





Community Monitoring of Individual Children's Vaccinations: SIX COUNTRY EXPERIENCES

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## INTRODUCTION

In low- and middle-income countries, unsatisfactory vaccination coverage often reflects services that are not sufficiently accessible, convenient, reliable, or friendly. It may also reflect a lack of public understanding or trust in vaccination and/or vaccination services. Additionally, in developing countries, various sociocultural factors affect the likelihood that families make the effort to get their children immunized.

Engaging with communities is a strategy that can improve both immunization services and their appropriate use.<sup>1</sup> Community members can assist in planning services, supporting logistics (helping move vaccines and people), supporting vaccination sessions (mobilizing families for outreach, organizing crowds, recording information, providing practical information to caregivers), explaining vaccination and motivating fellow community members, providing feedback on services that flags issues that need to be addressed, and monitoring and evaluating services.

This paper describes six country experiences, facilitated by the USAID Maternal and Child Health Integrated Program (MCHIP) from 2009 to 2014, and by the USAID Maternal and Child Survival Program (MCSP) from 2014 to 2019. In each country, one or a few community members monitor every young child's individual vaccinations, promote vaccination, and refer caregivers to have their children vaccinated.

## MY VILLAGE IS MY HOME

Most of these experiences used a simple tool called My Village Is My Home (MVMH). MCSP immunization team members devised MVMH in India in 2003 while working under another USAID global technical as-

sistance program (BASICS). They hoped to take advantage of the 700,000 communitybased Anganwadi Workers (AWWs) who already conducted annual censuses of infants and women. Posted in a public place such as a community center or local government office, the MVMH tool is intended to create a social expectation that families will keep their children up-to-date on vaccinations. Ideally, use of the tool should inform and motivate caregivers, local leaders, and volunteers, as well as professional health staff, to have more infants vaccinated, and sooner.

Every infant in a community has his or her own row on the MVMH tool (see the version from Timor-Leste, translated to English, below), with spaces for the child's name, date of birth, and dates of each

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vaccination. In most cases, local volunteers (traditional or elected leaders and/or community-based health workers or volunteers) conduct a community census to compile the names and birth dates of all infants. They then transfer this information to the tool, starting with the oldest in the bottom row and moving upward. Names of infants born or moving into the community are added on the next open line above. A roof covers the listings to show that the community is like a house whose strength depends on the quality of the supporting materials, in this case bricks or blocks, each of which represents one vaccination dose of one child. Thus, each vaccination of a child from the community strengthens the entire house and protects the entire community from vaccine-preventable diseases.



I Engaging with communities is identified as a strategy that can improve both immunization services and their appropriate use. For additional information see the recent World Health Organization's Mid-Level Managers and Immunization in Practice modules on partnering with communities, as well as the revised Reaching Every District (RED) guide (2017).

# COMMUNITY MONITORING EXPERIENCES

Below are brief descriptions of the MCHIP/MCSP country experiences (2008–2018) with community monitoring of vaccinations. Table 1, at the end of this section, provides comparative information by country on various aspects of community monitoring. Sources for the country information are shown at the end of this brief.

Where possible, the descriptions include information on the results of the initiatives. Attributing coverage changes to community monitoring is challenging due to commonly unreliable health system data for comparison purposes, as well as other factors such as campaigns that may have occurred in the same time periods. Nonetheless, MCHIP and MCSP country programs have used various methods to assess the success of their community monitoring initiatives. Only MVMH in India and the barbers' initiative in Nigeria were designed as studies, with baseline and endline surveys to measure their impact on immunization coverage and timeliness. Unfortunately, the Nigeria final results were not available at the time that this brief was prepared.



In India, most vaccinations are given during Village Health and Nutrition Days (VHNDs) at Anganwadi Centers (AWCs), the Government of India's national network of day-care centers. USAID-MCHIP undertook MVMH initiatives from April 2012 to March 2013 in two districts of harkhand state and between August 2012 and July 2013 in three districts of Uttar Pradesh (UP). Project and government staff trained several cadres of health and community workers to use the MVMH tool, including: Auxiliary Nurse Midwives (ANMs), who deliver immunization services during the VHNDs: Accredited Social Health Activists (ASHAs), who are the community volunteers from the health department; and AWWs, the community workers from the social welfare department who manage the AWCs. Data entry into the MVMH tool rested primarily with the ANMs, while mobilization of children for services rested with the ASHAs and AWWs.

