

INNOVATING to Vaccinate Every Child in Uganda Through Strengthening Subnational Management

LESSONS LEARNED FROM JSI'S STRONGER SYSTEMS FOR ROUTINE IMMUNIZATION PROJECT



JSI Research & Training Institute, Inc.



By the
project's end,
there was a

42%

increase in number of
communities reached
with RI
services

There was a

DOUBLING

in the number of immunization
sessions both scheduled and
conducted by the end
of the project

SS4RI-supported
districts saw a

**FIVE-FOLD
INCREASE**

from baseline in the number
of health facilities with
up-to-date microplans

EXECUTIVE SUMMARY



Vaccines are a best buy in public health but they are only as effective as the health system that delivers them. Strengthening the capacity of health personnel at district, health sub-district, and health facility level is of paramount importance. JSI Research & Training Institute, Inc. (JSI), with funding from the Bill & Melinda Gates Foundation implemented the SS4RI project which assisted the Ministry of Health and Uganda National Expanded Programme on Immunization (MOH/UNEPI) to improve managerial capacity for routine immunization (RI) services across ten districts from 2014 to 2019. JSI enhanced the existing Reaching Every Child/Community (REC) approach used in Uganda to create Reaching Every Community using Quality Improvement (REC-QI) to strengthen the delivery, quality, and utilization of RI services.

The use of REC-QI's facility-based approach to microplanning, in which communities help map all villages relative to service delivery points, led to a five-fold increase from baseline in the number of health facilities with up-to-date microplans and a 42% increase in the number of villages reached with RI services. Both the number of immunization sessions planned and conducted more than doubled.

The REC-QI approach also strengthened community partnerships. By the end of the project, 85% of health facilities in the ten districts had functioning Quality Work Improvement Teams (QWITs) that include community representatives as key members. In over three quarters of facilities, these teams employed Plan-Do-Study-Act (PDSA) cycles to identify, prioritize and analyze problems affecting immunization, and craft tailored solutions to solve them. Addressing these problems and mobilizing resources to implement microplans required support from local influential non-health stakeholders, particularly local civil authorities and elected officials. JSI developed an approach to non-health stakeholder engagement that has now been introduced by other partners in an additional 15 districts. These and other REC-QI methods are now embedded in key MOH/UNEPI strategies and documents, available for nationwide use through the MOH portal.



ADDRESSING IMMUNIZATION CHALLENGES AND THE GOALS OF SS4RI




As of 2014, Uganda's immunization coverage had stagnated—a situation faced by many low-income countries. While national coverage for a third dose of diphtheria-pertussis-tetanus-containing vaccine (DTP3) was 78% according to WHO/Unicef estimates of national immunization coverage, almost one quarter of children were inadequately protected from vaccine-preventable diseases. Administrative coverage data were of variable quality, therefore limiting its usefulness as a basis for planning services. While the MOH/UNEPI had introduced the Reaching Every District (RED) approach¹ over a decade earlier and re-cast it as Reaching Every Child/Community (REC) in 2007, its uptake at subnational levels was low. Fundamental REC processes such as microplanning were not being carried out, thereby hindering the ability of district health officials to manage the RI services they are responsible for providing.

JSI worked with Uganda's MOH/UNEPI to introduce the REC-QI approach with the aim of strengthening Uganda's routine immunization (RI) system through affordable, proven approaches so that it is capable of protecting children from vaccine-preventable diseases on a sustained basis.



¹ <https://www.afro.who.int/publications/reaching-every-district-red-guide-increasing-coverage-and-equity-all-communities>



JSI views a strong RI system as having health personnel in every district and facility who are capable and empowered to improve the reach/availability, quality, utilization, and sustainability of immunization services.



THE REC-QI MODEL



REC-QI is a package of mutually reinforcing actions (shown in Figure 1) to build health personnel capacity with the goal of improving the management, delivery, and utilization of RI services at subnational levels.

JSI worked with the MOH/UNEPI, district health teams, health facility staff, and other partners to adapt tools from the field of quality improvement (which typically focus on improving the quality of clinical care) to improve the quality of immunization program management. As a public health intervention whose goal is to reduce infectious diseases transmission across populations, successful immunization depends on reaching every community and child eligible for vaccination, not just those who come to a health facility. Therefore, JSI needed to adapt standard QI methods to reflect this population-based goal.

JSI expanded on work initiated under previous and existing U.S. Agency for International Development (USAID)-funded projects². JSI worked with UNEPI and district health teams to enhance the REC approach, already a well-established and accepted strategy in Uganda, with selected tools and concepts from the field of quality improvement—becoming REC-QI. The innovative application of QI concepts and tools therefore helped UNEPI achieve its own goals for implementing REC rather than introducing a new or competing model.

