, IMPACT & RISKS)
STABILITY VS FLEXIBILITY	Rigidity of Civil Service vs. Agility of Community-led models.	Malawi: High stability with HSAs on government payroll. This ensures a reliable, permanent presence, but creates systemic rigidity where role adaptations are stalled by national bureaucracy. [1] Kenya: High flexibility; 2018 data showed only 30% of counties paid stipends. While this allows for local discretion, it creates high attrition and equity gaps across counties.[4]
SPEED OF INSTITUTIONALIZATION	Rapid Scale vs. Incremental Maturation	Burkina Faso: National PBF rollout met targets within 12 months. This rapidly integrated CHWs into formal contracts, but carries the risk of heavy donor reliance and administrative delays in audits/payments.[2] Mozambique: APE targets doubled over a decade (3.5k to 8.3k). This gradual rebuilding ensures deeper system integration but results in slower population coverage (~40% as of 2022).[3]
COORDINATION BURDEN	National Uniformity vs. Devolved Management	Kenya: 47 counties manage their own kits and top-ups. Impact: Strong local ownership but a massive monitoring burden to ensure standardized quality across borders. [4] Tanzania: Deploying 28k CHWs via multiple funding streams (Gov/Donor/PBF). Impact: Broad geographic reach but risks fragmented supervision and inconsistent incentive packages.[5]
FISCAL SUSTAINABILITY	Domestic Ownership vs. External Dependency	Mozambique: Mozambique’s APE programme is government-led but still depends heavily on donor-supported procurement and logistics for malaria commodities, with documented stockouts showing that external partners remain essential to maintaining supply.[6] Malawi: Gov prioritizes wages; donors fund inputs. Impact: Wage security prevents strikes but creates "programmatic hollowing" where staff are present but lack the tools to perform.

Chikaphupha, Kingsley R et al, Steenland, M., et al., Ferrão, O., et al. , chu4uhc (2024), CHW Central (2021) ,Davlantes E, Salomao C, Wate F, et al.(2017)

KEY FINDINGS



CHWs consistently expand access and strengthen primary health care across contexts

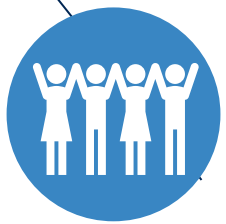
Across all five countries, CHWs play a central role in extending preventive, promotive, and selected curative services to underserved populations

Institutionalization matters more than scope expansion alone

Programs with clear national roles, supervision, and financing (e.g., Malawi, Burkina Faso) show more reliable performance than those with broad scope but weaker governance (e.g., Tanzania)

Cost-effectiveness evidence is strong but unevenly distributed

The densest evidence is in HIV, TB, malaria, and selected NCDs, with many studies showing CHWs to be cost-effective or cost-saving, evidence on affordability, budget impact, and long-term financing remains limited across all program areas



CHW effectiveness increasingly manifests as system contribution

Evidence points to gains in coverage, continuity, surveillance, and referral rather than isolated clinical outcomes alone. CHWs function as health system infrastructure, not just delivery agents for individual interventions

LIMITATIONS & OPPORTUNITIES FOR FURTHER RESEARCH

Most studies report ICERs, but few assess fiscal feasibility or long-term sustainability, this may constrain interpretation for national scale-up decisions

Many studies focus on disease-specific outcomes rather than system-level performance

Limited comparative evidence exists on, salaried vs incentive-based models, narrow vs broad scope of practice

Link CHW costs to government budgets, purchasing mechanisms, and fiscal space, evaluating sustainability under routine financing conditions

Prioritize Latin America, Southeast Asia, and fragile settings where CHWs are widely used but under-evaluated

HOW DOES THE EVIDENCE ALIGN WITH WIDELY ADVOCATED CHWs MODELS?

What the five country evidence validates and where it urges caution

Where the evidence broadly validates prevailing CHWs advocacy	Where the evidence urges nuance or restraint
Formalization and integration matter: Evidence across Burkina Faso, Kenya and Malawi supports the core principle advances by UNICEF, CHIC, Living Goods and Last Mile Health that CHWs perform best when embedded within national health systems rather than operating as parallel delivery programs	**Institutional readiness matters more than model replication:** Evidence does not support uniform, rapid scale-up of "best practice" models across settings without aligned to financing, governance, and workforce systems. Several countries illustrate performance fragility when scope expansion precedes institutionalization
Paid, supervised CHWs outperform volunteer models: Across countries, programs with clearer renumeration, supervision, and accountability structures show more consistent coverage, continuity, and service quality, reinforcing advocacy for professionalized CHWs cadres	**Digital enablement is enabling, not determinative:** While widely promoted, digital tools show value primarily when layered onto strong supervision and data use systems; evidence does not support digitalization as a substitute for foundational workforce and governance capacity
Expanded scope can deliver value when systems are ready: Where governance, training, and supervision are in place, task expansion has been effective and cost-effective, aligning with calls for broader CHWs roles	**Affordability and fiscal sustainability remain under-evidenced:** Despite strong advocacy for national scale, the evidence base rarely assesses budget impact or long-term affordability, suggesting that some claims outpace available fiscal evidence

Sources: Perry HB et al. (2017); Living Goods & Last Mile Health; Community Health Impact Coalition (CHIC)_proCHW dashboard; UNICEF_CHWs program guideline 2019; Ballard et al. (2021)

QUESTIONS?

START CENTER

STRATEGIC ANALYSIS,
RESEARCH & TRAINING CENTER

Department of Global Health | University of Washington

THANK YOU

START CENTER
STRATEGIC ANALYSIS,
RESEARCH & TRAINING CENTER

APPENDIX

START CENTER
STRATEGIC ANALYSIS,
RESEARCH & TRAINING CENTER

ARTICLE DATA EXTRACTION CATEGORIES

EXTRACTED IN EXCEL DATABASE

ARTICLE METADATA	COST-EFFECTIVENESS	SCOPE OF PRACTICE	MANAGEMENT MODEL
Journal/Grey literature name	ICER	Cadre Characteristics (CHW terminologies)	Recruitment & Accreditation
Article Title	ACER	Integration into HRH	Training
First Author			
Country	BIA	Integrated vs vertical services	Supervision
Publication Year	Clinical Outcome	Disease/program areas	Renumeration
DOI/URL	Health Systems Strengthening Outcomes	List services (Former vs Current)	Supply Chain
Barriers and Facilitators		Comment on roles (how they have evolved overtime)	Data Reporting & Electronic Data Use

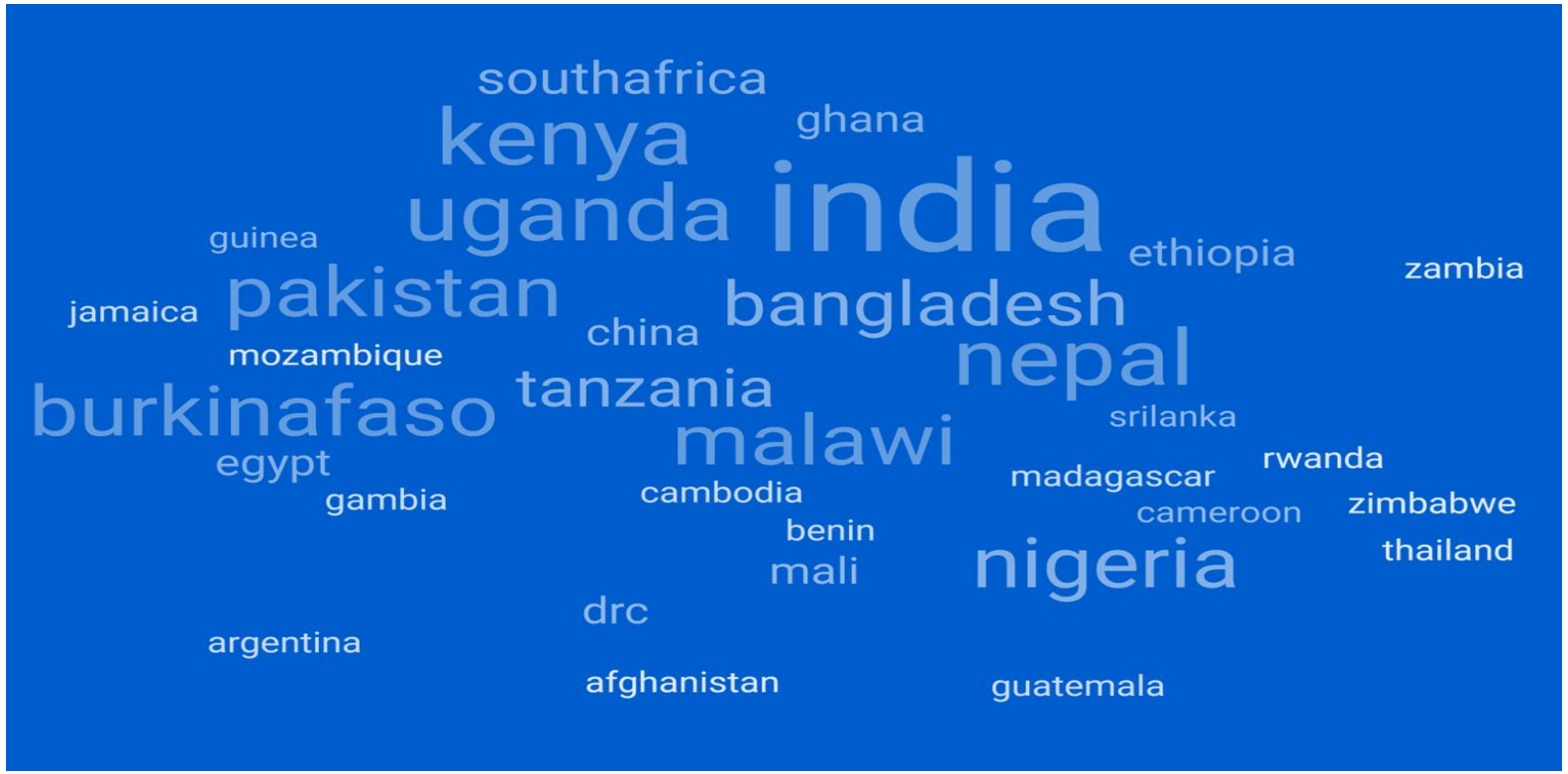
CB-PHC PUBLICATIONS REPRESENATION

Inclusion

- Selected 10 countries appearing most in peer-reviewed journals: India, Nepal, Bangladesh, Pakistan, Malawi, Uganda, Tanzania, Kenya, Burkina Faso, Nigeria

