Immunization is a program whose success or failure in achieving public health impact is often judged on the basis of data generated on a daily, weekly, or monthly basis by health workers in facilities ranging from remote health posts to regional hospitals. Because immunization is a service that can be scheduled (unlike, for example, treatment of ill children) its data can be used by health workers to answer such key management questions as: Are we reaching the people in each locale who need immunization? Are we making progress? Who are we not reaching? Are children starting the immunization schedule but then dropping out? How well do outreach services work? In principle but not always in practice, the answers to these questions can be found by health workers themselves with data that are readily available to them. The importance of data use is highlighted by the inclusion of facility-level microplanning as a core component of the WHO/UNICEF Reaching Every District strategy, used by most countries to strengthen routine immunization (RI).

With immunization rates¹ in the Africa region estimated at 74% in 2011² by WHO and UNICEF, countries have made substantial progress since 2000. But more work is needed to sustain these gains and take coverage to the very high levels needed to achieve herd immunity and block disease transmission. The Global Vaccine Action Plan, endorsed by the World Health Assembly in 2012, calls for all countries to achieve DTP3 coverage of at least 90% at national level and 80% in every district. The widespread introduction of new and costlier vaccines increases the potential of immunization to protect children against common killers, such as pneumonia and diarrheal disease. But with more at stake, the need for strong management at every level is essential to achieving timely, high-quality RI of all children.

The ARISE project was created by the Bill & Melinda Gates Foundation to assemble the evidence on what drives improvements in RI in Africa. To do so, ARISE conducted in-depth, mixed methods comparative case studies in Cameroon, Ethiopia, and Ghana. It employed an assets-based approach to identify common drivers of RI performance at the district level, determine how and why these drivers improved coverage, and identify the contextual factors affecting performance. One prominent and direct driver of RI performance was the regular review of program and health worker performance and open discussion of performance targets and achievements. Synthesized findings across the 12 study districts identified common drivers of improvements in RI and are described in Drivers of Routine Immunization System Performance: Study Findings from Three Countries.³

¹ As estimated by a third dose of diphtheria-tetanus-pertussis containing vaccine (DTP3)
The combination of using data to track progress and non-threatening, learning-focused management techniques was found to be highly motivating for health workers and community members involved in RI service delivery. While performance review practices varied across study districts, a common characteristic was that most district management teams used data to assess performance, identify weaknesses or gaps, and share information. Regular program and performance review activities were observed and reported in districts where coverage improved and were weak or absent in districts where it did not improve.

As shown in Figure 1, health workers and their supervisors regularly summarized, presented, and interpreted local data on immunization to assess progress against targets, compare performance in different settings, and share successful practices. The performance review mechanisms took the form of regular review meetings, supervision, coaching, and on-the-job training. The outcome or effect of performance review was that it motivated staff and community members and helped maintain a focus on improving service delivery and demand for immunization. In some instances, health personnel worked with community members to test different strategies for reducing coverage gaps and improving demand. Key to transforming the mechanisms to the desired outcome was a problem-solving, team-oriented approach that encouraged open, constructive discussion. Learning from peers, friendly competition, and “naming and shaming” gave rise to a sense of collective accountability among health staff and renewed their commitment to improve RI.

Effective program review activities and approaches described by participants in the case studies included the following:

1. **Performance review meetings.** These meetings provided a deliberate opportunity for the regular tracking of data against the targets specified in facilities’ annual microplans as well as for discussion with peers and supervisors about common challenges and potential solutions. Senior health officials and community leaders held health teams accountable, using indicators to measure performance against targets. Health teams held regular meetings – from the facility level to the national level – sometimes involving community members, who in turn monitored the performance of volunteers or paid community-focused health workers. Essential to the effectiveness of these meetings was a focus on active learning, lateral exchange of ideas and promising practices among peers, and problem solving.
2. **Supportive supervision.** This was characterized by the supervisor’s direct observation of health providers performing RI duties and review of data and circumstances within the facility. Supervision visits provided an opportunity for supervisors to see first-hand where promising practices and innovations were emerging. While often using checklists or other supervision tools, respondents in the ARISE case studies explained that the most effective supervision went beyond assessment to include the provision of feedback, discussion of problem solving strategies or best practices used by colleagues in other facilities, and building of technical skills.

3. **Non-financial motivation of service providers.** The case studies highlighted that health worker motivation is central to achieving lasting improvements in RI services. This was particularly true for those health personnel who spent a great deal of time visiting communities—sometimes at their own expense—with considerable sacrifice of time. The ARISE findings indicated that public acknowledgment of their efforts during review meetings was encouraging; for example, supervisors motivated service providers by asking them to share with their peers the innovations observed during supervision visits. Other motivational strategies included ranking facilities in order of performance and “naming and shaming” those who performed above or below expectations. In a few cases, exemplary health workers received in-kind rewards, such as radios or training perks.

**A VARIETY OF APPROACHES FOR REVIEWING HEALTH WORKER AND PROGRAM PERFORMANCE**

**Cameroon: Building managerial capability at the district and facility levels**

Over the past four years, the District Medical Officer of Kribi district had worked to improve RI by enhancing the quality and use of health data, strengthening community involvement, and increasing access to services—in part by engaging private providers in RI service delivery. Incorporating the data from private health centers required expanding the district’s human resources to monitor immunization performance. District funds were used to hire and train new staff for data management.

