Nonfinancial Provider Incentives:

Evidence on pro-equity interventions to improve immunization coverage for zero-dose children and missed communities

*Part of a series, this evidence brief presents results from a **rapid review** of the literature to understand the effectiveness and implementation considerations for selected interventions, including nonfinancial provider incentives, that could help achieve more equitable immunization coverage, specifically helping to increase coverage and reach zero-dose children and missed communities.*

EVIDENCE SUMMARY

What are provider incentives?	Nonfinancial provider incentives are nonmonetary forms of support supplied to health care workers to compensate them for their work. Examples include training, career advancement opportunities, and social supports such as housing or childcare. Providing incentives can potentially increase health care worker motivation, retention, satisfaction, and performance, thus potentially affecting overall quality of care and expanding health care services to reach more people, including zero-dose children and missed communities.
How effective are provider incentives in reaching zero-dose children and missed communities? ? INCONCLUSIVE EVIDENCE	Based on findings from a review of primary research studies, **evidence is inconclusive regarding whether nonfinancial provider incentives are effective for reaching zero-dose children and missed communities.** Few effectiveness or implementation studies were identified, but many other studies suggest **nonfinancial incentives are associated with health care worker satisfaction, motivation, and retention**. Studies took place mostly in **remote rural settings** and involved **community health workers (CHWs)**. However, evidence regarding whether the intervention is more promising in this context than others is limited. Results suggest interventions are **context dependent**.
What are the main facilitators and barriers to implementation?	• **Major facilitators** to implementation include placing emphasis on **community recognition** and **appreciation** of health workers and packages of incentives that include **financial incentives**. • **Major barriers** to implementation include **insufficient supplies** and **stockouts** and challenges **identifying and designing** a suitable incentive package that meets the **diverse needs**, perspectives, and priorities of health providers **across different cadres and organizations**.

What are the key gaps?	**Keys gaps** include a general **lack of strong evidence regarding both implementation and effectiveness** tied to health outcomes of interest and an absence of studies concerning **zero-dose or missed communities**.

INTRODUCTION

What are nonfinancial provider incentives?

Nonfinancial provider incentives refer to the use of nonmonetary inducements or rewards for staff involved in health care programs to increase the coverage of essential health services to vulnerable populations. Nonmonetary forms of support might include training, career advancement opportunities, social supports like housing and child care, transportation, regular or supportive supervision, and improved working conditions (1).

Notably, provider incentives can include both financial and nonfinancial awards. This brief is specifically focused on nonfinancial incentives. Use of financial incentives to improve health worker performance are covered in a separate evidence brief. To improve utilization of health care services, financial and nonfinancial incentives can also be provided to users to increase demand. User incentives are covered in another evidence brief.

Why are nonfinancial provider incentives relevant for reaching zero-dose children and missed communities?

Incentives have the potential to directly affect the performance, motivation, satisfaction, and/or retention of health workers, ultimately affecting the quality of care provided and health care coverage (2). Poor performance, high rates of attrition of health workers, and insufficient numbers of health care providers are barriers to achieving many public health goals, including immunization, especially in the case of vulnerable populations (3). By improving these outcomes in underserved areas in low- and middle-income countries (LMICs), more zero-dose children and missed communities may be reached with health care services, including immunization services, by providers.

Why was this rapid evidence synthesis on nonfinancial provider incentives undertaken?

The overall goal of this activity was to rapidly synthesize existing evidence on the effectiveness and implementation of nonfinancial incentives for staff involved in health programs to reach vulnerable, underserved, or missed communities. Through a comprehensive review of peer-reviewed and grey literature, this work aimed to:

1. Assess the effectiveness of interventions involving the use of nonfinancial provider incentives for health workers in reaching vulnerable communities with essential health services.
2. Identify what types of nonfinancial provider incentive interventions are being used and demonstrate effectiveness or promising results related to these vulnerable communities.
3. Identify the main implementation considerations for utilizing nonfinancial incentives for staff involved in health services, specific to reaching vulnerable communities.