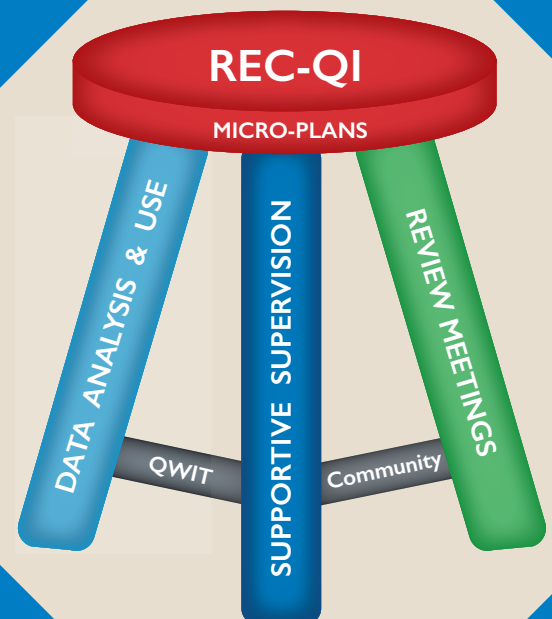


2 The Maternal and Child Health Integrated Program (MCHIP) supported Uganda's immunization program from 2012-2014 and this work was continued through the Maternal and Child Survival Program (MCSP), which operated in Uganda from 2014-2019, concurrent with the work detailed in this report. With USAID support, REC-QI was introduced throughout 15 additional districts.

REC-QI COMPONENTS INCLUDE:

- **Micro-planning.** Although UNEPI had required health facilities to prepare microplans for many years, few facilities had done so prior to REC-QI introduction. JSI supported facilities to develop microplans, enhancing the utility of the standard microplanning process by adding:
 - Participatory community mapping to accurately identify catchment populations
 - Root cause and fishbone analyses to identify the underlying causes of problems
 - Pareto analysis³, which prioritizes problems having the highest impact
 - Plan-Do-Study-Act (PDSA) cycles to test solutions crafted by health workers and community members working together
- **Quality Work Improvement Teams (QWITs).** Comprised of health workers and community members, QWITs focus on immunization and conduct PDSA cycles, trace defaulters, and obtain community input on optimal location and time for vaccination outreach sessions.
- **Data Use.** In addition to root cause and fishbone analyses, JSI introduced data quality self-assessment and improvement and built health worker capacity to monitor immunization coverage and drop-out rates to inform their own actions.
- **Supportive Supervision.** JSI revised existing supportive supervision tools to increase the focus on health worker capacity building and on-site mentorship, particularly for data analysis and problem-solving. JSI staff engaged both local health staff and non-health stakeholders in conducting supportive supervision visits.
- **Quarterly Review Meetings (QRMs).** These meetings, held with both health personnel and local non-health stakeholders, review performance and encourage participants to “think outside the box” to problem-solve, mobilize local resources, and flag problems needing national level attention.