The district convened monthly coordination meetings, which were central to improving RI performance. As one health worker commented, “We take part in coordination meetings where we give accounts. Sometimes we are evaluated. The coordination meetings are regular, which puts one under the obligation to work.” Meetings were bolstered with regular supervisory visits that focused on ensuring that improvement plans for RI were implemented. Supervision was also used to hold health workers responsible for implementing their RI plans. Health workers described a “chain of seriousness” for improving RI that started at the national level and extended all the way to health facilities and even communities.

“Supervision has to be regular. The secret of supervision is preparation that is based on data that have been analysed.”

— Cameroon district health official
Ethiopia: Involving Community Stakeholders in Reviewing RI Performance

Civic leaders from the local administrative government, called the kebele, worked with health officials to set clear monthly performance targets for immunization. Together with community-centered health extension workers (HEWs) and local health staff, the kebeles monitored performance for immunization and other primary health care services during monthly or quarterly meetings. Facilities that performed well were publicly recognized and praised, while staff from lower-performing facilities discussed their challenges with supervisors to find solutions to problems. The regular review meetings were an opportunity for exchanging knowledge and best practices among higher- and lower-performing facilities in an environment of mutual learning and healthy competition.

The regular performance review meetings encouraged health workers, the local administration, and the network of community volunteers to achieve their targets for RI coverage. Data on births, catchment areas, vaccination targets, and defaulters were used to inform decisions on service delivery and community mobilization. The public recognition of good performance served as an incentive to motivate the health workers, with HEWs responding by working hard to improve RI services. The concepts of performance review, accountability, and incentives extended beyond health workers and into communities, with certificates given to families whose children completed the vaccination schedule.

“There are lots of opportunities at the quarterly review meetings for HEWs to discuss how they do their work so that others learn. The top three health posts both discussed their practices and had health posts in the same catchment area visit them. This helps not only to discuss what the good health posts are doing, but to see what they are doing, too.”

– Ethiopia district health official
**Ghana: Accountability leads to improvements**

In Ghana, strong district management meant that clear targets were set and health workers felt valued. While community health nurses (CHNs) in all districts had targets for the number of infants they were to vaccinate each month, it was only in the districts that showed RI improvements where CHNs said they were expected to be held accountable for reaching these targets. Review meetings yielded actions to address problems: For example, one subdistrict scheduled immunization sessions for market day, while several facilities talked with communities to identify more convenient days for outreach clinics. Other facilities conducted home visits to identify children who were not immunized or not current with their vaccinations.

Essential to improving RI was the discussion of targets during formal face-to-face meetings held each month or quarter. While these meetings were sometimes described as “naming and shaming,” others who were interviewed saw them in a positive light. When asked if he felt shame when his subdistrict did not perform well, one field technician replied, “You do not feel shamed. You feel disturbed: Why did others obtain this, and I did not? So you are eager to go back to improve.”

“The subdistrict staff is always happy to see their supervisors, who keep them up-to-date with new methods, forms, and techniques. This is especially good when changes have been made in how RI is handled. Supervisors are always available by phone, and the subdistrict staff will call them often.”

— Health worker, Ghana
Conclusions

The practice of regularly reviewing data and promoting open discussion of performance targets, achievements, and obstacles was a critical driver of program performance in all ARISE case study districts where RI performance improved. Health teams employed mechanisms such as regular meetings, supervision visits, and on-the-job training. While specific practices varied among study sites, common features included measuring progress against agreed-to targets in annual microplans, increasing health workers’ capability to actively use the data they themselves generate, and applying problem solving approaches during supervision. Vital to the effectiveness of these review activities was supervisor receptivity that encouraged health workers to describe the problems they faced as well as the innovative steps they took to address them.

Review processes were found most valuable when they were held on a regular and reliable basis, were well organized (agenda, minutes, pre-arranged peer exchanges), and required that health workers attend and bring their current data. In some settings, their scope extended beyond immunization to examine performance on other primary health care indicators. But while these review processes were critical to effective management of RI services, they were insufficient to bring about improvements if not followed up with changes in practices. In some cases, additional resources had to be identified to implement these changes.

Implications for action

- As an essential component of RI management and an effective strategy for performance improvement, regular reviews of health worker and program performance require reliable and sufficient financial and human resources. Such activities should be prioritized in district and national budgets for immunization.

- As there is no single best approach for carrying out regular performance reviews, district-level supervisors need to be capable of both selecting activities that are right for their own settings and maintaining an environment of learning that respects, supports, and motivates front-line health workers. District health teams may need training and capacity building to acquire skills and experience in performance review.

- Performance reviews link data to action. If reviews are to bring about improvements in RI, then local health personnel must have the skills, flexibility, autonomy, and resources to use their data to modify practices.
ACKNOWLEDGEMENTS

We gratefully acknowledge the contributions of Sangeeta Mookherji of George Washington University School of Public Health in the design of the in-depth country studies and Emily Peca and Sangeeta Mookherji in the cross country synthesis of findings.

FURTHER READING (available at http://arise.jsi.com/)


RECOMMENDED CITATION