Recording new vaccinations was relatively easy in India because of the VHNDs organized under the Universal Immunization Program. During these monthly sessions, ANMs register women and children and provide immunization as well as other outreach services (i.e., antenatal and postnatal care, growth promotion, family planning). The MVMH tool served as a displayed "due list" that showed specific children's vaccinations due at the next session. It guided the local team to alert those families just before the vaccination day. Initially developed for an annual birth cohort, the MVMH tool was later revised to add booster doses during the second year of life.

The project's assessment found coverage rates for all vaccines at more than 80%, with only 1.9% of children unimmunized, among children tracked in MVMH communities in Iharkhand. In comparison, coverage in non-MVMH districts in the state during the same time period was much lower, at 49% to 69% (Annual Health Survey 2011–12 data). The surveyed coverage put BCG-measles dropout rates in both non-MVMH districts at close to 25%, while it was only 15% in the MVMH study area. Timeliness of vaccination (children being vaccinated at or shortly after the recommended ages) also improved in the MVMH areas. Only 2.3% of children for OPV I and 3.0% for DTP I were immunized before 42 days, and the intervals from OPV 2 to

OPV 3 and DTP 2 to DTP 3 were less than the minimal 28 days in only 3.5% and 3.4% of beneficiaries, respectively. After MVMH was introduced in UP, coverage rates increased for all vaccines except measles, and the rate of children with no vaccinations also decreased from 12.6% to 6.7%. The timeliness of vaccinations also improved compared to the period before the tool was introduced.

Almost all health workers and community members interviewed during the study period were satisfied with the tool and felt that it had contributed to improving the community's overall awareness of the need for and importance of immunization.





# Timor-Leste



In Timor-Leste, community monitoring was an initiative of the Imunizsaun Proteje Labarik project (Immunization Protects Children or IPL, 2011–2013), managed by MCHIP for USAID with funding from the Millennium Challenge Corporation. IPL developed a Timorese version of the tool, a simple manual for community volunteers, and a curriculum for a halfday training of local elected leaders and existing community health volunteers. Implementation began in seven pilot villages (an area that includes various hamlets that introduced the tool in early 2012). Subsequently, IPL collaborated with a nongovernmental organization (NGO) called Clinic Café Timor, which introduced the tool into another 26 villages.

At the hamlet level, local elected leaders and volunteers were trained to list all infants' names and birth dates and record the date of each vaccination on a small MVMH tool. Initially they copied names and birth dates from the community health center immunization register. Subsequently, they captured new infants and infant vaccinations during home visits and monthly outreach sessions. Unfortunately, too many children lacked their child health booklets to use those alone for updating the hamlet MVMH tools. The volunteers learned how to tell when a child was eligible or late for each vaccination and motivated caregivers of such infants to take them to health centers, health posts, or monthly integrated health outreach sessions to be vaccinated. If a community volunteer could not convince a family to have its children vaccinated, he or she would ask the vaccinator to visit that family to follow up.

Monthly, the volunteers brought their hamlet MVMH tools to meetings with the vaccinator from the community health center at the village council office, at which information from the hamlet tool and larger village tool were compared, updated, and discussed.

To assess the impact of MVMH, data from one village was compared to data from the previous year (before community monitoring). The number of infants known and number immunized rose substantially with use of the MVMH tool (by around 50% and 25% respectively).<sup>2</sup> Prior to the use of the MVMH tool, it appeared that only the most accessible infants were in the system, and that those harder to reach were being left out, at least partially because of the difficulty of reaching children in remote mountain communities. Supporting this conclusion is the fact that 22.7% of one year olds in the country had received no vaccinations, according to the 2010 Demographic and Health Survey. The timeliness of vaccination also improved in the MVMH villages; earlier, many vaccine doses were given to children who were too young to receive them (according to the national vaccination schedule) or past their due dates. Both of these situations put children at greater risk of vaccine-preventable diseases.

Interviews with parents, local leaders, volunteers, and local health staff indicated that the purpose of the tool (i.e., engaging the community in monitoring the immunization status of its children and identifying those in need of follow-up) and the processes involved (i.e., community registration of children and vaccine doses and monitoring of due doses) were well understood by most respondents, who also felt very positively about the MVMH tool.