- 2 additional countries were selected based on their unique CHW model: Mozambique and Ethiopia

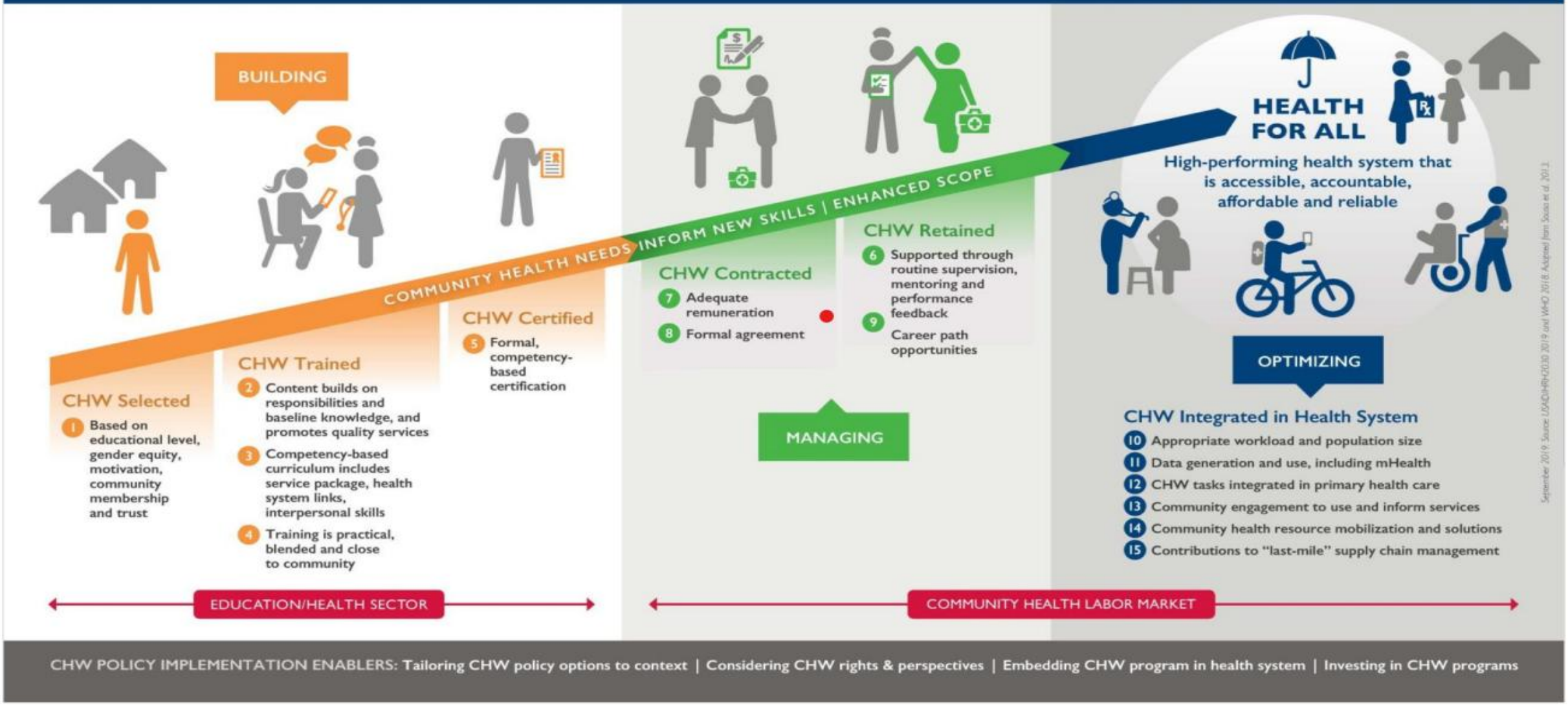
- We have narrowed down further to 5 countries (Kenya, Burkina Faso, Tanzania, Malawi, and Mozambique)



SPOTLIGHT

	Rakuomi et al. (2017)	Cherutich et al. (2018)	Gaziano et al. (2014)
Intervention & Geography	Malaria pre-referral treatment by CHWs Kenya	HIV assisted partner services Kenya	Hypertension management South Africa
Comparison Group	CHW-delivered malaria pre-referral treatment vs. Standard facility-based referral	CHW-led assisted partner notification and testing vs. Nurse-led partner services	CHW-supported hypertension screening and management vs. No treatment or facility-based usual care
Economic Metrics and Findings	ICER (cost per DALY averted) ~US$5.50 per DALY averted	Incremental costs and program-level budget savings ~US$360,000 in savings	ICER (cost per DALY averted) ~US$320 per DALY averted
Effectiveness Outcome	Improved timely treatment and referral	Improved partner testing, maintained clinical, and linkage outcomes while reducing delivery costs	Reduced blood pressure Lower projected cardiovascular risk over time
Why this study matters	Illustrate value of time-sensitive, protocolized CHWs tasks	Demonstrates substitution of CHWs for higher-cost cadres	Shows CHWs can deliver chronic disease services cost-effectively

WHO Community Health Worker Guideline Recommendations Using Lifecycle Approach



Source: HRH2030. 2023. "WHO Community Health Worker Guideline Recommendations Using Lifecycle Approach."

FINDINGS

EVOLUTION OF CHWS: KENYA

EVOLUTION OF CHWs: KENYA

1980s: Initial Phase

- **1980s**
  Initial Phase
- **2006**
  Deliver Kenya Essential Package for Health (KEPH)
  First strategic plan
- **2013**
  Second strategic plan (2014-2019)
- **2020**
  Community health policy plan (2020-2030)
- **2023**
  Community health promoters

Scope of Practice	Management Models	Effectiveness
Description: In the 1980s, Kenya implemented Primary Health Care through Community-Based Health Care programs. **Cardre Name:** Village health helpers(VHHs), and 'Nyamrerwas' **Services offered:** • Health education; Health promotion • MCH promotion eg. encouraging clinic attendance and weighing newborns. • Environmental hygiene education and nutrition counseling. • Vital event recording (births and deaths)	**Recruitment**: Community-nominated or NGO- and university-program driven ,faith-based **Training/Accreditation**: Short project specific trainings **Supervision**: NGO staff; project officers **Incentives:** Volunteers, stipends **Community involvement:** Informal trust **Equipment and supplies:** Project dept, IEC materials, ORS packets, MUAC tapes **Opportunity for advancement:** N/A **Data reporting:** Paper **Linkages to national health systems:** N/A	**Effectiveness (Clinical & HSS):** Localized improvements in child survival, health knowledge, and service uptake, • Significant localized impacts: 50% reduction in infant mortality in Saradidi (1980s) • Increased immunization and latrine coverage in districts like Kwale and Baringo. • Tenwek achieved >80% immunization coverage in its catchment areas.

Kawakatsu, Y. et al. (2012), Jacobson *et al.* (1989), Kaseje *et al.*, 1987

EVOLUTION OF CHWs: KENYA

2006: KEPH First Strategic Plan

1980s
Initial Phase

2006
Deliver Kenya Essential Package for Health (KEPH) First strategic plan

2013
Second strategic plan (2014-2019)

2020
Community health policy plan (2020-2030)

2023
Community health promoters

Scope of Practice	Management Models	Effectiveness
Description: In 2006 Kenya adopted the Community Health Strategy under the *National Health Sector Strategic Plan (2005–2010)* to strengthen primary health care (PHC) by extending services to the community level. It defined Community Units (CUs)(5000 people) as Level-1 health service delivery platforms with a structured community workforce. **Cardre Name:** CHVs Services offered: • health promotion, disease prevention, • minor ailment support, • referrals, patient follow-ups, • maternal and child health support (e.g. ANC follow-up and immunization adherence reinforcement), • basic treatment guidance, • HIV support, • basic curative care (iCCM for malaria/diarrhea).	**Recruitment:** from the community: literate supported by CHC **Training/Accreditation**: Standard training: **Supervision:** CHAs **Incentives:** Volunteers, though a 2010 policy revision (HSSF) suggested a KSh 2,000 (~$25) stipend (rarely implemented) **Community involvement:** Extensive: Selected CHW, elected CHCs, CHC includes community members **Equipment and supplies:** CHW kits; paper registers **Opportunity for advancement:** Limited: CHW→CHEW **Data reporting:** Paper, Household register, Service delivery logbook **Linkages to national health systems:** Institutionalized through the Community Unit (CU), serving 5,000 people and linked directly to a "base" health facility (Level 2 or 3).	**Effectiveness (Clinical & HSS):** Improved coverage MCH: Marked improvements in IPTp uptake (23% →57%) and exclusive breastfeeding, Skilled Birth Attendance (SBA): Increased from 31% to 57%