FIGURE I



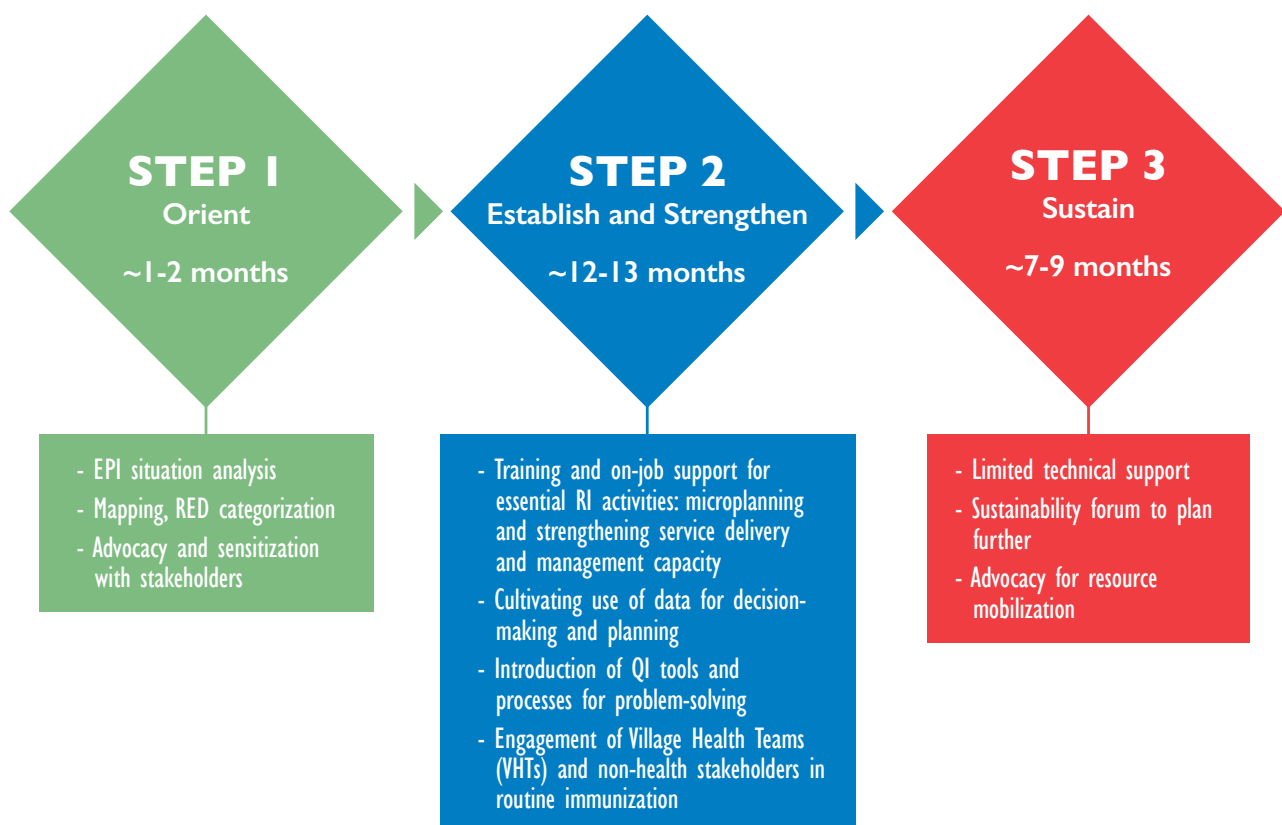
³ See, for example: <https://www.urc-chs.com/sites/default/files/AModernParadigm.pdf>, pp.72-73

JSI's theory of change proposed that the collective REC-QI inputs—coupled with critical system inputs such as sufficient vaccines and supplies, human resources, transportation, and cold chain equipment—contribute to strengthening the RI system by improving the reach/availability, quality, utilization, and sustainability of RI services. This RI system, in turn, helps to achieve a vision in which all children and women are continuously protected from vaccine-preventable diseases with timely, safe, high quality services.

JSI introduced REC-QI through a stepwise process (Figure 2) that typically took approximately 20-24 months per district, with SS4RI providing technical support to build health worker capacity through iterative exposure to new concepts and tools and multiple opportunities to master new skills.