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n Malawi, MCSP sup

In Malawi, MCSP supported the Reaching Every Community (REC) approach in two lower-performing districts. This included assistance in planning, data recording and use, supportive supervision, logistics, and community participation. MCSP worked with the Ministry of Health (MOH) to adapt the MVMH tool and implement it in the focus districts. The project engaged an NGO (PACHI) to orient communities and train village heads (VHs) and volunteers to implement community mobilization and monitoring of vaccinations in nearly 2,000 communities.

In most communities, the initiative has been very successful, due in part to the prestige of the VHs and their regular contact with Health Surveillance Assistants, the community- and institution-based health providers who give most vaccinations in the public sector. The almost universal presence of home-based records facilitated updating of the MVMH tool. VHs and volunteers discuss vaccination in frequent home visits and community meetings, which resulted in well-informed and motivated families. Timely and high vaccination coverage is almost universal in the most of these communities.

Administrative data do not show an impact on coverage; however, the project's community-based surveys, conducted by

<sup>2</sup> According to Ministry of Health data, vaccination coverage was already high in villages where MCHIP/IPL introduced MVMH. However, it was also widely acknowledged at the time that vaccination coverage estimates were unreliable because of outdated census figures and faulty population denominators. This made it important to compare absolute numbers vaccinated and other indicators before and after the MVMH intervention instead of coverage.

## **FROM ZIMBABWE**

"For the first time we are seeing children who have not been fully vaccinated or not vaccinated at all. We are talking with their parents and some are now taking their children for vaccination, but we might have to enforce village fines for others."

-Village head

"We are beginning to realize that the Apostolic sect communities are not the only vaccine-hesitant groups in our community; we now know we have other vaccination laggards who have no interest in having their chil dren vaccinated. But now that they know they are under the village head's watch, they are beginning to bring their children for vaccinations."

- Village health worker

"Children who were not vaccinated before are now coming. What was missing was the push from the traditional leaders. Now village heads do not want to be custodians of houses with missing 'bricks.' MVMH is an amazingly simple initiative to increase coverage."

- Clinic staff member

district teams in 130 villages, indicated that only 1.6% of infants had not started vaccination, so again it is likely that MVMH has had a positive impact. Based on assessment interviews carried out in February 2017, there is great enthusiasm for the initiative among health workers, VHs, volunteers, and mothers. In most communities, neither home visits to families with children who were behind on their vaccinations, nor sanctions (which some communities have instituted) were needed, as community members were proud of their achievements and thankful for the absence of measles and other vaccine-preventable diseases. Moreover, thanks to education and discussion during home visits and community meetings, mothers were extremely well-informed about vaccination and fathers seem very supportive as well.





# Zimbabwe

MCHIP facilitated the introduction of MVMH in communities around 10 health facilities in Chipinge and Makoni districts in Manicaland province. These two districts had some of the lowest immunization coverages in the province, high dropout rates, and/or large numbers of children who were not being reached with vaccination. The community work was spearheaded by Village Health Workers (VHWs) and VHs, who linked with nurses from the health centers. To start, VHWs updated their registers (for all children under two years of age) by comparing them with the health facility register. Monthly, they checked their community's child health cards and updated the MVMH poster, called the Village Immunization Chart (and often referred to as the Headman's "House") in the intervention

districts. Charts were displayed at the homes of the VHs and also taken to village meetings to show children's immunization status and identify defaulters. Monthly in some cases and fortnightly in others, the VH and VHW reviewed the charts to identify rows (children) with missing bricks (vaccinations for which they are eligible) and to visit their homes.

In some areas, the VHs have made it clear that households that do not bring their children for vaccination will not benefit from any community projects and handouts, such as money generating or nutrition projects. Also in some areas, vaccine-hesitant families have been made to pay fines of either a rooster or a goat, and this has worked to encourage them to have their children vaccinated.

The initiative was too new at the end of the MCHIP Zimbabwe program to be evaluated quantitatively; however, when queried in a rapid assessment, most of the staff in the 10 facilities where MVMH was introduced noted improved documentation of return dates on cards and in EPI registers. Many nurses believed they had more reliable and complete registration of children under two years olds than before, which they acknowledged was helping them to correctly estimate their vaccine requirements and immunization coverage, and to work with communities to track and follow up individual children. Immunization had become more of a regular agenda item at health center meetings and

in meetings between the health facility staff and VHWs. Also, health workers met more regularly with VHs and VHWs, and VHs were more insistent that health facilities ensure an adequate supply of vaccines and cards so that coverage does not suffer.