This review was restricted to articles that included mention of vulnerable communities or specific Equity Reference Group (ERG) settings but was not limited to immunization activities. Therefore, the analysis highlights how provider incentives are used both inside and outside the immunization sector with a pro-equity perspective. More information on the review methods is presented in Appendix A.

RESULTS: What is known about provider incentives?

Three reviews, two effectiveness and implementation studies, and 63 studies that did not qualify for either category but included provider perspectives on nonfinancial incentives were included. These articles assessed associations between nonfinancial incentives and outcomes such as performance, retention, and motivation by interviewing or surveying providers, but not by implementing and examining a specific nonfinancial incentive intervention. Despite no direct relevance to effectiveness or implementation, these studies were included in the review as they provided valuable evidence regarding the potential importance of nonfinancial incentives, particularly among community health workers (CHWs) in underserved communities.

Overall categorization of effectiveness

To help program planners assess whether an intervention, such as nonfinancial provider incentives, should be considered for reaching zero-dose children and missed communities, a categorization scheme is used below to rate interventions as: potentially ineffective, inconclusive, promising, or proven. A more detailed description of this categorization can be found in the general methodology for reviews in this series [linked on the evidence map website].

Categorization	**Rationale**
? INCONCLUSIVE EVIDENCE	Of the three reviews identified, all found that nonfinancial incentives had a positive impact on performance or quality of care by CHWs, and many other articles indicated that nonfinancial incentives contribute to provider motivation, satisfaction, retention, and performance. However, only two studies assessed the effectiveness of nonfinancial provider incentives on health outcomes and, of those, only one included vaccination as an outcome, finding that nonfinancial incentives did not increase vaccination coverage. Furthermore, all sources included limited evidence specific to vulnerable communities. For these reasons, this intervention was categorized as “inconclusive.” Evidence suggests that effectiveness of nonfinancial incentives depends on contextual and programmatic characteristics such as cadre of health worker, ERG setting, and strength of infrastructure. More research is required to determine when, where, and how nonfinancial incentives can be more effective. Studies assessing nonfinancial incentives have typically taken place in remote rural settings and among CHWs; there is some evidence that among this population, nonfinancial incentives including sufficient supplies, professional development opportunities, housing and social supports, are particularly important for promoting performance motivation, satisfaction, and retention.

Specific evidence for deriving this categorization is presented below.

Effectiveness: What is known about whether nonfinancial provider incentives "work"?

What evidence has been synthesized previously on the effectiveness of nonfinancial incentives?

Three reviews published on the topic found positive results regarding CHW performance and quality of care related to nonfinancial incentives in remote rural and urban poor settings. However, reviews noted limited evidence, including regarding implementation. More specific findings include:

All three identified reviews were specific to CHWs. Two reviews examined factors influencing CHW performance (4, 5), and one assessed interventions to improve quality of care (6).

- Kok et al. reviewed 140 studies and found a combination of financial and nonfinancial incentives was effective at improving CHW performance. Specific intervention elements that contributed to better performance included "frequent supervision and continuous training," but few studies evaluated how to implement these. Other nonfinancial incentives that strengthened CHW performance included improved working conditions, such as creating more clearly defined roles, improving communication processes, and strengthening community recognition/involvement (4).
- Ogutu et al. reviewed factors that affected performance of CHWs in urban informal settlements in LMICs and found, despite limited evidence, that nonfinancial incentives, including appreciation/recognition from the community, training, supportive supervision, family support, health system linkages, and sufficient resources and supplies all improved CHW performance in these settings (5).
- Negero et al. examined interventions that affect quality of sexual, reproductive, maternal and newborn health care; findings related to nonfinancial incentives included that training, empowerment, supportive supervision, access to m-Health technology, certification, and other nonfinancial incentives for CHWs had positive impacts. Regarding implementation specific to training, the authors found that "skills-based, regular, short, focused, onsite, and clinical simulation, and/or mobile phone-assisted in-service training of skilled personnel were more productive than knowledge-based, irregular, and donor-funded training" (6). Of note, nonfinancial incentives of this nature can both impact knowledge and skills directly, thus leading to better performance and better health outcomes, or more indirectly, through being viewed as opportunities related to career advancement, thus improving job satisfaction and motivation. It was infeasible to tease out what aspects of the nonfinancial incentives led to positive impacts.