FIGURE 2

Stepwise introduction of Reaching Every Community using Quality Improvement

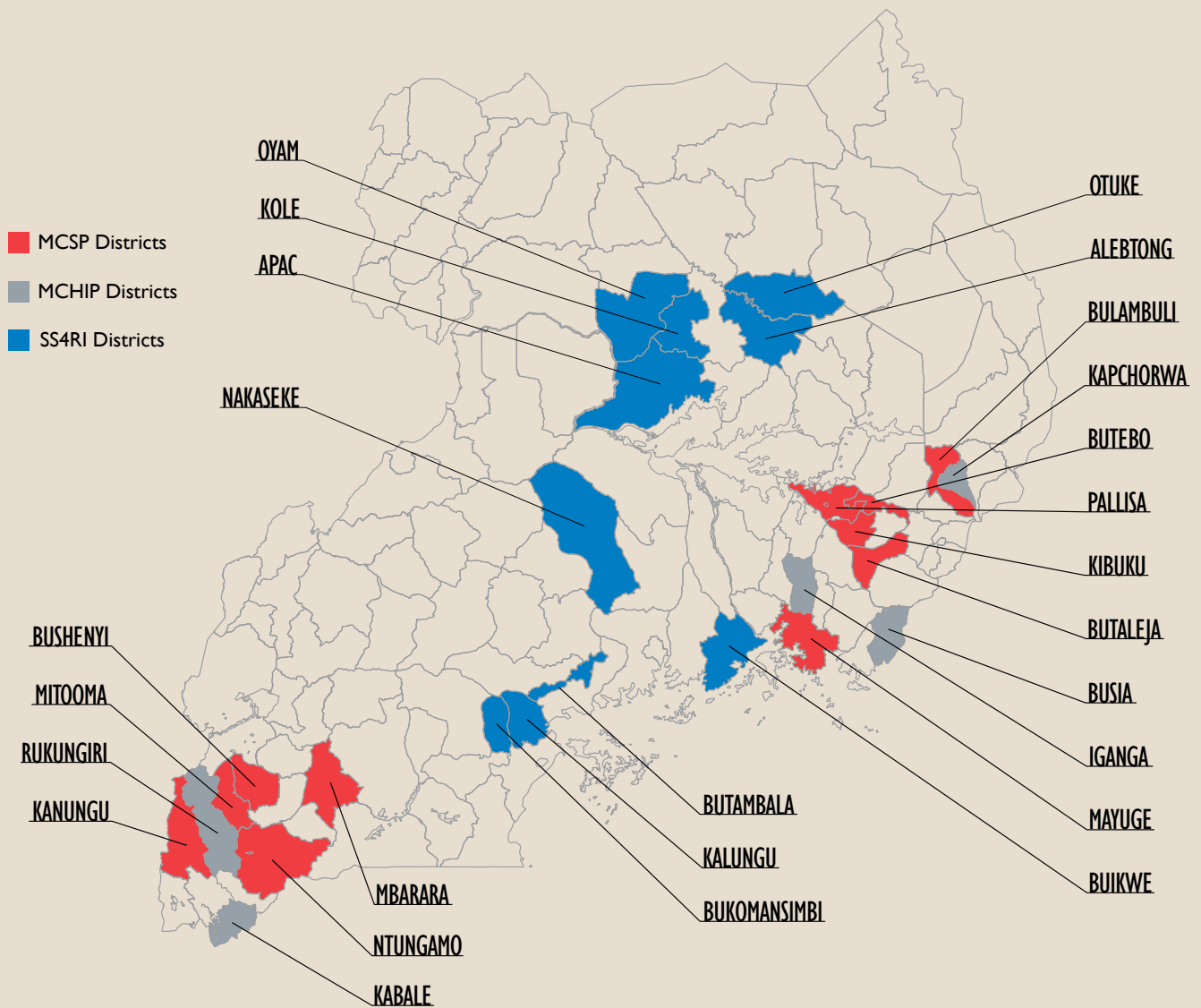



In coordination with its "sister" project, the USAID-supported Maternal and Child Survival Program (MCSP, also technically supported by JSI), JSI worked both at district level to introduce REC-QI and at national level to share lessons learned and help inform nationwide strategies and materials for routine immunization. As shown in Figure 3, SS4RI introduced REC-QI in ten districts in Central and Northern regions, while MCSP introduced REC-QI in ten districts in East Central and Southwest regions. Overall, JSI's staff of five district technical officers, along with technical leadership in Kampala, introduced REC-QI to approximately 650 health facilities.



FIGURE 3

Map of Uganda: SS4RI and MCSP/MCHIP Supported Districts





The REC-QI approach to microplanning is a bottom-up, community-informed process that actively engages health service providers and community members.

BENEFITS OF REC-QI TO THE ROUTINE IMMUNIZATION SYSTEM



JSI collected data on a semi-annual and quarterly basis respectively from the facilities and districts where REC-QI was introduced for project management purposes. These data, along with learning from supportive supervision visits and ongoing interaction with health personnel, produced continuous, real-time learning that later informed course corrections and modifications to the approach.

I. IMPROVED EQUITY AND EFFICIENCY IN PLANNING AND PROVIDING RI SERVICES

The REC-QI approach to microplanning is a bottom-up, community-informed process that actively engages health service providers and community members. A key element is a participatory mapping process in which communities and health workers agree on which service delivery points are to reach which communities with immunization, and when⁴. The process generates accurate, realistic plans (based on the resources available at health facilities) while increasing health worker ownership and follow-through on planned actions. Equally important, this process builds the capacity of health personnel and community members to understand and use their own data.

“Before microplanning, I’d just go and vaccinate. But then with microplanning, I put a question to myself: ‘I haven’t reached my target. Why?’... I realized we had a big dropout rate and we had to sort out denominators. We reduced the dropout rate from 24% to 10% and then further to 8%.”

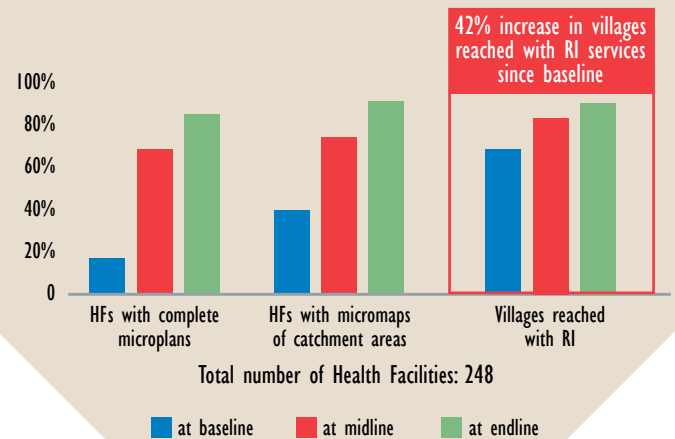
—Nurse, Buikwe
Health Center III

⁴ The mapping process is described here.