# Nigeria

In Sokoto and Bauchi states in northern Nigeria, MCSP has piloted several infant tracking approaches, including MVMH and mobilization by the highly respected traditional barbers. Appointed by community leaders, the barbers shave all newborns' hair on the seventh day after birth as part of the Islamic birth rites. MCSP trained almost 2.500 barbers to inform parents about vaccination and to refer babies for vaccination. Barbers give the parents a yellow referral card, and then, after vaccinating the child, the health workers give the parents a green card to confirm the vaccinations. The barber pays a second visit to the household within one week to confirm that the newborn has been immunized and to collect the green card. If the newborn has not received the required vaccines, the barber counsels the family and also provides feedback to the traditional leader and service providers at the health facility for follow-up.Vaccinators, health facility in-charges, and traditional barbers review and compare the referral numbers at monthly immunization review

meetings at the ward level conducted by traditional leaders and ward development committees, with support from Local Government Area (LGA) Health Educators and Ward Routine Immunization Focal Points.

In both Bauchi and Sokoto, MCSP, the Chigari Foundation, and other partners are supporting VHs to maintain community registers with the names and birth dates of all children under one year of age, but not their vaccinations. The leaders visit the local health facility monthly to inform the staff of all newborns and to reconcile their information with that in the facility register. The VHs make regular houseto-house visits to update the register and encourage families to keep up with the vaccination schedule. Building on the name-based registers, a visual community-tracking component was adapted from the MVMH toolkit, and now communities easily track and follow up the current vaccination status of young children in their community.

Finally, MVMH activities have commenced in all the settlements of three selected wards of Bauchi and Sokoto states, while traditional barbers are referring newborns in all LGAs in Bauchi and have started initially in 10 LGAs in Sokoto. Orientations at the LGA and ward levels were conducted for 83 settlement heads and 166 volunteers to support the settlement heads in recording and updating the MVMH tools.



# **FROM NIGERIA**

"[The barbers] embraced the program wholeheartedly, especially when given some incentives. Upon exhausting the yellow cards, [they] return for more; we usually thank them and give them some incentives too."

> Ward community engagement officer

"The introduction of bar bers has added succor to the routine immunization program, not small, because they play very important role in the ru ral area. When we started col laborating with them, we found things very easy with respect to access to newborns. They have contributed so much to this, and we are pleased."

- Dispensary staff member

"Yes, they [the barbers] come to our homes especially be fore naming ceremonies and counsel us on the importance of child immunization. Actually, we accept their advice as we trust them and know they would not bring any harm to our families."

- Father



# Tanzania

As part of its immunization support in 19 councils (districts) across four regions (Kagera, Tabora, Simiyu, and Shinyanga), MCSP and council staff oriented 1,296 community health workers (CHWs) and 648 facility staff on using MVMH in early 2018. After testing, the project printed 3,250 copies of MVMH. The tool was being used in 648 health facilities as of May 2018. The main objective was to raise coverage by reducing the number of "defaulters" or drop-outs. When a CHW visits a home and finds a child with missing vaccinations, the CHW gives the caregiver a referral card to take to the health facility. After the child receives the due vaccinations, the vaccinator fills in the information on the card for the parents/caregiver to give to the CHW, who enters it on the community register/MVMH tool.

Use of the facility immunization registers has improved because staff know their register will be compared with the community register to cross check and update the data, and CHWs do catch missing information (vaccinations recorded on the health facility register but not in the community register and vice versa). Council staff can ask facility staff to bring their registers to review meetings, so the registers can be compared with community data. When CHWs meet to update their tools, they note if there are any defaulters, and if so they visit and try to motivate the family to bring the child for his or her missing vaccinations.

MCSP adapted MVMH starting in Kagera region (with six councils), where there were several other partners working with CHWs on community home-based care and nutrition. The expanded MVMH tool includes nutrition indicators (weight and height) from growth monitoring sessions and enables CHWs to track both the nutritional and the immunization status of children under two years of age. The tool captures both infant and second-year doses, including the measles-rubella second dose, for which coverage has risen rapidly.