Community Health Delivery Partnership. (2022, March 9)

EVOLUTION OF CHWs: KENYA

2014: Second Strategic Plan

1980s
Initial Phase

2006
Deliver Kenya Essential Package for Health (KEPH)
First strategic plan

2013
Second strategic plan (2013-2019)

2020
Community health policy plan (2020-2030)

2023
Community health promoters

Scope of Practice	Management Models	Effectiveness
Description: Kenya was in a mid-implementation phase of the original 2006 Community Health Strategy. A situation analysis was conducted to inform revisions of the strategy, identifying gaps in coordination, support systems, incentives, and M&E mechanisms to strengthen community health service **Cardre Name:** CHVs **Services offered:** • Integrated Community Case Management (iCCM). • HIV/TB treatment adherence, • NCD screening (pilot phases), Mental Health awareness.	**Recruitment**: Community-selected; county-managed **Training/Accreditation**: Standardized 13-Module Curriculum **Supervision**: CHEWs under county health depts **Incentives/Renumeration** County dependent stipends. The Stipend Patchwork: Some counties (e.g., Kisumu, Siaya) passed legislation to pay monthly stipends (KSh 2,000-3,000), while others remained unpaid. Insurance, SACCO **Community involvement:** CHCs uneven; governance gaps **Equipment and supplies:** "CHV Toolkit": Basic diagnostics (thermometers, MUAC tapes) and initial pilots of mHealth smartphones. **Opportunity for advancement:** Minimal, CHV→CHA **Data reporting:** Paper-to-Digital" shift. Development and piloting of the Electronic Community Health Information System (eCHIS). **Linkages to national health systems:** Fragmented due to devolution, Dependent on county government	**Effectiveness (Clinical & HSS):** Chamas for Change" (mother-to-mother support groups) led to a 30% increase in facility-based deliveries and a 22% increase in exclusive breastfeeding iCCM model showed that CHVs could correctly diagnose and treat over 80% of malaria cases at the household level,

Smith et al., 2018 , Smith Paintain, Lucy et al(2014)

EVOLUTION OF CHWs: KENYA

2020: Community Health Policy Plan

- **1980s**
  Initial Phase
- **2006**
  Deliver Kenya Essential Package for Health (KEPH)
  First strategic plan
- **2013**
  Second strategic plan (2014-2019)
- **2020**
  Community health policy plan (2020-2030)
- **2023**
  Community health promoters

Scope of Practice	Management Models	Effectiveness
Description: The Kenya Community Health Strategy 2020–2025 (KCHS) was developed to build on lessons from the 2014–2019 CHS and strengthen community health systems nationally. **Cadre Name:** CHVs **Services offered:** • COVID-19 screening / surveillance, • Home-Based Isolation and Care (HBIC), • expanded NCD management (hypertension/diabetes follow-ups).	**Recruitment**: Standardized criteria; county recruitment **Training/Accreditation**: National competency-based curriculum.. Digital-First Training: Massive rollout of the "E-Learning" modules. Training focused on the use of eCHIS. **Supervision**: Data-Driven Supervision: CHAs began using digital dashboards to track CHP performance in real-time, **Incentives:** standardized monthly stipend (KSh 5,000), split 50/50 between the National Government and Counties. **Community involvement:** selected in community barazas with CHC oversight. Vaccine diplomacy **Equipment and supplies:** Introduction of smartphones, infrared thermometers, pulse oximeters, and PPE, alongside traditional iCCM drugs. **Opportunity for advancement:** CHVs can progress to CHAs or CHOs . CHAs and officers may assume management or specialist roles within CHUs and county health systems **Data reporting:** eCHIS- data to sync directly from the household to the National Data Warehouse **Linkages to national health systems:** Formalized through the Primary Care Network (PCN), where the CHP became the "entry point"	**Effectiveness (Clinical & HSS):** • Expanded CHU coverage, improved preventive service delivery and referrals, and strengthened workforce structure • Maintenance of essential health services during the pandemic; 90%+ success rate in home-based care for asymptomatic COVID-19 patients. • Increase in facility-based delivery

Kenya Community Health Strategy 2020-2025

EVOLUTION OF CHWs: KENYA

2023: CHPs under UHC

- **1980s**
  Initial Phase
- **2006**
  Deliver Kenya Essential Package for Health (KEPH)
  First strategic plan
- **2013**
  Second strategic plan (2014-2019)
- **2020**
  Community health policy plan (2020-2030)
- **2023**
  Community health promoters

Scope of Practice	Management Models	Effectiveness
Description: Shifted toward formalized Community Health Promoters (CHPs) under the Universal Health Coverage (UHC) agenda **Cardre Name:** CHPs **Services offered:** Comprehensive PHC: Includes • NCD screening (Blood pressure/sugar), • iCCM (malaria, pneumonia, diarrhea), • maternal health tracking, • nutrition, • mental health	**Recruitment**: CHPs appointed national and county government initiatives with each CHP responsible for 100 households; community-based ;county oversight. **Training/Accreditation**: Formal Certification. The curriculum is now a formal "Level 1" accreditation **Supervision**: Supportive Digital Supervision: **Incentives:** Standardized monthly stipends linked to eCHIS **Community involvement:** community leaders and health committees involved **Equipment and supplies:** The 2023 "Afya Bora Mashinani" Kit: **Opportunity for advancement:** Yes **Data reporting:** eCHIS/electronic systems to capture household data, linked to national health information systems, enabling real-time tracking of community health service delivery. **Linkages to national health systems:** Primary Care Networks that link community care with level 2 and 3 facilities,	**Effectiveness (Clinical & HSS):** • CHPs facilitating Chamas spent fewer volunteer hours per month compared to those performing standard door-to-door visits (3 vs. 7.5 hours) while achieving a greater number of total women contacts (12 vs. 9 CHP contacts) • Usage of CHPs increased in proportion of facility deliveries (65-70% to 94-98%)

FINDINGS

EVOLUTION OF CHWS: MOZAMBIQUE

EVOLUTION OF CHWs: MOZAMBIQUE

1978: Initial Phase

1980s
Initial Phase

1995
Revitalization of the program

2010
Relaunch of the program

2022
Comprehensive Community Health Strategy

Scope of Practice	Management Models	Effectiveness
Description: Establishment of APE programme **Cardre Name:** Agentes Polivalentes Elementares (APEs), **Services offered:** • Health promotion and disease prevention • First aid, • Treat common diseases (including malaria with chloroquine and dehydration from diarrhoea with oral rehydration)	**Recruitment**: NGO based **Training/Accreditation**: Short project specific trainings **Supervision**: NGO staff; project officers **Incentives:** Volunteers, stipends **Community involvement:** Informal trust **Equipment and supplies:** Project dept, IEC materials, ORS packets, MUAC tapes **Opportunity for advancement:** N/A **Data reporting:** Paper **Linkages to national health systems:** N/A	**Effectiveness (Clinical & HSS):** • Raised urban child vaccination from 36% (1985) to 55% (1987) nationally, with 84% in Maputo by 1986, reducing neonatal tetanus incidence [2]. • The official programme was **suspended in 1989** due to war, resource scarcity,lack of oversightand poor community integration[1].

Chilundo, Baltazar Gm et al [1] , Cutts, F et al [2]

EVOLUTION OF CHWs: MOZAMBIQUE

1995: Revitalization of APE program

1980s
Initial Phase

1995
Revitalization of the program

2010
Relaunch of the program

2022
Comprehensive Community Health Strategy

Scope of Practice	Management Models	Effectiveness
Description: Revitaliztaion of APE program **Cardre Name:** Agentes Polivalentes Elementares (APEs), **Services offered:** • Health promotion and disease prevention • First aid, • Treat common diseases • HIV/TB vertical programs	**Recruitment**: Community-nominated, NGO led **Training/Accreditation**: Short project specific trainings **Supervision**: NGO staff; project officers **Incentives:** Volunteers, stipends **Community involvement:** Informal trust **Equipment and supplies:** Project dept, IEC materials, ORS packets, MUAC tapes **Opportunity for advancement:** N/A **Data reporting:** Paper **Linkages to national health systems:** N/A	**Effectiveness (Clinical & HSS):** Practice involved inconsistent NGO training/incentives, leaving APEs demotivated and communities underserved amid poverty

Chilundo, Baltazar Gm et al [1]