This approach to mapping and facility-based microplanning helped improve the equitable delivery of immunization, substantially increasing both the identification of communities needing vaccination and the number of communities reached with RI services (Figure 4). By the project's end, there was a five-fold increase in the number of health facilities with updated microplans and a 42% increase in number of communities reached with RI, representing 1,241 additional villages.

FIGURE 4

Improved microplanning and micromapping resulted in increased equitable reach of RI services

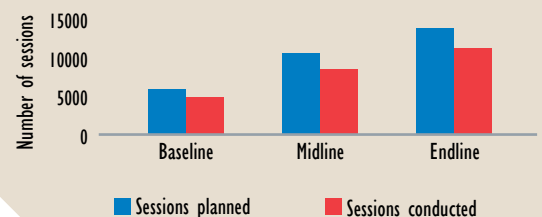


Better estimates of target populations and identification of hard to reach areas contributed to more efficient planning. Along with the doubling of immunization sessions planned, the number of sessions actually conducted also more than doubled, with 2.3 times as many sessions conducted by the end of REC-QI introduction compared to the beginning (Figure 5).

This facility-based approach to microplanning attracted the interest of other health programs in Uganda. Through MCSP, it was adapted to the area of child health and introduced on a pilot basis, resulting in better siting of outreach services to meet community needs. This led to improved service utilization and increased in coverage for vitamin A supplementation and deworming administration.⁵

FIGURE 5

The number of sessions planned and conducted across SS4RI-supported districts more than doubled over the course of the project



5 More information can be found here.

2. INCREASED CAPABILITY OF LOCAL MANAGERS TO USE THEIR OWN DATA TO INNOVATE SOLUTIONS TO PROBLEMS AND TAILOR SERVICES TO THEIR CONTEXTS

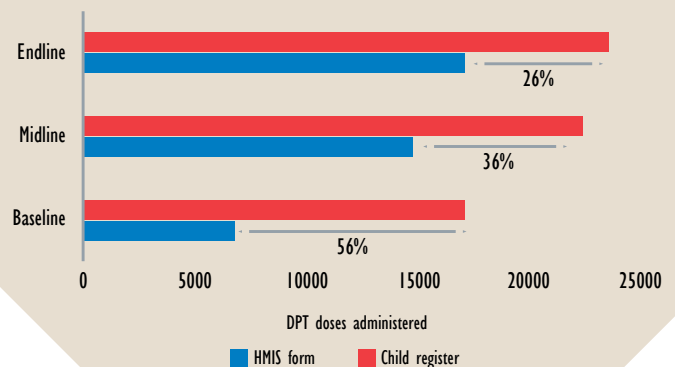
JSI staff introduced activities to help health personnel and community members understand how the data available to them can be transformed into meaningful, useful information.

The child register, a vital tool for identifying by name and location those children needing vaccination, was reorganized by village (based on mapping done for microplanning) so that health workers could quickly identify underserved communities and provide Village Health Team (VHT) members with lists of children requiring follow-up. To reinforce the importance of recording information in the child register, JSI introduced a step for health workers to reconcile the data recorded in tally sheets and child registers after each immunization session. As shown in Figure 6, the efforts to improve the utility and quality of data reduced discrepancies between data recorded in the tally sheets and that which was sent to higher levels in the monthly summary report.

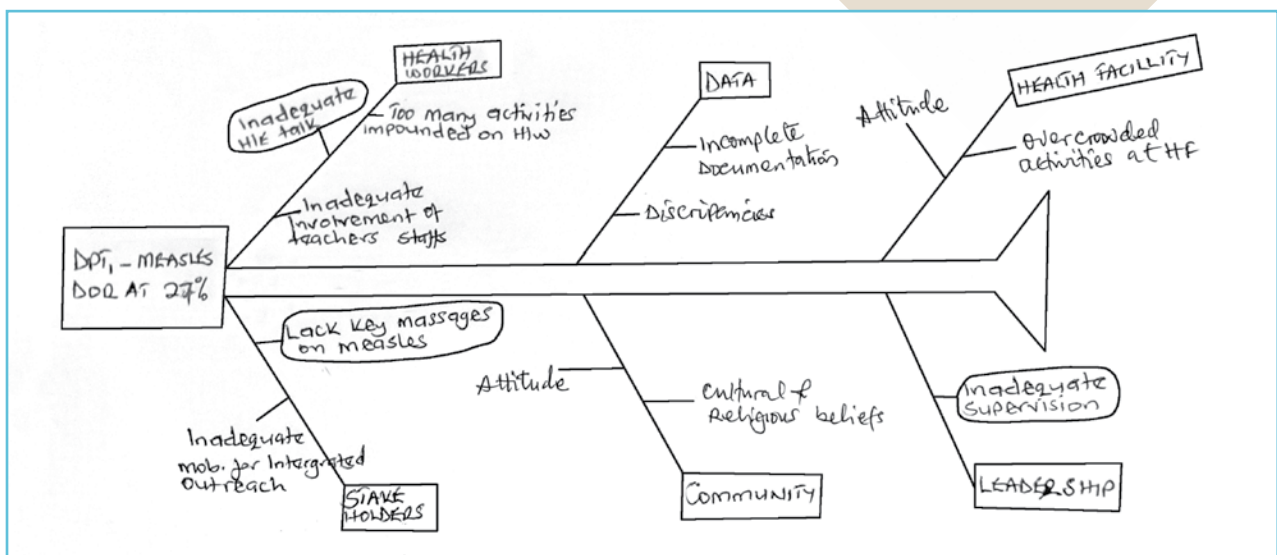
A key aspect of REC-QI was the introduction to health facility personnel and QWITS of QI methods to both analyze problems (such as fishbone and root cause analysis and “five whys” inquiry) and craft feasible solutions.