Although there was no dedicated funding to support MVMH implementation in Tanzania, MCSP reimbursed CHW transport costs to outreach sessions and supportive supervision meetings at the health facility. In addition, the district and health facilities pay CHWs for outreach, which is budgeted during micro-planning. CHWs also get paid to visit homes through a result-based financing project implemented by the government and funded by the World Bank. MVMH serves as evidence that home visits have occurred.

It is too early to assess results, but in six councils of Kagera region, where CHWs know that their work will be discussed during supportive supervision, MVMH appears to have increased contact between facility staff and CHWs and generated mutual support addressing any issues. Table 1: Synopsis of MCHIP and MCSP Community Monitoring Initiatives

When began	Timor-Leste	India 2012–2014	Malawi 2016–2018	Zimbabwe	Nigeria 2016–ongoing	Tanzania 2017–ongoing
				2017-2018		
Organizations involved	IPL (Millennium Challenge Corpora- tion project managed by USAID-MCHIP); MOH; Clinic Café Timor (NGO)	USAID-MCHIP; state, district, block, and sub-center health units	USAID-MCSP, national EPI, district health teams, PACHI (NGO)	USAID-MCHIP; Man- icaland provincial and district EPI units	USAID-MCSP; Chigari Foundation; Bill & Melinda Gates Foundation (BMGF); state Primary Health Care Agencies, LGA and ward health units	USAID-MCSP, MDF and IMA Health (NGOs), council health staff, and CHWs
Scale (# districts, health facilities, communities)	35 pilot villages (multi-hamlet area), population ~5,000)	Two districts in the state of Jharkhand and three districts in UP; 43 AWCs, each with a population of ~1,000	Nearly 2,000 com- munities in Ntchisi and Dowa districts; the total population of the two districts was around 800,000	Communities around 10 health facilities (HFs) in Chipinge and Makoni districts	2,452 traditional bar- bers linked to health facilities in Bauchi and Sokoto states; also name-based registers in many communities and MVMH on a small scale	19 councils and 648 HFs; council popu- lations range from 225,423 to 639,902
Community implementers	Community health volunteers and elect- ed hamlet and village leaders	ASHAs (from De- partment of Health & Family Welfare) and AWWs (from De- partment of Women & Child Development)	VHs and volunteers	VHWs and VHs	Traditional barbers appointed byVHs; traditional birth attendants (TBAs) also refer newborns for vaccination;VHs update name-based registers and MVMH tool in some com- munities	CHWs
Health system links	Sub-district commu- nity health center immunization staff	ANMs	HSAs	HF nurses	HF staff, community engagement staff at LGA and ward levels	Facility-based health workers (immuniza- tion focal points)
lncentives/per diem	IPL-paid community volunteers receive a small per diem for annual census and monthly meetings; volunteers requested more incentives	ANMs and AWWs are paid government staff; ASHAs receive a government incentive for mobilizing and fa- cilitating immunization (under the National Health Mission); incentives are paid for each child that is fully immunized	MCSP provided T-shirts and protec- tive case for MVMH tools;VHs and volunteers receive priority for service at HFs;VHs perceive greater prestige	Government pays VHWs small amount monthly for their overall services	Some ward staff give small incentives to community resource persons (not pro- gram-wide)	CHWs are already incentivized through other programs, so there is no specific incentive provided for this intervention
Where community monitoring tools kept	Hamlet charts kept in hamlet chief's of- fice; village charts in village chief's office	Government of India-funded AWCs, which are the sites for monthly VHNDs across India	Usually at VH's house, sometimes at volunteer's house	VH's house	Barbers and vacci- nators keep referral and counter-referral cards; community leaders keep com- munity registers and MVMH tools	Kept by CHWs
MVMH displayed in public?	Displayed at monthly outreach sessions	Displayed at AWCs, accessible to the pub- lic at all times; where centers operated from makeshift buildings, available for public only during outreach sessions	Displayed during community meetings and outreach ses- sions (with names covered)	Displayed at village meetings to show children's immuni- zation status and identify defaulters	Name-based registers not shared but used during rec- onciliation meetings with HFs	Displayed during meetings in villages and at HFs