EVOLUTION OF CHWs: MOZAMBIQUE

2010: Initial Phase

1980s
Initial Phase

1995
Revitalization of the program

2010
Relaunch of the program

2022
Comprehensive Community Health Strategy

Scope of Practice	Management Models	Effectiveness
Description: Establishment of APE programme **Cardre Name:** Agentes Polivalentes Elementares (APEs), **Services offered:** • ICCM • Prescribing rights • Treating common illnesses • health promotion, first aid, • danger sign detection/referrals, • family planning counseling	**Recruitment**: By community leaders **Training/Accreditation**: Pre-service training:4-to-5-month residential course **Supervision**: monthly visits by facility nurses and quarterly visits by district supervisors **Incentives:** Stipend model funded by donor **Community involvement:** Informal trust **Equipment and supplies:** Medicine Kit C (including artemether/lumefantrine and amoxicillin) **Opportunity for advancement:** N/A **Data reporting:** Paper **Linkages to national health systems:** APEs can refer to their supervising health facility, receive commodities through the facility, and sit on co-management committees	**Effectiveness (Clinical & HSS):** APEs achieved 63.9% timely antimalarial treatment for febrile kids (vs. 37.5% controls) and 77.4% full 3-day adherence (vs. 54.6% facilities)[2]

Ndima, Sozinho Daniel et al.[1] Chilundo, Baltazar Gm et al[2]

EVOLUTION OF CHWs: MOZAMBIQUE

2022: Comprehensive CHS

1980s
Initial Phase

1995
Revitalization of the program

2010
Relaunch of the program

2022
Comprehensive Community Health Strategy(CHS)

Scope of Practice

Description:
Establishment of APE programme

Cardre Name:
Agentes Polivalentes Elementares (APEs),

Services offered:
- iCCM
- Treating common illnesses
- Further broadened to include non-communicable disease screening, nutrition, maternal/neonatal care, and digital reporting

Management Models

Recruitment:
gender balancing,

Training/Accreditation:
Training adopted blended/digital learning through the UPSCALE and Leap mobile applications, COVID-19 modules

Supervision:
team approach introduced

Incentives:

transition toward government ownership of subsidies. Still heavily partner supported

Community involvement:
Informal trust

Equipment and supplies:
Medicine Kit C (including artemether/lumefantrine and amoxicillin)

Opportunity for advancement: N/A

Data reporting: Paper

Linkages to national health systems:
APEs can refer to their supervising health facility, receive commodities through the facility, and sit on co-management committees

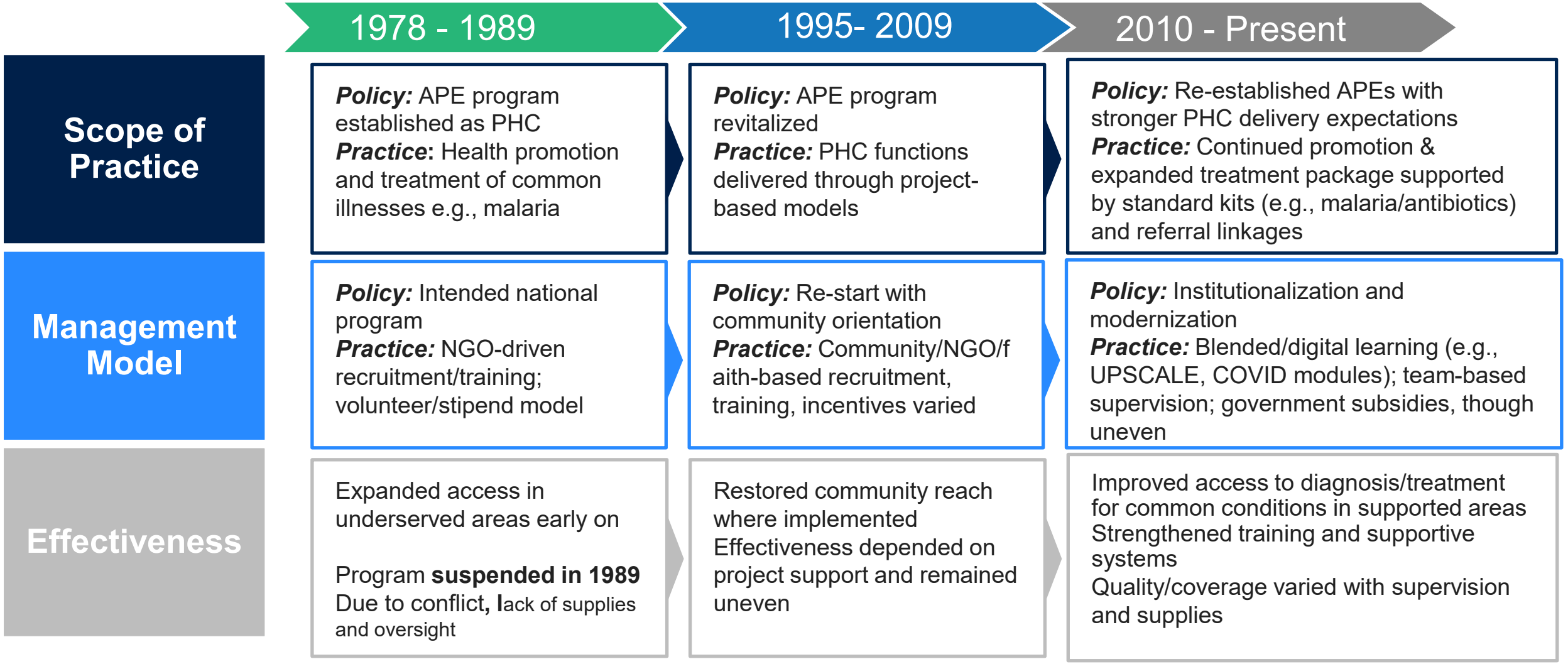
Effectiveness

Effectiveness (Clinical & HSS):

- Appropriate iCCM coverage increase(+26% overall).
- Workforce grew from 3,380 (2018) to 8,300 APEs (2022); household coverage doubled to 3.6 million. inSCALE tech raised iCCM treatment by 26%; 1 million malaria cases managed (2018).[3]
- Practice shows scaling progress but ongoing challenges in data systems, supervision, and full provincial rollout via partners

World Health Organization. (2024, August 13)1, Guenther, Tanya et al2 , **World Bank Group.** *Working toward better health: expanding community health services in Mozambique, 2025* 3

EVOLUTION OF CHWs: MOZAMBIQUE



Chilundo, Baltazar Gm et al ; Cutts, F et al; Ndima, Sozinho Daniel et al.; World Health Organization. (2024, August 13), Guenther, Tanya et al , **World Bank Group.** *Working toward better health: expanding community health services in Mozambique.* 2025.

FINDINGS

EVOLUTION OF CHWS: BURKINA FASO

EVOLUTION OF CHWs: BURKINA FASO

1979: Initial Phase

1979
Initial Phase

1980s
The "One Village, One Health Post" Operation

2014
Definition of the Community-Based Health Worker / ASBC Profile

2016
Recruit ASBC

2021
Revised ASBC profile

2023
National Volunteering (VN-ASBC) Program

2024
National Community Health Strategy (NCHS) Launch

Scope of Practice	Management Models	Effectiveness
Description: Introduction of midwives/Traditional Birth Attendants (TBAs); Community-based health approach **Cardre Name:** Traditional Birth Attendants (TBAs) localities of Kombissiri, Dori, Sebba, and Diapaga **Services offered:** • Maternal and newborn care	**Recruitment**: Community selection based on traditional expertise **Training/Accreditation**: **one month** Focused on "clean" deliveries and identifying danger signs for referral; annual **one-week refresher** course, not systematic **Supervision**: Technical oversight by peripheral health personnel **Incentives:** Volunteer; Community trust and acceptance **Equipment and supplies:** Basic technical kits **Opportunity for advancement:** NA **Data reporting:** Paper based reporting **Linkages to national health systems:** Volunteers of Primary Health Posts	**Effectiveness (Clinical & HSS):**

Community Health National Strategy 2024-2028 ; Sauerborn, et.al.(1989)

EVOLUTION OF CHWs: BURKINA FASO

1985: The "One Village, One Health Post" Operation

1979
Initial Phase

1980s
The "One Village, One Health Post" Operation

2014
Definition of the Community-Based Health Worker / ASBC Profile

2016
Recruit ASBC

2021
Revised ASBC profile

2023
National Volunteering (VN-ASBC) Program

2024
National Community Health Strategy (NCHS) Launch

Scope of Practice	Management Models	Effectiveness
Description: Staff every village with a health worker and midwife **Cardre Name:** Village Health Workers(VHW) / (Agents de Santé de Village) +Village midwife Expansion districts like Solenzo **Services offered:** • Preventive and promotive-hygiene • Basic curative wounds, diarrheas, malaria, conjunctivitis, pneumonia • Follow up- TB, leprosy; • Disease surveillance-report early warning of epidemics	**Recruitment**: Social standing /village consensus **Training/Accreditation**: one month training on preventive and limited curative aspects for diarrhoe, malaria, wound management **In 2009:** VHW trained (8 days) on integrated community case management (iCCM) and l**aunch of the "Rapid Scale-up" (RSU) program** **Supervision**: Local Clinic Nurse; very irregular **Incentives:** volunteer (In kind, social prestige **Community involvement:** Recruitment **Equipment and supplies:** First-aid kits **Data reporting:** Paper based **Linkages to national health systems:** Volunteers of Primary Health Posts	**Effectiveness (Clinical & HSS):** • **In 1982, Low utilization of Community Health Workers (CHWs)** Consulted for only **8.8% of mild illnesses 96.5% of serious cases bypassed** CHWs entirely • **After RSU implementation**, **In 2015** VHW **treated more people for malaria** compared to dispensary and the SCF clinics (4974 people more) • **In 2015 , measured CHW performance** **77% of CHWs** correctly classified most illnesses; **Only 33% of observed cases**, received correct treatment by the CHWs; The CHWs only had about **38% of essential drugs** available to them