What evidence exists on the effectiveness of nonfinancial incentives outside of immunization?

One effectiveness study found that CHW performance and motivation improved after implementing a program that involved nonfinancial incentives. Musoke et al. (2019) monitored and evaluated a project that worked to strengthen the CHW program in Ssisa Subcounty, Wakiso District, Uganda, by improving performance through enhanced training, supervision, and motivation from 2014 to 2017. A total of 301 CHWs were included in the project. All CHWs were trained on a range of topics over the course of four days in the first year and one day in the second year. Three motorcycles were provided to the CHW coordinators for responsibilities that included collecting reports from CHWs and distributing supplies. Other nonfinancial incentives provided as part of the motivation package to all CHWs included T-shirts, umbrellas, gum boots, and certificates. Solar equipment was provided to 75 CHWs, and monthly cell phone credit was provided to coordinators. From September 2015 to April 2017, all CHW performance indicators increased (community members reached with health education, household visits conducted, and number of children treated for malaria, diarrhea, or pneumonia). The study found standardized

training, supervision supported with transportation, and nonfinancial incentives for motivation led to improved performance of CHWs (7).

What evidence exists on the effectiveness of nonfinancial incentives within immunization?

One effectiveness study **found nonfinancial incentives are a promising intervention for improving health care provider performance and health outcomes, though no improvements were observed in terms of vaccination coverage**. In a cluster randomized controlled trial (RCT), Carmichael et al. evaluated the Team-Based Goals and Incentives (TBGI) intervention in Begusarai District, Bihar, India, from May 2012 to November 2014 to determine whether the intervention related to changes in performance of front-line workers (FLWs) and maternal health behaviors. Nonfinancial incentives, including stoves, casserole dishes, storage containers, and other household items, were provided to CHWs if their subcenter met at least five of seven goals per quarter. Additionally, a pressure cooker or a set of bowls and a certificate of recognition were provided at the end of the year to CHWs in subcenters that had met targets every quarter. The researchers used difference-in-difference analyses at baseline and after two-and-a-half years of implementation and included about 1,300 FLWs and 3,600 mothers who had given birth in the previous year. The study found the intervention led to significant improvements in antenatal home visits and receipt of iron-folic acid tablets as well as improvements in some coordination and teamwork attitudes among FLWs and provision of advice regarding maternal and child health. The authors highlighted that before the intervention, complementary feeding visits were not happening, but increased significantly in intervention areas compared to control areas following implementation. However, the study found other relevant health indicators did not significantly change, including children receiving a DPT3 injection by 6 months of age. Coverage targets for this indicator included 80% for year one and 90% for year two of the intervention. In comparing the control and intervention groups at baseline and post-implementation, Carmichael et al. found a -5.1 percent difference attributable to TBGI for children aged 6–11 months old who received **DPT3 vaccination** (reported based on immunization card or self-report), **indicating that the intervention did not have an impact on this indicator** (8).

What evidence exists on the effectiveness of nonfinancial incentives specific to reaching zero-dose children or missed communities?

No studies identified in this review analyzed the effectiveness of nonfinancial incentives for providers for reaching zero-dose children or missed communities.

Effectiveness of nonfinancial provider incentives in specific settings and programmatic contexts

Studies on nonfinancial provider incentives largely concerned remote rural settings and CHWs. However, evidence regarding whether the intervention is more promising in this context than others is limited. Much existing research focuses on provider perspectives regarding what motivates them; these articles are further described below. It appears nonfinancial incentives can promote rural job uptake; sufficient supplies, adequate infrastructure, professional development opportunities, housing and social supports are viewed as particularly important in remote rural areas.