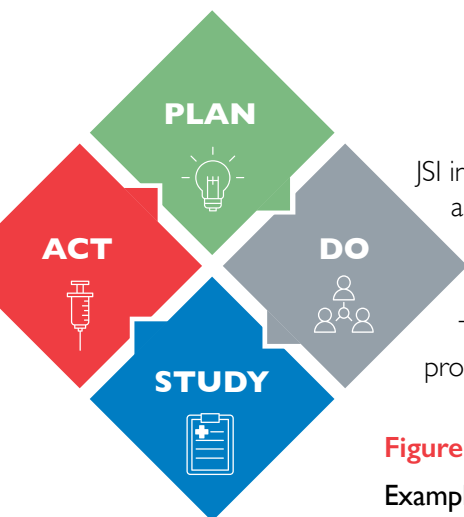
FIGURE 6

Increase in use of child registers and reduction in data discrepancies between child registers and monthly summary reports for immunization



Example of fishbone analysis.

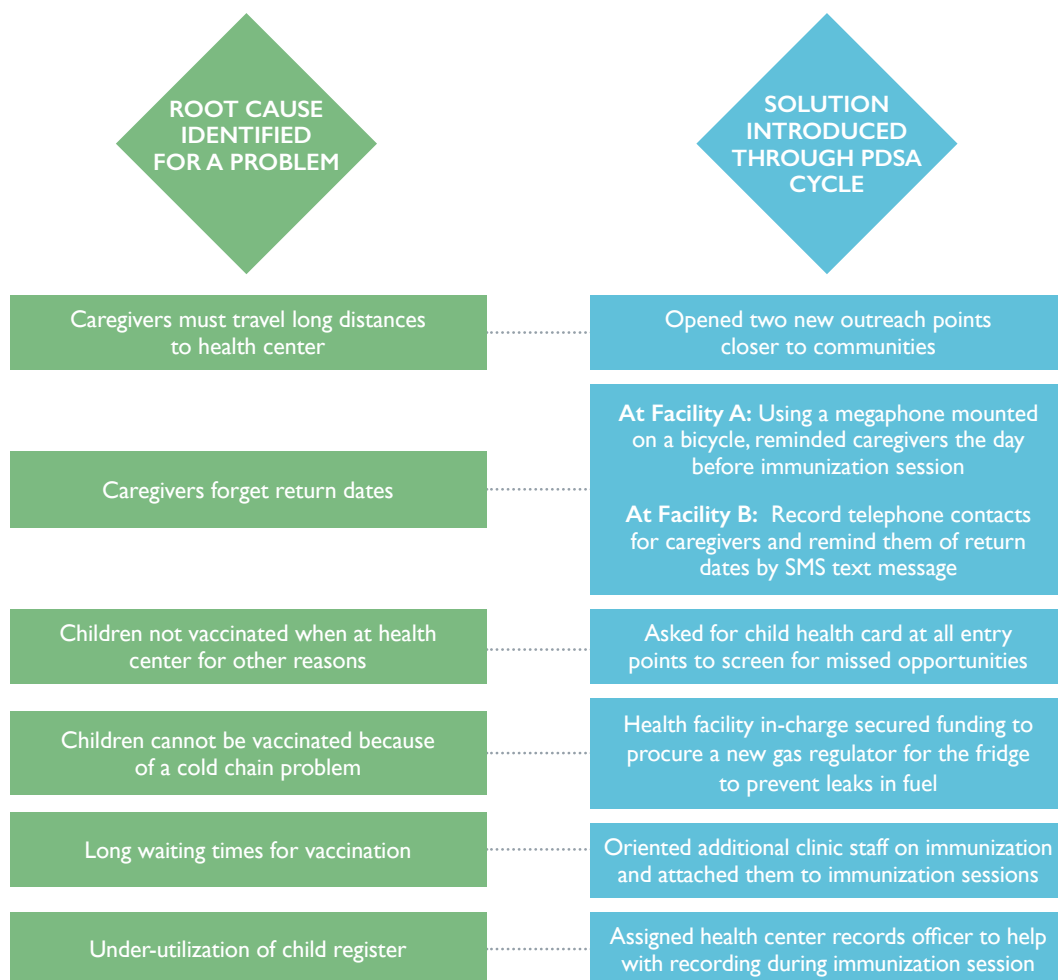




JSI introduced Plan Do Study Act (PDSA) cycles as a means of building health worker and QWIT capacity to design, introduce, and test solutions to the problems they had identified. This method empowers health personnel to take initiative and work within their own resource envelope to address these issues.

The actions introduced to address an identified problem depended both on the problem itself and the resources available within the facility and the community.

Figure 7
Examples of PDSA cycles



“There will be many problems. So which can you solve? For example, for outreach, make the outreach timely, not adding more staff. Because you can do something about the first problem but not the second one. Or solve a problem like client flow. It needs no extra money.”

—Nursing officer at Health Center III, Buikwe District

The introduction of these methods for putting local data to active use helped transform peripheral level health workers and communities from passive to active players in changing their own situations. Instead of waiting for the national level of UNEPI to fix problems, they started to assume responsibility for analyzing their own data, identifying root causes, and introducing actions to address them.



3. AMPLIFIED THE VOICE OF THE COMMUNITY TO BETTER MEET ITS NEEDS FOR IMMUNIZATION

A key innovation was to actively engage community members and civil authorities to both understand the barriers they face to immunization and mobilize their support to address them. The strengthening of partnerships between health personnel, communities, and local authorities built on existing processes and structures but also required going outside the comfort zone for some health personnel.

QWITs built on an existing structure of quality improvement teams that addressed clinical care, particularly HIV/AIDS. With a focus on immunization, QWITs added the step of seeking participation from community members so that their problems could be heard and their ideas enlisted to solve them. By the end of the project, 85% of facilities in project-supported districts had functioning QWITs addressing immunization gaps.