Community Health National Strategy 2024-2028 ; Community Health Road map 2021 ; Sauerborn, et.al.(1989) ; Ian Cross, et.al 1982; Bukanja D(2012)

EVOLUTION OF CHWs: BURKINA FASO

2014: First Community Health Workers Profile

1979
Initial Phase

1980s
The "One Village, One Health Post" Operation

2014
Definition of the Community-Based Health Worker / ASBC Profile

2016
Recruit ASBC

2021
Revised ASBC profile

2023
National Volunteering (VN-ASBC) Program

2024
National Community Health Strategy (NCHS) Launch

Scope of Practice	Management Models	Effectiveness
Description: Definition of the Community-Based Health Worker Profile **Cardre Name:** Agent de Santé à Base Communautaire (ASBC) Harmonize form of TBAs and VHWs	**Recruitment**: Harmonize recruitment process **Training/Accreditation**: Harmonize training modules for ASBCs **Supervision**: Harmonized **Incentives:** Defined **Equipment and supplies:** Defined/Harmonized **Data reporting:** Defined/Harmonized **Linkages to national health systems:** Volunteers of Primary Health Posts	**Effectiveness (Clinical & HSS):**

Timothy Roberton et.al, 2015 ; Community Health Roadmap 2021 ; Community Health National Strategy 2024-2028

EVOLUTION OF CHWs: BURKINA FASO

2016: Recruitment And Implementation Of ASBC

1979
Initial Phase

1980s
The "One Village, One Health Post" Operation

2014
Definition of the Community-Based Health Worker / ASBC Profile

2016
Recruit ASBC

2021
Revised ASBC profile

2023
National Volunteering (VN-ASBC) Program

2024
National Community Health Strategy (NCHS) Launch

Scope of Practice	Management Models	Effectiveness
Description: Transition phase from VHWs/Midwives to ASBC . Launch of the **National Community Health Strategy (2016–2018)** **Cardre Name:** Agent de Santé à Base Communautaire (ASBC) **Services offered:** **Minimum package 28 core packages** • **Curative:** Childhood malaria, diarrhoea, and pneumonia treatment • **Preventive:** Nutrition screening, immunization follow-up, ITNs • **Promotional:** Family planning and family health practices	**Recruitment**: Community-selected with support from health staff and municipalities **Eligibility:** primary education, age 20 to 50, literate in French **Training/Accreditation**: 19 days. Refresher every 2 years but not systematic **Supervision**: twice a month and quarterly supervision; Irregular and mostly without clinical observation **Incentives:** 20,000 CFA francs per month. Delays in payment **Equipment and supplies:** Standard technical kits but frequent shortages of essential inputs and medicines. **Data reporting:** paper-based registers	**Effectiveness (Clinical & HSS):** • **The rapid scale-up program did not result** in coverage increases or a reduction in under-five mortality • **In the pilot iCCM study, little evidence** on the CHWs contribution to **increased care seeking**

Community Health National Strategy 2024-2028; M.Munos et.al, 2016; Bernadette Daelmans et.al, 2016; M. Siribie et al., 2015

EVOLUTION OF CHWs: BURKINA FASO

2021: ASBC Profile Revision

1979
Initial Phase

1980s
The "One Village, One Health Post" Operation

2014
Definition of the Community-Based Health Worker / ASBC Profile

2016
Recruit ASBC

2021
Revised ASBC profile

2023
National Volunteering (VN-ASBC) Program

2024
National Community Health Strategy (NCHS) Launch

Scope of Practice	Management Models	Effectiveness
Description: The Rise of the Professional ASC (formal cardre) Revised the ASBC profile document **Cardre Name:** Agent de Santé à Base Communautaire (ASBC) **Services offered:** • Minimum package of preventive, promotive and curative (28 core service packages)	**Recruitment**: Population-based selection, local authority involvement **Training/Accreditation**: systematic refresher training **Supervision**: conducted by State's technical services **Incentives:** 20,000 CFA francs per month. Delays in payment **Equipment and supplies:** Digital Kits, resolve inventory gaps **Opportunity for advancement:** Professionalization(**5+ years' seniority** in community health/hygiene qualifies staff for **competitive exams** to train as **professional ASC** (formally employed) **Data reporting:** Digitalization launch of the **eSanteCoM**	**Effectiveness (Clinical & HSS):** • Improved attendance at health facilities. • Better application of iCCM to combat malaria, diarrhea and pneumonia • Still concern of the coverage

Community Health National Strategy 2024-2028; Hamed Sidwaya et.al., 2024 (data collected between 2017-2022); Health investment profile

EVOLUTION OF CHWs: BURKINA FASO

2023: National Volunteering (VN-ASBC) Program

1979
Initial Phase

1980s
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2014
Definition of the Community-Based Health Worker / ASBC Profile

2016
Recruit ASBC

2021
Revised ASBC profile

2023
National Volunteering (VN-ASBC) Program

2024
National Community Health Strategy (NCHS) Launch

Scope of Practice	Management Models	Effectiveness
Description: National Volunteers to reinforce **community health in urban areas and security-challenged regions** **Cardre Name:** National Volunteers- Agent de Santé à Base Communautaire (VN-ASBC) **Services offered:** • Minimum package 28 core packages preventive, promotive and curative	**Recruitment**: state-affiliated body known as the **Public Interest Group – National Volunteer Programme** **Training/Accreditation**: Same as ASBC **Supervision**: Same as ASBC **Incentives:** Same as ASBC **Community involvement:** NA **Equipment and supplies:** Same Opportunity for advancement: Same **Data reporting:** Digital + Paper **Linkages to national health systems:** Same	**Effectiveness (Clinical & HSS):** In 2023, **Tracing lost-to-follow-up cases:** ASBCs effectively located children who missed vaccination appointments—reaching **78.9% (0–11 months)** and **79.5% (15–18 months)** of those lost to the system **HIV/TB support:** Improved tracing increased identification of HIV treatment defaulters. **Reach:** Reached **13.5+ million people** through educational talks and video sessions.

Community Health National Strategy 2024-2028; Hamed Sidwaya et.al., 2023

EVOLUTION OF CHWs: BURKINA FASO

2024: National Community Health Strategy (NCHS) 2024-2028

1979
Initial Phase

1980s
The "One Village, One Health Post" Operation

2014
Definition of the Community-Based Health Worker / ASBC Profile

2016
Recruit ASBC

2021
Revised ASBC profile

2023
National Volunteering (VN-ASBC) Program

2024
National Community Health Strategy (NCHS) 2024-2028

Scope of Practice	Management Models	Effectiveness
Description: National Community Health Strategy (NCHS) **; On the way to full digitization, functionality** through **CHW management platforms /PGA platforms** **Cardre Name:** ASBC, VN-ASBC **Services offered:** • Minimum package 28 core packages preventive, promotive and curative	**Recruitment**: Village population size **Training/Accreditation**: Maintaining 100% training standards; systematic 2-year refresher training **Supervision**: by peripheral HF **Incentives:** 20,000 per month **Community involvement:** recruitment **Equipment and supplies:** Digital kits **Opportunity for advancement:** Professionalization **Data reporting:** Digital **Linkages to national health systems:** National program	**Effectiveness (Clinical & HSS):** **Administrative village coverage:** Reached **93.08% by 2024** **Health service contribution (ASBCs):** • Treat **13.6% of diarrhoea cases** in children under five • Treat **6.4% of uncomplicated malaria cases** in children under five

Community Health National Strategy 2024-2028

FINDINGS

EVOLUTION OF CHWS: TANZANIA

EVOLUTION OF CHWs: TANZANIA

1979: Initial Phase

- **1960s** Initial Phase
- **1995** (APOC Launch)
- **2007** Development of single, official, national cadre of CHW
- **2012** Connect Project
- **2014:** CBHP Policy Guidelines approved.
- **2021:** Current National Strategy
- **2024** Official Launch of the iCCHW Programme

Scope of Practice	Management Models	Effectiveness
Description: With the evolution of the the Arusha declaration, first village-based volunteer health workers **Cardre Name:** Village Health Workers **Services offered:** Basic hygiene, sanitation, "Mtu ni Afya" (Health is Man).	**Recruitment**: Village-led (Ujamaa policy); based on trust and residence. **Training/Accreditation**: Minimal/Informal; usually 2–3 weeks on basic hygiene. **Supervision**: Village leadership and nearby Dispensary staff. **Incentives:** Volunteerism; social prestige and small village gifts. **Equipment and supplies:**Basic first aid kits (often non-existent). **Community involvement:** High; deeply embedded in Ujamaa village structure. **Opportunity for advancement: None** **Data reporting: paper based** **Linkages to national health systems:** Weak; informal referral	**Effectiveness (Clinical & HSS):** Improved sanitation; high national awareness

Community Health National Strategy 2024-2028 ; Sauerborn, et.al.(1989)

EVOLUTION OF CHWs: TANZANIA

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Initial Phase

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APOC Launch

2007
Development of single, official, national cadre of CHW

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Connect Project

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CBHP Policy Guidelines approved

2021:
Current National Strategy

2024
Official Launch of the iCCHW Programme

Scope of Practice	Management Models	Effectiveness
Description: **Cardre Name:** Community-Directed Distributors (CDDs) **Services offered:** Ivermectin distribution (Onchocerciasis).	**Recruitment**: Selected by community for specific disease programs. **Training/Accreditation**:1–3 days (Short, task-specific training for Onchocerciasis). **Supervision**: Vertical program supervisors (District focal persons). **Incentives:** Unpaid (Volunteer); small allowances during training **Equipment and supplies:**Measuring sticks (for dosing), registers. **Community involvement:**.High; community "directed" the program. **Opportunity for advancement: None** **Data reporting:** Program-specific tally sheets. **Linkages to national health systems:**Disease-specific link (Vertical).	**Effectiveness (Clinical & HSS):** Near elimination of River Blindness in target areas.