What is known about provider perspectives on nonfinancial incentives?

Descriptive studies on provider perspectives revealed that a combination of both financial and nonfinancial incentives is important; nonfinancial incentives contribute to motivation, retention, satisfaction, and performance; and nonfinancial incentives influence willingness to work in rural

areas. Importantly, studies demonstrated that preferences for nonfinancial incentives among health providers vary by a multitude of factors including cadre, position, and setting, and stressed the need for designing an incentive system based on the local context. These findings are elaborated on below.

Sixty-three included studies (1, 9-70) described the relationship between nonfinancial incentives and provider outcomes (e.g., retention, motivation) from the perspective of providers. Studies took place across 32 different countries, with the most occurring in Ghana (n=10), Nigeria (n=6), Ethiopia (n=6), Kenya (n=5), India (n=5), Uganda (n=5), and Tanzania (n=5). Of these, 17 were discrete choice experiments. No study included immunization outcomes, though many noted that CHWs are often involved in immunization activities. In terms of outcomes, 32 studies looked at provider retention, 30 at provider motivation, 18 at provider satisfaction, 10 at provider performance, and one each at changes in service delivery, quality, or utilization and changes in health service coverage. A total of 48 studies were in remote/rural settings, eight in urban poor, one in gender-related barriers, none in conflict settings, and nine were not specific to ERG settings.

A main finding among studies was that a bundle of both financial and nonfinancial incentives was important to maximize provider retention, motivation, satisfaction, and performance (9, 12, 13, 15, 18, 21, 27, 29-32, 36, 40, 41, 46, 64, 67, 70). These studies demonstrated neither financial nor nonfinancial compensation alone was sufficient.

Many studies found nonfinancial incentives contributed to **motivation, retention, and satisfaction** (1, 11-14, 16, 21-23, 28, 30, 33, 34, 38, 39, 41, 42, 44-46, 51, 53, 57-59, 61-63, 65, 67-70). For example, 14 studies found recognition, respect, and appreciation from the communities as well as social prestige was a major motivator for CHWs (12, 16, 21, 22, 46, 47, 51, 53, 57-59, 63, 65, 70). Many studies demonstrated training was important for health care providers' motivation (28, 33, 41, 53, 57, 59, 68), specifically regular or refresher trainings (46, 65, 69) and equal opportunity for training (42, 45). Opportunities for professional/career development were reported as a contributor to motivation, retention, and satisfaction of health care workers (1, 11, 13, 34, 45, 46, 63, 68, 70). Other major examples of nonfinancial incentives that contributed to motivation, retention, and satisfaction included availability of necessary resources or equipment (1, 11, 12, 21-23, 42, 53, 57), opportunities for promotion or career progression (1, 14, 21, 33, 53, 57, 59, 69), supportive supervision/management (1, 11, 41, 44, 46, 59), awards (22, 44, 51, 69, 70), and improved working conditions (13, 41, 57, 63, 70). Some studies found the inverse was true— poor, lack of, or dissatisfaction with nonfinancial incentives such as lack of equipment, career development opportunities, supportive supervision, and appreciation from the community led to poor retention and low job satisfaction (10, 17, 21, 22, 41, 42, 65, 66).

Articles also revealed nonfinancial incentives had an impact on **job choice** or willingness to work in rural or "deprived" areas. The most significant nonfinancial incentive associated with willingness to work in remote rural areas was improved facilities/working conditions (19, 35, 37, 47, 52, 54-56, 60, 64, 68). Other findings included education opportunities (18, 20, 25, 29, 43, 55, 64), housing (19, 43, 52, 64), scholarships (31, 47, 52, 56), professional development opportunities (32, 54, 60, 68), and management style/supervision (35, 47, 56, 68). Many studies also noted a lack of nonfinancial incentives makes working in rural areas less attractive for health care workers.

Some studies provided examples of how nonfinancial incentives contributed to **performance** (15, 23, 42, 50, 51), including positive community feedback/support from the community (15, 50, 51) and tools to facilitate work such as bicycles, raincoats and boots, and flashlights (23).