	Timor-Leste	India	Malawi	Zimbabwe	Nigeria	Tanzania
When began	2011-2013	2012-2014	2016-2018	2017-2018	2016-ongoing	2017–ongoing
How updated	From home-based records and recall during home visits and monthly village health days; hamlet MVMH tools were compared with the EPI register during monthly meetings at the village council office	ANMs and AWWs updated the MVMH tool at the end of each VHND	VHs and volunteers updated MVMH tools during home visits and outreach sessions	VHWs first updated their registers (for all children under two) by comparing them with the HF registers; then they checked child health cards and updated the tool monthly	Traditional leaders update the name- based records in house-to-house visits, and meet with the local HF monthly to reconcile the community and HF registers; volunteers update MVMH weekly	CHWs enroll newborns and also visit HFs to compare the MVMH tool with facility register and identify defaulters (no census)
Sanctions for having under- vaccinated children (Y/N)	No	No	Some villages ap- proved sanctions for non-immunization (typically a chicken or goat), but sanc- tions were rarely if ever needed	Some VHs introduced community fines that they charged parents (chicken or goat), if a child defaulted; this motivated caregivers to take their children for vaccination to avoid fines	A Sokoto state bylaw that called for severe penalties for non-vaccination was subsequently modified to be less stringent	Not having children vaccinated violates the Public Health Act some village bylaws provide sanctions for non-vaccination, al- though enforcement is not common
How is the MVMH tool used: due list and/or to guide defaulter visits	Used to alert volun- teers that children were falling behind schedule; families were visited by local volunteers first and, if needed, by vacci- nators	Used mainly as a due list to alert families of infants due in the next session (also as a reminder for service providers); tool com- plemented established tracking systems such as paper-based due lists and maternal and child health registers	Used mostly as a due list; rarely needed to be used as defaulter list because very few defaulters	Used as a default- er list; monthly or fortnightly the VH and VHW reviewed the chart to identify rows (children) with missing bricks (doses) and visit their homes	Traditional barbers use color-coded referral cards to refer individual newborns; community registers used to obtain com- plete listing of target population; MVMH tool used to visualize register and track infant immunizations	Used to identify defaulters during vac- cination sessions, HF meetings and home visits
Frequency of community census, new tool	Annually, at the beginning of the calendar year	No annual census at the time of this intervention, but an ASHA census has been added to her job description since that time; children were added when they came to VHND or were visited by ASHAs in their homes	Initial community censuses, then monthly updating in most cases	No census but registers updated frequently; plan is to "retire" each chart after two years and start a new one, sooner if chart is full	Community census when registers are introduced	No census
Results: Coverage	Number of infants vaccinated increased substantially; cover- age likely improved but poor data quality and faulty population estimates did not allow proof	Jharkhand commu- nities using MVMH had 80% or higher coverage for all vac- cines, with only 1.9% of children having no vaccinations; overall district coverage in same time period was much lower, at 49% to 69%; in UP, coverage rates increased for all vaccines except mea- sles, and the rate of unimmunized children decreased from 12.6% to 6.7%	Surveys show almost 100% cov- erage and less than 2% of children from 12–24 months with no vaccinations	Too soon to system- atically assess impact on coverage; nurses note improved doc- umentation of return dates on cards and EPI registers; MVMH has resulted in VHs becoming active in visiting families of children behind for vaccinations	Independent baseline survey recently repeated but findings unavailable for this paper; stakeholders interviewed in a mid-project review strongly believed that coverage had increased	Too soon to assess
Results: Timeliness	Analysis of one MVMH village's data showed improve- ments in timeliness of most doses	Analysis showed clear, positive impact on vaccination timeliness	Baseline and endline surveys show improvement in timeliness	No specific data but most HF staff note improved documen- tation of return dates on cards and in the EPI registers	Likely that timeliness has improved, but specific evidence is not yet available	Too soon to assess