Early in SS4RI, JSI observed that the preparation of high-quality microplans did not necessarily translate to their implementation, often due to a lack of resources for vaccine distribution and outreach sessions. MOH grants to districts for primary health care were sometimes insufficient to meet immunization needs. JSI recognized that subnational civil authorities, political leaders, and other local influencers are key players who decide on resource allocations that can support operational costs for immunization. Collectively referred to as “non-health stakeholders,” they are in a position to reduce bottlenecks to immunization service delivery and can mobilize communities to use vaccination services. However, they first needed to understand their roles and value immunization as an intervention that is vital to both their community’s well-being and their own leadership.

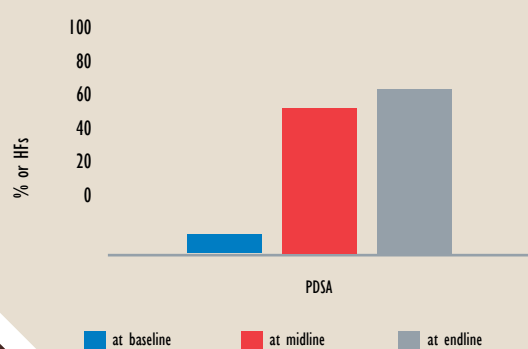
By the end of the project,

76%

of facilities had Quality Work Improvement Teams working to address impediments to immunization.⁶

FIGURE 8

Increase in presence of QWITs to analyze and prioritize problems and find local solutions using PDSA



6 More information about SS4RI's work to improve data use and quality is here.

Initially, non-health stakeholders did not understand what role they could play to support immunization. By bringing non-health stakeholders into immunization review meetings, supportive supervision visits, and other fora at which immunization was discussed, JSI built their understanding of immunization as well as the capacity of health personnel to communicate productively with them, leading to increased understanding of each other's priorities.

“Non-health stakeholders” including subnational civil authorities, political leaders, and other local influencers can be engaged to reduce bottlenecks and mobilize communities to use immunization services.

This engagement resulted in a wide array of commitments to immunization by non-health stakeholders, from increasing resources, to promoting immunization on local radio stations, to speaking with vaccine hesitant families to encourage them to get their children vaccinated.⁷

In 2017, JSI and UNEPI convened a national meeting of district health officers and key non-health stakeholders from 18 districts. Together, they reviewed immunization needs and agreed to key commitments they would make on a regular basis. These were documented in a MOH directive⁸ that clearly spelled out their respective responsibilities that, together with other REC-QI tools, has been distributed to all district health teams in Uganda.