Notably, incentive preferences were not uniform. For example, some papers analyzed how incentive preferences differ by health worker cadre and found differing preferences based on position (55, 56, 60). Others found the most effective nonfinancial incentive differed depending on the country. For example, Prytherch et al. (2013) found differences between Ghana, Burkina Faso, and Tanzania, while Efendi et al. found differences between Kenya and South Africa, and Thailand (24, 53). Finally, studies provided evidence demonstrating the importance of tailoring nonfinancial incentives to local contexts, as opposed to applying a standardized model (20, 44, 49, 64).

While most articles focused on rural settings, one article explored gender-based barriers that CHWs face while working with health social enterprises. Through conducting qualitative research, authors found CHW programs have the potential to be more gender responsive and outlined seven gender-based barriers faced by female CHWs as compared to male CHWs: "(1) higher time burden and lack of economic empowerment; (2) risks to personal safety; (3) lack of career advancement and leadership opportunities; (4) lack of access to needed equipment, medicines, and transport; (5) lack of access to capital; (6) lack of access to social support and networking opportunities; and (7) insufficient financial and non-financial incentives." The authors proposed several gender-responsive strategies to address these constraints. Recommendations related to nonfinancial incentives included providing income-generating opportunities, sufficient health supplies to sell, appropriate financial compensation, sufficient stipends for trainings and meetings, quality training and supervision, and promoting respect among the community for female CHWs (40).

IMPLEMENTATION: What is known about "how" nonfinancial provider incentives work?

Barriers and facilitators to implementation by ERG setting

Below is a summary of major facilitators and barriers to implementation of nonfinancial incentives by ERG setting. Also included are barriers external to the intervention but relevant to the context in which nonfinancial incentives are implemented.

Setting	**Major facilitators**	**Major barriers**
General (no ERG setting specified)	Not reported	• Insufficient funding, significant cost (14, 20)
Remote rural	• Efforts by programs and managers to promote support and respect for CHWs among the community (21, 22, 46, 48, 57, 66) • Shared goals, targets, and incentives among teams of CHWs (27) • Package of incentives that includes financial incentives (13, 29, 31, 50, 51, 54-57, 63-65, 68) • Providers have rural origin (32, 43) • More cost effective and feasible than financial incentives (8, 69)	• Setting realistic performance targets/developing performance evaluation strategies (8, 53) • Longer required length of service in district hospitals (considered a disincentive, equated with limited opportunities) (25) • Supply chain dynamics, insufficient supplies and stockouts (can affect performance results of CHWs) (7, 8, 14, 21, 54, 60) • Logistical complications of different cadres of CHWs and other health providers (e.g., they are under different government entities; have different needs, preferences, and priorities; competition or comparison) (8, 41, 51, 53, 55, 60)

Urban	• Developing opportunities for feedback (15)	• Competition with other CHWs (15)
Conflict	Not reported	Not reported
Gender-related barriers	• Package of incentives that includes financial incentives (40) • Efforts to promote support and respect for CHWs among the community (40)	Not reported (see above for gender-related barriers female CHWs face)

Implementation outcomes

The two effectiveness studies described above also met the criteria for implementation studies (7, 8). Summaries of major implementation outcomes reported (i.e., acceptability, adoption/penetration, costs, appropriateness, and sustainability) are summarized below.

Acceptability

Carmichael et al. (2019) noted it was important to CHWs that they be from the same village or other CHWs would not consider them part of the team. This demonstrates challenges related to the structure and intended "team" design, as nonfinancial incentives were awarded on a team basis (8). Musoke et al. (2019) noted CHWs reported satisfaction with nonfinancial incentives and supervision they received from CHW coordinators. For example, solar equipment allowed them to charge their phones and provided lighting to work at night, gumboots and umbrellas enabled home visits despite inclement weather, and branded T-shirts allowed them to be recognized by community members, which facilitated their work (7). Notably, many provider perspective articles also spoke to the acceptability of nonfinancial incentives as studies often found a positive association between receipt of nonfinancial incentives and health care worker motivation, satisfaction, and retention as described in more detail above.