When began	Timor-Leste 2011–2013	India 2012–2014	Malawi	Zimbabwe	Nigeria 2016-ongoing	Tanzania 2017-ongoing
			2016-2018	2017-2018		
Results: Target population	Community mem- bers found many infants missed by the health system; in village analyzed, num- bers of infants iden- tified and immunized rose substantially with use of MVMH compared with the previous year	MVMH enabled service providers to view the entire cohort together; district data showed that the in- tervention of AWCs/ VHND improved coverage compared to their districts as a whole	Left-outs were regis- tered and mobilized (e.g., a family of three children never vaccinated was identified through the micro-census)	In a rapid assessment, many nurses said that they now had more reliable and complete registration of chil- dren under two; this helped them to bet- ter estimate vaccine requirements and im- munization coverage, and to work with communities to track individual children	Due to the various initiatives, including use of communi- ty registers, it is likely that HFs have a more complete list- ing of infants in their catchment areas	Left-outs are regis- tered and mobilized; if CHWs find a child with no vaccinations, they register the child and send the information to the HF to be included in the HF register
Results: Feelings of shared responsibility	Monitoring and eval- uation studies found good acceptance	Service providers perceived stronger community engage- ment; AWW centers in Jharkhand continued using the tool at least two to three years after project support ended	VHs, volunteers, and community mem- bers felt responsible for ensuring that their children were vaccinated and proud of their com- munity's coverage	Indirect evidence: EPI became more of a regular agenda item at health center meetings and in meetings between the HF and VHWs; also, health workers met with VHs and VHWs more regularly than before MVMH	A predominant theme from interviews in the mid-project review was that barbers, VHs, and TBAs are now being seen and treated as extensions of the HFs	Too soon to assess; orienting CHWs together with the HF governing commit- tees has resulted in more support for immunization from community members
Results: Accountability	Volunteers and leaders began com- plaining if outreach postponed, due to their involvement in micro-planning and MVMH	The additional com- munity engagement supported the Uni- versal Immunization Program	Informants say that VHs have become much more vocal in reporting problems with health services	VHs now more insis- tent that HFs ensure an adequate supply of vaccine and cards, so coverage does not suffer	Enhanced sense of community ownership of routine immunization	VHs have become more vocal in reporting problems with health services
Results: Integration	An NGO project adapted the MVMH tool for commu- nity monitoring of pregnancy and infant recommendations	VHND are already in- tegrated; not only are vaccinations given but growth monitoring, antenatal and post- natal care and family planning services are also provided; one ANM modified the tool to track antenatal mothers	Exclusive breast- feeding and family planning are not tracked but are discussed in home visits and communi- ty meetings	Tool includes tracking of vitamin A doses; has been comple- mentary to commu- nity dialogues	A memorandum of understanding among the state gov- ernment, BMGF, and Dangote Foundation to strengthen im- munization has been revised to include scaling up primary health care interven- tions working with the VHs	MVMH includes monthly growth monitoring for nutri- tional status, as well as immunization data
Outlook re: Expansion	MCHIP's IPL project in Timor-Leste ended in 2013; the project's final evalu- ation showed strong support for national expansion of MVMH at that time; however; follow-up has lagged	When MCHIP India ended in 2014, MVMH had been adopted by the Jharkhand and UP state governments, which approved using the tool across all 77,000 AWCs in the two states; since then, Haryana state has also adopted MVMH; in 2014, the Alliance for Immunization part- nered with numerous civil society organiza- tions to use MVMH in Bihar, Jharkhand, Rajasthan, and UP	MCSP Malawi ended in early 2018; at that time, the national EPI sup- ported expansion and USAID/Malawi encouraged its bilat- eral project to assist the government to expand it	MCHIP Zimbabwe ended in late 2017; the MOH plans to roll out the RED/ REC approach nationally; the MVMH strategy will be integrated into the Linking Communi- ties with the Health Services component and included in RED/ REC training	MCSP Nigeria con- tinues as of August 2018; scaling up the use of the MVMH tool to other com- munities is in process; the birth register (maintained by VHs) is under review/ pending approval by the National Popula- tion Commission	MCSP Tanzania continues as of August 2018; the MOH has agreed to roll out MVMH in the country and put some funding for it in the coming Gavi HSS grant; MVMH also has been included in the national RED/ REC guidelines

## DISCUSSION

MCHIP and MCSP have facilitated MVMH and other approaches to community monitoring of infant immunization status on a small-to-medium scale in six countries, with generally positive results in terms of coverage, timeliness, more accurate target populations, and a joint sense of responsibility among both communities and health staff.

This does not mean that establishing and supporting MVMH is recommended everywhere. Where it has been adapted, certain helpful conditions as well as common challenges, discussed below, have emerged.