Community Health National Strategy 2024-2028 ; Sauerborn, et.al.(1989)

EVOLUTION OF CHWs: TANZANIA

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Initial Phase

1995
APOC Launch

2007
Development of single, official, national cadre of CHW

2012
Connect Project

2014:
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2021:
Current National Strategy

2024
Official Launch of the iCCHW Programme

Scope of Practice	Management Models	Effectiveness
Description: **Cardre Name:** Community Health Workers (CHW) **Services offered:** Maternal, Newborn, & Child Health (MNCH) focus.	**Recruitment**: Literacy-based; semi-formal via Village Health Committees. **Training/Accreditation**:Introduction of 3-week standardized Ministry of Health modules. **Supervision**:Facility-based; Health Facility In-charges (HFI) began oversight. **Incentives:Unstable:** Inconsistent partner-led stipends; reliance on the "NGO-itis" model. **Equipment and supplies:**Job aids (flipcharts); notebooks; some bicycles provided by partners. **Opportunity for advancement: S**ome moved to NGO other position **Data reporting:** ntroduction of standardized paper registers (e.g., MTUHA Book No. 3). **Linkages to national health systems:** Explicitly recognized in national health strategy (PHSDP).	**Effectiveness (Clinical & HSS):**

Community Health National Strategy 2024-2028 ; Sauerborn, et.al.(1989)

EVOLUTION OF CHWs: TANZANIA

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- **2024** Official Launch of the iCCHW Programme

Scope of Practice	Management Models	Effectiveness
Description: Pilot implementation **Cardre Name:** Wawezashaji wa Afya ya Jamii (WAJA) **Services offered:** RMNCAH, family planning, and **iCCM** (malaria, diarrhoea, pneumonia)	**Recruitment**: Form IV graduates with science pass; elected by village vote. **Training/Accreditation**:Formal 9 months **primary health-care** training **Supervision**: Strict clinical supervision from nearby facilities. **Incentives: Salaried (Pilot):** Regular monthly equivalent of **$120 USD per month** **Equipment and supplies:**Smartphones for data; medical kits (RDTs, timers); bicycles. **Community involvement:.High Accountability:** Communities tracked presence; village leaders monitored performance. **Opportunity for advancement: Bridging:** Pilot allowed for entry into formal Nursing/Clinical Officer training. **Data reporting: mHealth Pilot:** First major use of mobile apps for real-time reporting. **Linkages to national health systems:Strong Bridge:** Proved CHWs could effectively manage referral/feedback loops.	**Effectiveness (Clinical & HSS):** **15% reduction in Under-5 mortality** in pilot regions

Community Health National Strategy 2024-2028 ; Sauerborn, et.al.(1989)

EVOLUTION OF CHWs: TANZANIA

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1960s
Initial Phase

1995
(APOC Launch)

2007
Development of single, official, national cadre of CHW

2012
Connect Project

2014: CBHP Policy Guidelines approved

2021:
Current National Strategy

2024
Official Launch of theiCCHW Programme

Scope of Practice	Management Models	Effectiveness
Description: CHBC policy guidelines approved. Way to establish national public cardre of CHW **Cardre Name:** Community Health Workers (CHW) **Services offered:**	**Recruitment**: **Training/Accreditation**:1 **Supervision**: **Incentives:** **Equipment and supplies:** **Community involvement:**. **Opportunity for advancement: None** **Data reporting:** **Linkages to national health systems:**	**Effectiveness (Clinical & HSS):**

Community Health National Strategy 2024-2028 ; Sauerborn, et.al.(1989)

EVOLUTION OF CHWs: TANZANIA

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- **2024**
  Official Launch of the iCCHW Programme

Scope of Practice	Management Models	Effectiveness
Description: **Cardre Name:** **Community Health Volunteer (CHV)** or **WAJA wa Kujitolea** **Services offered:** **Integrated Package**: RMNCAH, NCDs, Nutrition, WASH, and **Social Welfare (GBV/VAC)**	**Recruitment**: **VEO/MEO** advertises; candidates must be residents for 3+ years and screened by community **Training/Accreditation**: Standardised **3-month programme** (three 30-day blocks) covering 6–7 modular units **Supervision**: **Dual Supervision**: Administrative (VEO) and Technical (Facility In-charge) **Incentives:** Voluntary basis; eligible for **performance stipends**, iCHF membership, and awards **Equipment and supplies:Minimum Essential Kit**: MUAC tape, thermometer, timer, solar torch, gumboots, and registers **Community involvement:.High ownership**: Community Score Cards, Health Clubs, and participatory diagnosis **Opportunity for advancement:** Pathways based on **good performance** and further training opportunities **Data reporting:** Routine data via **MTUHA Book 3**; integrated into **DHIS2** **Linkages to national health systems:**Formalised **referral procedures** using national standard forms	**Effectiveness (Clinical & HSS):**

Community Health National Strategy 2024-2028 ; Sauerborn, et.al.(1989)

EVOLUTION OF CHWs: TANZANIA

1979: Initial Phase

1960s
Initial Phase

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(APOC Launch)

2007
Development of single, official, national cadre of CHW

2012
Connect Project

2014:
CBHP Policy Guidelines approved

2021:
Current National Strategy

2024
Official Launch of the iCCHW Programme

Scope of Practice	Management Models	Effectiveness
Description: Official Launch of the iCCHW Programme seeks to scale up Coordinated Community Health Workers programs to increase countrywide coverage of life-saving interventions, contribute to universal health coverage and end preventable maternal and child deaths by 2030. compensating them with a monthly stipend through a digital payment system. **Cardre Name:** Integrated Community Health Workers (iCCW) **Services offered:** National scope including **basic curative care** and psychosocial support	**Recruitment**:Merit-based via PO-RALG; prioritized for 10 high-need regions. **Training/Accreditation**:6-month formal training (6 modules) + certification. **Supervision**: **Community Health Service Supervisors (CHSS)** cadre created. **Incentives: Professionalized:** Budgeted government stipends; fully funded and remunerated. **Equipment and supplies:** Fully standardized iCCW Kits (mRDTs, ACTs, ORS, Zinc). **Opportunity for advancement: Standardized:** Accredited 6-month certification; clear paths to higher medical education. **Data reporting: Fully Digital:** National georeferenced master list and automated digital referrals. **Linkages to national health systems:**	**Effectiveness (Clinical & HSS):**

Community Health National Strategy 2024-2028 ; Sauerborn, et.al.(1989)

EVOLUTION OF CHWs: TANZANIA

	Pre- 2007	2007 - 2014	2015 - Present
Scope of Practice	***Practice**:* Disease-specific, vertical CHW roles ***Policy**:* Limited national scope definition	***Policy**:* Integrated primary care role envisioned (WAJA) ***Practice:*** Continued disease-focused implementation	***Policy:*** Integrated CHWs (iCCW) + social welfare + surveillance ***Practice**:* Partial integration; scope varies by district and donor
Management Model	***Practice:*** NGO-led, volunteer-based models ***Policy:*** Limited central oversight	***Policy:*** Government stewardship through WAJA, salaried ***Practice:*** Salaries and supervision inconsistent	***Policy:*** Government-led CHWs with digital integration ; Shift to volunteer ***Practice:*** Mixed financing performance pay unevenly implemented
Effectiveness	Improved access for targeted conditions Outcomes varied widely by program	Gains in malaria testing and diarrheal care Limited spillover to institutional delivery or ANC	Improved case detection and treatment access National effectiveness remains uneven

Vouking, et.al(2015) ; Rafiq, et.al(2019) ; Baynes, et.al(2016) ; WHO report (1996) ; Ozoh, et.al(2011) ; Eriksen, et.al(2010) ; Baynes, et.al (2023) ; WHO report(2025)

FINDINGS

EVOLUTION OF CHWS: MALAWI

EVOLUTION OF CHWs: MALAWI

1950-60s: "The Vaccinators"

1950s-1960s
Vaccinators

1998s
Formalization of HSAs

2000
Expanded scope

Recent 2020s

Scope of Practice	Management Models	Effectiveness
Description: Introduced as "public or smallpox vaccinators and cholera control" **Cadre Name:** Vaccinators **Services offered:** • Vaccination services	**Recruitment**: Community recruitment as volunteers. **Training/Accreditation**: On the job training **Supervision**: Provided by facility-based health inspectors (AEHOs) **Incentives:** In kind incentives (T shirts, bicycles, etc), allowance based **Equipment and supplies:** Basic technical kits for particular diseases **Opportunity for advancement:** NA **Data reporting:** Paper based reporting **Linkages to national health systems:** Primary health facilities	**Effectiveness (Clinical & HSS):** No published data found

Chikaphupha K et al (2016); Callaghana-Koru et al (2013); https://climhealthafrica.org/news-malawi-health-surveillance-assistants/