Adoption/Penetration

The study by Carmichael et al. (2019) demonstrates adoption of nonfinancial incentive programs. The TBGI intervention was implemented to support the *Ananya* program, which was simultaneously being implemented in Begusarai as well as seven other districts (8). According to the authors, "the goals included in the TBGI intervention were already integral to existing government-supported health programs and were supported by core *Ananya* interventions at the health subcenter level across *Ananya* project districts" (8). This integration with an existing government program with similar goals of improving reproductive, maternal, newborn, child health, and nutrition (RMNCHN) outcomes through behavior change demonstrates this intervention is already penetrating the health system.

Costs

While a cost analysis was not conducted in either study, Carmichael et al. (2019) reported the total cost of providing nonfinancial incentives to each CHW if all targets were met for the year: between US$20 and $30. Nonmonetary incentives were chosen as opposed to financial incentives for this intervention as bulk discounts could decrease costs and more likely to be scaled up and sustained (8).

Appropriateness

Carmichael et al. (2019) found other improvements related to the larger *Ananya* program but not directly related to the TBGI goals. This finding suggests the intervention may have had other benefits

and increased the success of the overall program, which demonstrates appropriateness for improving RMNCHN outcomes in Bihar (8).

Sustainability

In the TBGI intervention, nonfinancial incentives were used because they were considered to lead to increased sustainability and chance of scale-up compared to financial incentives (8). The CHW project in Ssisa Subcounty was implemented as part of the Ministry of Health (MOH) priority to sustain the CHW program, and therefore aimed to enhance CHW performance through sustainable training, supervision, and motivation intervention. As part of preparation, implementers conducted meetings with project partners and stakeholders to foster ownership and enhance sustainability (7). They also noted that conducting training sessions regularly was crucial to support CHWs' ongoing work (7).

Existing evidence gaps and areas for future research

While the evidence base on nonfinancial provider incentives is growing, improvements in study designs are needed. For nonfinancial incentives, only two implementation and effectiveness studies were identified, and one randomized controlled trial was found. While many other articles were identified that represent provider perspectives, often by means of discrete choice experiments, these studies do not quantitatively measure effectiveness of a specific intervention on health outcomes in terms of providing specific nonfinancial incentives for health care workers. This limitation might speak to the complexity of implementing these types of interventions and challenges with developing rigorous study design to test their effectiveness.

More rigorous research is needed to generate more evidence regarding the effectiveness and implementation considerations of nonfinancial provider incentives to reach vulnerable communities. Despite widespread implementation of nonfinancial incentives, no studies specific to using nonfinancial provider incentives to improve vaccination coverage for zero-dose and missed communities were found, suggesting that more research is needed to assess both the effectiveness and implementation of provider incentive-based interventions in addressing equity gaps in vaccination.

Limitations

Despite undertaking a comprehensive search strategy, this synthesis involved a rapid literature review; it is possible relevant citations were missed. Additionally, the review included only relevant peer-reviewed publications and available grey literature sources. It is possible more evidence exists, especially programmatic data unavailable through the sources searched. Publication bias, although not formally assessed, might be of relevance, especially if successful provider incentive interventions are more likely to be published than unsuccessful ones. Also, despite the use of standardized forms and trained staff members, data interpretation is somewhat subjective, especially given that formal, quantitative synthesis of outcomes was infeasible. Finally, given the breadth of literature on this topic, inclusion criteria had to be restrictive, potentially excluding relevant citations.

Conclusions

How should pro-equity programming shift based on findings?

The existing evidence on this topic suggests nonfinancial incentives are important to providers and encourage their motivation, retention, and satisfaction. **Many articles suggest nonfinancial incentives are important for health care worker motivation, retention, and satisfaction, but few studies were identified that empirically demonstrated or described critical implementation considerations**.