#### **Facilitating Conditions:**

- One requirement is a cadre of community-based individuals, normally village leaders and some type of community health worker or volunteer, who are willing to become actively engaged in immunization. These community collaborators need to be able to interact with facility-based health workers on a fairly regular basis, ideally monthly, for both support and supervision and to review their vaccination data.
- Another pre-condition is that health services are reasonably accessible, reliable, and welcoming. In fact, community monitoring will have the greatest benefit where it is complemented by other efforts to improve the efficiency, quality, and community links of the immunization program. Where this is not the case, community monitoring might lead to frustration in communities, because people will be more aware of the importance of vaccination and less tolerant of breaks in the immunization supply. Such frustration might lead to communities advocating for service improvements, at least in settings where such advocacy is acceptable, but ideally community monitoring should be accompanied by enhancements in service provision.
- Finally, when there is a cadre of highly respected community-based leaders or workers, such as the VHs in Malawi and Zimbabwe and the barbers and VHs in Nigeria, their incorporation in health systems can have a strong impact on families' motivation to have their children vaccinated on schedule. This is not a requirement, but it is definitely helpful.

"MVMH integrates well with community dialogue in that the former provides the tools for communities to assess if they are meeting dialogue objectives or targets."

Adelaide Shearley, MCHIP/ Zimbabwe Senior Immunization Technical Advisor

#### Potential Challenges:

- Issues of incentives have come up in most countries, so clearly implementing partners need to try to balance reimbursing the time, effort, and expenses incurred by community collaborators with what is feasible and sustainable for the health system and its partners. Experience from community health programs suggests that local volunteers appreciate non-monetary incentives such as public thanks and recognition in meetings and on local radio, being attended immediately in health facilities without waiting in line, a photo ID for local collaborators, and contact with health system counterparts—although volunteers may nonetheless also want monetary compensation.
- As with most community-based programs, issues related to the selection of community collaborators have come up concerning MVMH. Community monitoring has failed to function or functioned poorly in a minority of communities in Timor-Leste and Malawi because of the selection of unqualified or poorly motivated community collaborators.
- Supervision of the community collaborators is often a challenge. Getting a supervision structure in place and ensuring good quality supervision and follow-on support needs to be thought through in advance, along with clear processes for this.
- Particularly where there are thousands of communities, issues of how to orient

communities on the initiative, support the selection of appropriate local collaborators, then train and support them cannot be ignored. Collaborating with appropriate local civil society organizations, particularly for the preparatory work, is one viable route.

• Given that the community monitoring initiatives reported here were collaborations between donor projects and MOHs, and that several of these were small-scale pilots, the costs of printing and reprinting the various tools was not an issue. However, on a larger scale and with an indefinite time frame, MOHs might have difficulty arranging the funding and managing the printing and distribution of the tools.

Despite these common challenges, the potential benefits of MVMH and similar approaches are impressive. Besides the potential to improve coverage and timeliness and to obtain a more complete listing of children eligible for vaccination, these include:

- enabling people to take more control of their own health and their family and community well-being;
- enhancing health literacy, particularly related to immunization;
- making health services much more accountable for providing reliable and convenient vaccination sessions (if sessions are cancelled,VHs and others complain), for without reliable services the community's "house" will be weak; and
- demonstrating a viable approach that can be used to monitor and improve other important public health actions in addition to immunization, including vitamin A supplementation, growth promotion, and antenatal and postnatal visits.

It is noteworthy and appropriate that community-monitoring initiatives in different countries have used the MVMH tool differently, either as a tool to alert families regarding due vaccinations in the next session (as a due list) and/or to identify and allow follow-up of families with children who have fallen behind (as a tool for identifying children who have missed due vaccinations). Some countries post the tool in public as a not-so-subtle motivation to avoid making their community weaker and more vulnerable to disease, while others take steps to avoid publicly embarrassing community members. This variation is appropriate, and program design should take place locally in consultation with community members. Another aspect that is highly variable is how the community tool is kept up-to-date. Where home-based records are universal and well-used, the task is fairly simple, but where this is not the case, various approaches can supplement these records. The health system needs to be aware of the community population data, and both community and health facility tools can benefit from locally appropriate actions to compare and update them.

Perhaps the "bottom line" is that such efforts modify widely-held concepts of

responsibility for health, so that the health system is perceived as not only responsible for providing services, but also for actively engaging with communities, collaborating with them, and soliciting their feedback. Likewise, communities are no longer responsible simply for using services but also for improving those services and using them as intended to prevent vaccine-preventable diseases.

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