EVOLUTION OF CHWs: Malawi

1998: Formalization of HSAs

1950-60s
Vaccinators

1998 Formalization of HSAs into the health system

2014
Expanded scope

Recent 2020s

Scope of Practice	Management Models	Effectiveness
Description: Health Surveillance Assistants **Cardre Name:** Health Surveillance Assistants **Services offered:** • Preventive and promotive-hygiene • Disease surveillance • HIV counselling and testing • Integrated Community Case management (ICCM) malaria, pneumonia, diarrhea • Family and reproductive care	**Recruitment**: Formal advertisements and applications. Critical criteria: recruits are from the same area they stay. **Training/Accreditation**: 12-week pre-service training program. 8 in class and 4 in the field. **Supervision**: AEHO who are facility based **Incentives:** Government payroll, and other occasional incentives such as T shirts and bicycles **Equipment and supplies:** Vaccines, needles, drugs, hygiene and water treatments, etc. They obtain and return to facilities after outreach sessions **Data reporting:** Paper based **Linkages to national health systems:** Health facility	**Effectiveness (Clinical & HSS):** • High routine immunization coverage >70% Malawi DHS 2000) • Large uptake of family planning methods due to usage of HSAs, improved access, high community acceptance, and client satisfaction (FHI360 2010 report)

Stanton et al (2015); Malawi DHS (2000); Alhassan (2024)

EVOLUTION OF CHWs: Malawi

2000: "Adokotala a mmudzi"

1950-60s
Vaccinators era

1980s
Blue uniforms

2000s:
Expanded scope

Recent 2020s

Scope of Practice	Management Models	Effectiveness
Description: Health surveillance Assistants **Cardre Name:** Health Surveillance Assistants **Scope**: Preventive and curative ICCM fully fledged	**Recruitment**: Local government recruitment **Training/Accreditation**: Training schools established **Supervision**: Harmonized via AEHOs **Incentives:** Government payroll and allowances **Equipment and supplies:** Defined/Harmonized through facilities **Data reporting:** Paper based, electronic being launched via specific programs **Linkages to national health systems:** Health facilities	**Effectiveness (Clinical & HSS):** • HSAs correctly treated 79% of children with uncomplicated fever (malaria), 69% with diarrhea, and 52% with suspected pneumonia • HSAs successfully reported 256 unique cases of lymphatic filariasis conditions (hydrocoele and lymphoedema) using SMS tools, with a high positive predictive value for diagnoses (around 90%), showing they are effective partners in specific surveillance efforts

Kok MC 2013; Amozou A (2016); Zalisk K (2019); Wilford R (2012); Katz K (2010);

EVOLUTION OF CHWs: Malawi

2020: Increase capacity and workforce

1950-60s
Vaccinators

1998s
Blue uniforms

2000
Expanded scope

Recent 2020s

Scope of Practice	Management Models	Effectiveness
Description: Health surveillance Assistants **Cardre Name:** Health Surveillance Assistants **Scope**: Preventive and curative ICCM fully fledged	**Recruitment**: Local government recruitment. **More HSAS recruited to target 1 HSAs to 1000 people** **Training/Accreditation**: Training schools established **Supervision**: Harmonized via AEHOs **Incentives:** Government payroll and allowances **Equipment and supplies:** Defined/Harmonized through facilities **Data reporting:** Digitalizing data reporting	**Effectiveness (Clinical & HSS):** • HSAs correctly treated 79% of children with uncomplicated fever (malaria), 69% with diarrhea, and 52% with suspected pneumonia • HSAs successfully reported 256 unique cases of lymphatic filariasis conditions (hydrocoele and lymphoedema) using SMS tools, with a high positive predictive value for diagnoses (around 90%), showing they are effective partners in specific surveillance efforts

Amozou A (2016); Zalisk K (2019); Wilford R (2012); Katz K (2010); Kok (2013)

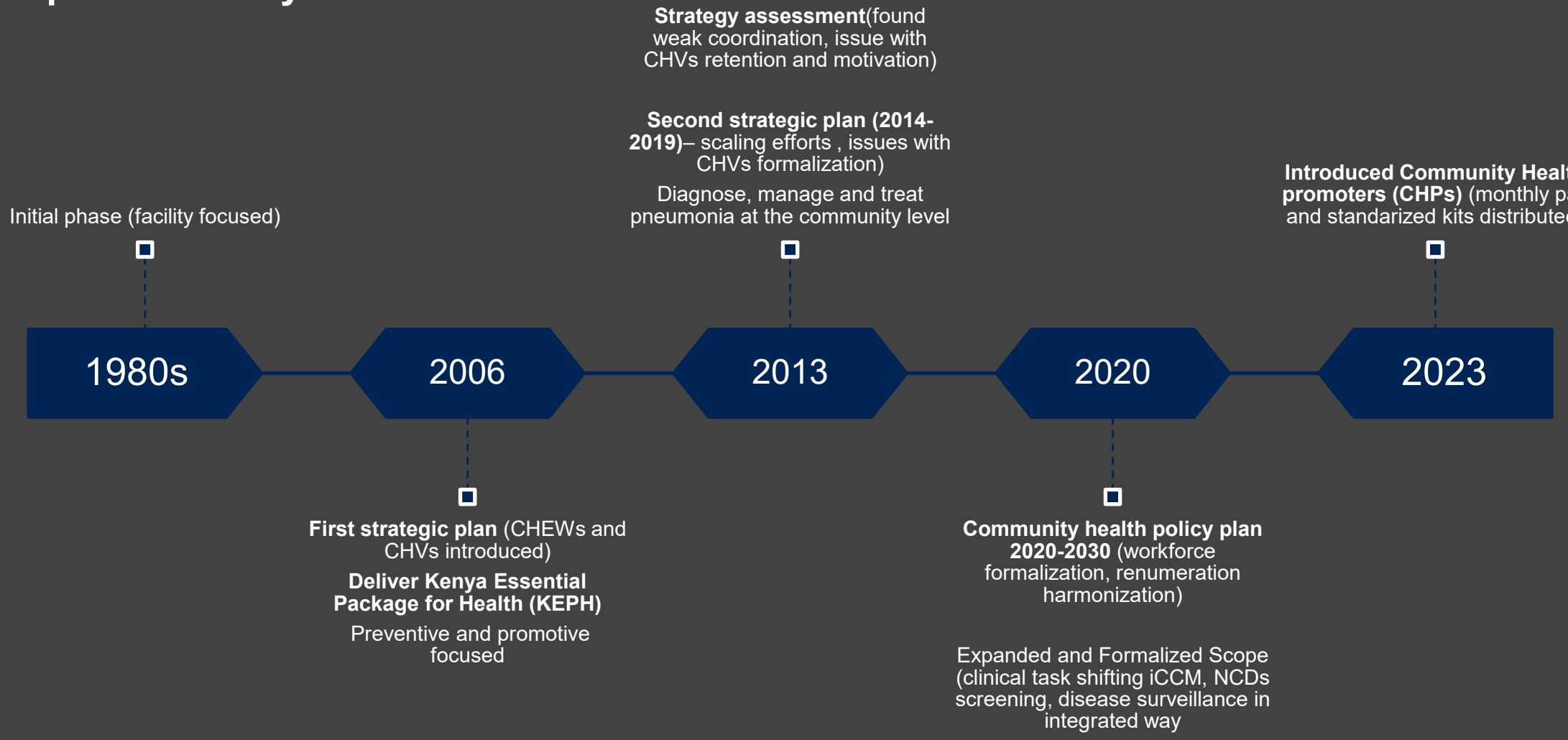
EVOLUTION OF CHWs: MALAWI

	1960s - 1990s	2000s - 2014	2015 - Present
Scope of Practice	***Policy:*** Early definition of a standardized CHW role ***Practice:*** Preventive, surveillance, and child health services delivered by HSAs	***Policy:*** Gradual expansion into iCCM, RMNCH, and immunization support ***Practice:*** Controlled scope growth within a fixed cadre structure	***Policy:*** Reinforced role in PHC and community surveillance ***Practice*:** Limited role flexibility despite increasing service expectation
Management Model	***Policy:*** Strong central oversight and supervision embedded in MOH systems ***Practice:*** Salaried, government-employed cadre	***Policy:*** Continued public-sector employment and supervision ***Practice*:** Programmatic expansions often donor-supported	***Policy:*** Strong institutional anchoring within MOH ***Practice:*** Growing workload without proportional cadre expansion
Effectiveness	Expanded access to preventive and surveillance services Consistent delivery across regions due to early formalization	Improvements in child health service delivery and coverage Gains largely driven by vertical program investments	Sustained service delivery and system reliability Marginal effectiveness gains as workload pressures increased

Chikaphupha K et al (2016); Callaghana-Koru et al (2013); https://climhealthafrica.org/news-malawi-health-surveillance-assistants/; Stanton et al (2015); Malawi DHS (2000); Alhassan (2024); Kok MC 2013; Amozou A (2016); Zalisk K (2019); Wilford R (2012); Katz K (2010)

CHW SCOPE OF WORK (EVOLUTION)

Example from Kenya



PRELIMINARY FINDINGS

EFFECTIVENESS

EFFECTIVENESS

CLINICAL OUTCOMES & HEALTH SYSTEMS STRENGTHENING (HSS)