To help grow the evidence base, more research is needed to understand how nonfinancial provider incentive interventions can be targeted to help achieve equity in vaccination coverage.

It is imperative that communities with a high prevalence of zero-dose children and missed communities be identified and health care workers within these communities be targeted for intervention. It will also be important to tailor interventions to provider and facility needs and consider how the intervention fits into the existing health system. Notably, nonfinancial incentives likely cannot be successful alone as studies suggest a combination of both financial and nonfinancial incentives is required to promote positive outcomes. The ideal mix is most likely heavily dependent on context. A streamlined system for providing incentives, with clear funding streams and mechanisms, is required to ensure efficiency and equity, and maximize potential benefits.

As overall evidence regarding the effectiveness of this intervention was inconclusive, stronger evidence is required before programmatic changes can be suggested to provider incentive-related interventions. Evidence regarding nonfinancial provider incentives is insufficiently rigorous to draw firm programmatic conclusions. However, existing literature suggests nonfinancial incentives have primarily been used in remote rural areas and among CHWs. Additionally, provider perspectives reveal that a variety of nonfinancial incentives increase their motivation, retention, satisfaction, and performance as well as their likelihood of choosing rural job postings. Importantly, which nonfinancial incentives are the most effective or desirable vary by health worker cadre, position, culture, country, and other contextual factors.

Based on the findings, should nonfinancial provider incentive interventions with an equity perspective be brought to scale?

Evidence in this review suggests nonfinancial incentives are desirable among health care providers, particularly CHWs, and they may contribute to increasing a variety of outcomes related to human resources for health, though the existing literature does not sufficiently assess the impact on child health outcomes, such as immunization coverage. To answer questions related to the effectiveness of nonfinancial provider incentives in reaching vulnerable communities and how they can best be implemented, a specific learning agenda is necessary. To determine if and how nonfinancial provider incentives should be scaled up, robust implementation research is necessary for evidence-based planning.

If nonfinancial provider incentives were to be brought to scale, the following implementation objectives should be addressed:

- If nonfinancial incentives are to be provided based on performance, determine how a realistic and equitable appraisal scheme will be developed in a way that does not penalize CHWs for external factors such as stockouts.

- Understand the different needs, organizational structures, priorities, settings, and perspectives of different cadres of health care providers and design an intervention package that takes these factors into account.
- Investigate how policies, programs, and managers can work to promote community support, appreciation, and respect for CHWs, particularly female CHWs.

Appendix A. How was this evidence synthesis conducted?

SEARCHING, DATA EXTRACTION, AND ANALYSIS: The review followed a general methodology for all topics in this series. In brief, the methodology involved comprehensively searching electronic databases from January 2010 through November 2022, conducting a grey literature search, screening through all citations, and developing topic-specific inclusion criteria. Data were extracted into standardized forms, and results were synthesized narratively.

INCLUSION CRITERIA: We included studies that took place in low- or middle-income countries and described an intervention that used nonfinancial incentives for health care workers to improve the provision of essential health services in vulnerable communities. For effectiveness studies, articles needed to present data relevant to changes in the coverage of essential health services, including immunization services. We included both effectiveness studies (defined as using a multi-arm design or using pre/post or time series data to evaluate an intervention involving microplanning) and implementation studies (defined as any study containing descriptive or comparative data relevant to implementation outcomes).

SEARCH RESULTS:

- 122 articles were identified in the published literature search.
    - 32 excluded as irrelevant during title and abstract screening.
    - 90 articles included in the full text review.
        - 22 excluded during full text review for a total of 68 included articles:
        - 3 reviews
        - 2 articles on both implementation and effectiveness
        - 63 “provider perspective” articles
- 3 potentially relevant articles were identified in the grey literature search.
    - 0 were identified as eligible based on inclusion criteria.

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Suggested citation:

FHI 360. Nonfinancial Provider Incentives: Evidence on pro-equity interventions to improve immunization coverage for zero-dose children and missed communities. Durham (NC): FHI 360; 2023.