“We had to involve Local Committee chairmen to get them to understand what was needed. We had meetings to inform them of what they're supposed to do for immunization.”

—Facility In-charge,
Health Center III

JSI developed a comprehensive toolkit with step-by-step guidance on how district and facility health staff can engage with non-health stakeholders.



⁷ Mobilizing Local Support for Immunization: Experience From Uganda and Ethiopia in Engaging Local Stakeholders and Leaders.

⁸ District Leaders Commitments to Support and Routine Immunization in Uganda.

KEY LESSONS LEARNED AND IMPLICATIONS FOR ACTION



REC-QI improved subnational capacity for immunization management, resulting in more equitable access to services, stronger community partnerships, more support for immunization, and increased ability of health personnel and communities to use their own data to identify problems and generate context-appropriate, feasible, and sustainable solutions.

IMPROVEMENTS TO REC-QI

- Early learning about the limited implementation of microplans gave rise to a rich vein of work on engaging non-health stakeholders in immunization. This approach proved feasible for local health personnel to take on and beneficial in generating local resources, visibility, and ownership for immunization. Unicef in Uganda has now expanded this work to 15 additional districts, with over 800 non-health stakeholders and health officials oriented on the process.
- By SS4RI's midpoint, JSI realized that immunization performance varied across health facilities that shared similar profiles in terms of staffing, size, and available resources. The main difference was in the leadership, management, and accountability capabilities of health facility managers. JSI developed a program to build their skills in these areas by first seeking advice from the managers of high-performing facilities as to key practices, then providing initial orientation and continued follow-up support to managers from another 121 facilities across eight districts. This approach has the potential to benefit other health interventions as well.
- JSI broadened its approach to supportive supervision from initially involving only immunization staff to whole site engagement that includes all health personnel at the health facility. Broadening the understanding of immunization among all staff helps build competence in immunization and mitigates the effect of staff turnover.

JSI used a phased approach of introducing REC-QI initially in two districts in 2015, then in four districts one year later, and then in an additional four districts the following year. This stepwise introduction allowed the team to capture emerging learning, improve their own skills, and modify REC-QI to make it more effective and responsive to context. While the basic elements of REC-QI did not change, the ways in which they were carried out evolved.

LESSONS LEARNED IN IMPLEMENTING REC-QI

- **Positioning QI practices as a means of helping to operationalize REC—a well-accepted, familiar model—helped to promote their uptake.** Similarly, QI methods and tools were appreciated when seen as strengthening existing, familiar processes rather than as presenting new, complicated activities which added to health worker workload.
- **Reaping the benefits of REC-QI's technical innovations to build subnational managerial capacity requires critical system inputs,** including sufficient numbers of health personnel, health infrastructure, transport, vaccines and cold chain equipment. It is when the technical, material, and financial resources come together that the full benefits to immunization are realized.
- **REC-QI activities enhanced the use of existing structures and processes within Uganda's health system, thereby increasing the potential for these activities to be sustained.** Additionally, partners who support immunization in Uganda are already adopting these methods and many key tools have been posted on the MoH portal.
- **Finally, building the capacity of district and facility level health personnel and non-health stakeholders to use their own data to problem solve and make managerial decisions represents a fundamental shift in perspective.** It requires both repeated reinforcement to build confidence and mastery of skills and a health system that values such local initiative. This is the case in Uganda, where building such capability is welcomed. JSI's experience demonstrates that these efforts are feasible and can lead to lasting improvements in the system that provides immunization to Uganda's children.



ADDITIONAL RESOURCES ON REC-QI



- ◆ Strengthening the Routine Immunization System through a Reaching Every Child-Quality Improvement Approach in Uganda - A How-To Guide (JSI/ MCSP)
- ◆ Mobilizing Local Support for Immunization: Experience from Uganda and Ethiopia in Engaging Local Stakeholders and Leaders (JSI/ SS4RI, UI-FHS)
- ◆ Experience in Building Capacity of Health Facility Managers in Uganda On Leadership, Management, And Accountability: A Missing Link in Routine Immunization Service Delivery (JSI/ SS4RI).
- ◆ What Do Health Facility Managers Do to Improve Routine Immunization: Experiences from Central and Northern Uganda -Video (JSI/ SS4RI)
- ◆ Improving The Quality and Use of Routine Immunization Data: Experiences from the Stronger Systems for Routine Immunization Project in Uganda (JSI/ SS4RI)
- ◆ A Toolkit for Engaging Non-Health Stakeholders in Supporting Routine Immunization in Uganda (JSI/SS4RI)





© MCSF



JSI Research & Training Institute, Inc.