Clinical Outcomes/HSS

Health/HHS Outcome	Directionality (quantify)
Diagnosis of chronic conditions Well controlled chronic condition (South Africa)	Higher odds 2.6 (P=0.002) Higher odds 1.6 (P <0.0001)
Knowledge on dangers in pregnancy, ANC attendance, facility delivery, sleeping in ISTMN in Uganda	Mean 60%ge point improvement
90day retention in HIV care for HIV positive and their exposed infants in Tanzania	No difference between control and intervention arms
4 or more ANC visits Tanzania	1.46 RR 95% (CI 1.05 to 1.95)
Skilled Birth Care Utilization comparing CHW interventions and control Kenya	SBC utilization increased by 12.9% 1.6 higher odds of SBC

Clinical outcomes/HSS

Health/HHS Outcome	Directionality (quantify)
SR of CHW intervention ANC attendance, facility delivery, postnatal care (India n=5, Nepal n=2, Malawi n=1)	Improvement in ANC attendance 1-28% No improvement in facility-based delivery 10-39% increase in PNC
Cochrane review of 33 trials from LMICs	NMR: RR 0.87(0.78-0.96) ENMR: RR 0.71 (0.66-0.84) LNMR: RR 0.54 (0.40-0.74) Peri MR: RR 0.83 (0.75-0.91) ANC: RR 1.16 (1.11-1.22)
SR from 9 different LMICs on usage of CHW for control of DM	Decrease in HBA1C by –1.7% (-2.2 to –1.3) Decrease in mean FBS from 10.0mmol to 7.7mmol Inconsistent findings on behavior change activities

Thomas LS (2021); Seungwon Lee (2025); Nance (2017); Reagn M (2023); Nzioki 2018

Sarkar A (2015); Lassiz (2019); Werfalli M (2020)

Summary of cost-effectiveness and effectiveness findings

- HIV testing and ART services (Cherutich, 2018): Using CHWs for assisted partner services (aPS) reduced the budget impact by about $360,000 compared with nurses in Kenya and remained within the PEPFAR-funded HIV/ART budget.
- Differentiated HIV service models (Uetala, 2024): CHW-based DHSM was cost-saving, reducing costs by ~$6 million from the health system perspective and ~$32.5 million from the societal perspective compared with conventional care

Summary of cost-effectiveness and effectiveness findings

- CHW interventions for maternal, newborn, and child health are **highly cost-effective** across LMICs.
  - IPT and ANC attendance (Koita, 2024 SR; 3 LMICs): Cost per DALY averted ranged widely by country—$9–$119 (Congo, Madagascar), $2–$66 (Nigeria), and $104–$543 (Mozambique).
  - Maternal education (Lassiz, 2019; 33 LMIC trials): $79–$146 per DALY averted and $910–$11,970 per newborn life saved using CHW-led education packages.
  - Newborn survival (Pitt, 2016, Ghana): $352 per discounted year of life saved through CHW home visits.
  - Malaria care (Rakuomi, 2017, Kenya): Extremely cost-effective at $5.5 per DALY averted for CHW-delivered pre-referral malaria treatment

COST EFFECTIVENESS

ICER | BIA | ACER | REFLECTION

What is it?

Incremental Cost Effectiveness Ratio. Compares the additional cost of one intervention relative to another with the additional health benefit it produces

Summary of Findings

Study	Reported ICER
Bowser D (2015) CHW paid vs unpaid for HIV services	Cost per beneficiary: $47.12 in one year and $30.97 in 2 years Cost per household visit: $1.79 in one year and $1.14 in 2 years Cost per household covered: $42.94 in one year and $24.47 in 2 years
Lefevre (2013) CHW for household visit for pregnancy surveillance	$104.62 per DALY averted in homecare visits for pregnancy surveillance in Bangladesh
Wagner R (2020) CHW to support adherence to anti-epileptic medications	$1494 per QALY gained in using CHW to improve adherence to anti-epileptic medications in South Africa
Gaziano T (2014) Education by CHW to improve adherence	$320 per DALY averted using CHW HTN education and adherence intervention in South Africa

Gaziano(2014); Wagner(2020); Levefre(2013); Bowser(2015)

Cost Effectiveness

ICER | BIA | ACER | REFLECTION

What is it?	Compares the additional cost of one intervention relative to another with the additional health benefit it produces
Study author, year, country/es	Bowser D (2015), Mozambique; Lefevre (2013); Gaziano T (2014)

Summary of Findings	• CHW home visits for HIV in Mozambique
	  ○ Cost per beneficiary: $47.12 in one year and $30.97 in 2 years
	  ○ Cost per household visit: $1.79 in one year and $1.14 in 2 years
	  ○ Cost per household covered: $42.94 in one year and $24.47 in 2 years
	  ○ Associated with 52-56% efficiency gains
	• $104.62 per DALY averted in homecare visits for pregnancy surveillance in Bangladesh
	• $3 873 341/ 2749 DALYs averted in a community-based diarrhea management in Burundi
	• $1494 and $1857 per QALY gained in using CHW to improve adherence to anti-epileptic medications in South Africa
	• $320 per DALY averted using CHW HTN education and adherence intervention in South Africa

COST-EFFECTIVENESS SUMMARY OF STUDIES

29 studies reported effectiveness or cost effectiveness related outcomes
The most reported cost metric was ICER (6 studies) followed by ACER (4 studies), BIA was reported only 2 times

3 systematic reviews included numerous studies (up to 33): 2 reported ICER and the rest reported on ACER and BIA

The studies were mainly from SSA while the SR included studies from South America and Asia

COST EFFECTIVENESS SUMMARY OF FINDINGS

Community Health Worker (CHW) interventions are **cost-effective** (using GDP per capita as criterion) across different programmatic and disease areas

1. Study for **CHWs and facility based** for pregnancy surveillance found that **$104.62 per DALY averted** in home care visits in Bangladesh
2. A **systematic review of 33 trials in LMICs** compared using CHW to educate mothers with facility-based care found that:
   - **$79-$146** averted per DALY averted using education packages using CHWs for mother outcomes
   - **$910-$11970** per newborn life saved using education packages using CHWs
3. In Ghana, usage of CHWs for home visits for new mothers
   - **$352 per discounted year life saved** using CHW home visits for control of newborn mortality
   - HEP is cost-effective by investing US$77.40 for every LYG
   - South Africa's Community-Oriented Primary Care (COPC) model achieved a cost per LYG of R2668, significantly lower than the country's GDP per capita threshold

Lassiz (2019); Pitts 2016; Gaziano(2014); Wagner(2020); Levefre(2013)

COST EFFECTIVENESS SUMMARY OF FINDINGS

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2. A **systematic review of 33 trials in LMICs** compared using CHW to educate mothers with facility-based care found that:
   - **$79-$146** averted per DALY averted using education packages using CHWs for mother outcomes
   - **$910-$11970** per newborn life saved using education packages using CHWs
3. In Ghana, usage of CHWs for home visits for new mothers
   - **$352 per discounted year life saved** using CHW home visits for control of newborn mortality
4. A scoping review of CHW programs in middle and LMICs
   - HEP is cost-effective by investing **US$77.40 for every LYG** in Ethiopia
   - South Africa's Community-Oriented Primary Care (COPC) model achieved a cost per LYG of R2668, significantly **lower than the country's GDP per capita threshold**

Lassiz (2019); Pitts 2016; Gaziano(2014); Wagner(2020); Levefre(2013); Donovan 2025

COST EFFECTIVENESS SUMMARY OF FINDINGS

Use of CHWs can substantially **reduce program costs** compared with conventional or higher-cadre service delivery models

1. **Lowest affordability:** CHW programs cost the most when funded only by central government health budgets and CHWs are paid **US$80/month** (≈ **27.3%** of total health expenditure)
2. **Highest affordability:** CHW programs are most affordable when funded at **Abuja Declaration levels + 2% of GDP**, especially with **volunteer CHWs** (≈ **6.7%** of total health expenditure)
3. A study in Kenya compared usage of CHW for assisted Partner Services in HIV care
    1. Usage of CHW for aPS estimated to be **$360,000 cheaper** in comparison to usage of nurses in HIV testing and ART services in Kenya
4. In Mozambique, usage of CHW for differentiated health services model for HIV was **$32.5million and $6 million cheaper** from societal and health system perspective

COST EFFECTIVENESS SUMMARY OF FINDINGS

Community Health Worker (CHW) interventions are **cost-effective** across different programmatic and disease areas

1. Study for **CHWs and facility based** for pregnancy surveillance found that **$104.62 per DALY averted** in home care visits in Bangladesh
2. In South Africa, 2 studies compared **education/support by CHW to improve adherence** to medications
   - **$320 per DALY** averted using CHW HTN education and adherence intervention
   - **$1494 per QALY** gained in using CHW to improve adherence to anti-epileptic medications

Use of CHWs can substantially **reduce program costs** compared with conventional or higher-cadre service delivery models

1. A study in Kenya compared usage of CHW for assisted Partner Services in HIV care
   - Usage of CHW for aPS estimated to be **$360,000 cheaper** in comparison to usage of nurses in HIV testing and ART services in Kenya
2. In Mozambique, usage of CHW for differentiated health services model for HIV was **$32.5million and $6 million cheaper** from societal and health system perspective

EFFECTIVENESS SUMMARY OF STUDIES

Most studies **(19)** reported on health service uptake or delivery outcomes

Only **three** reported clinical/epidemiological outcomes such as mortality