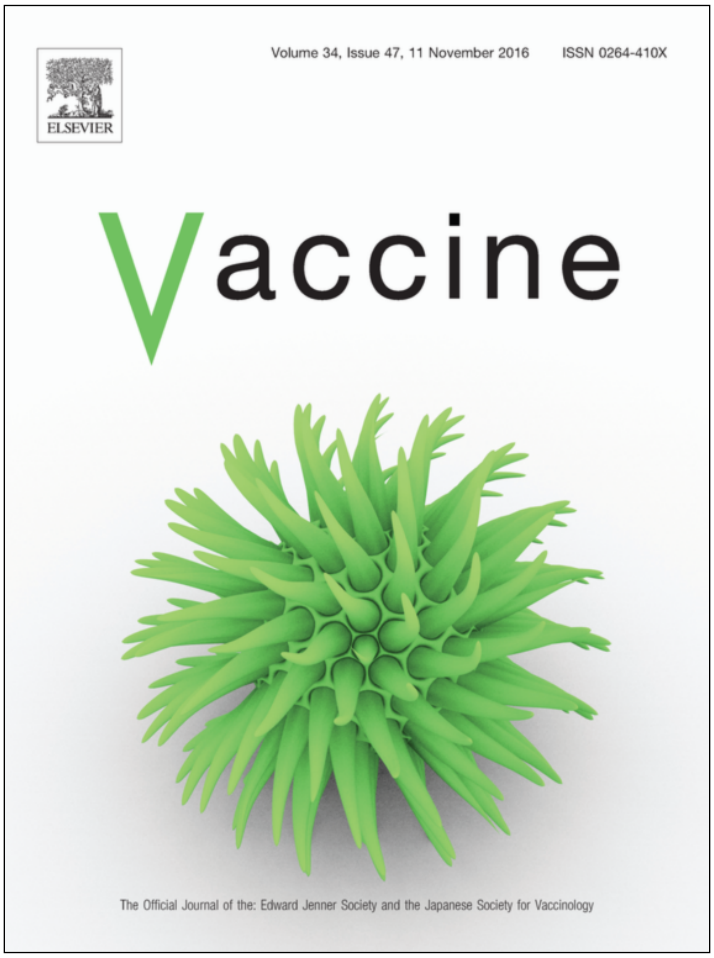

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Commentary

Revitalizing the home-based record: Reflections from an innovative south-south exchange for optimizing the quality, availability and use of home-based records in immunization systems

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Every day women and their children around the world attend community health facilities seeking immunization services or receive immunization through community outreach. Many others visit facilities for reasons other than immunization; some children receive vaccinations they do not need while others leave without the child being up-to-date for her age. Unfortunately, many such encounters occur without a review of health (vaccination) history records—an important part of any initial assessment within routine care processes [1]—either because the documentation is not available or is available but not reviewed and then acted upon by the health worker. In other situations, the historical record is available but is inaccurate or incomplete [2]. In these instances, quality of care is compromised due to lacking information, information necessary to inform clinical decision making and help track the performance of both programmes and the overall health system [3]. Of course, there are other women and children who arrive and whose health (vaccination) history records are available, complete, accurate and reviewed by the provider. Records are updated resulting in a complete and accurate history of physical/mental health. They leave secure that they have had the right care at the right time. Unfortunately, within many programmes (including immunization delivery systems) around the world, particularly those in low- and middle-income countries, the former scenario is too often true [4].

In many countries, a child's vaccination status is first recorded in facility-based registers. Although registers provide a potentially important source of information for frontline health workers, they are often poorly designed and/or implemented resulting in information that is of poor or unknown quality and falling short of providing a useful tool to facilitate tracing of a child's vaccination history and/or follow-up of drop-outs through outreach activities. Fortunately, home-based health records, maintained in the household by individuals or their caregivers, have evolved since the beginning of the Expanded Programme on Immunization [5] as an effective way to fill some of these gaps. When (i) well-designed, (ii) available in adequate supply, (iii) adopted and (iv) utilized appropriately, home-based records (HBRs) complement facility-based records within routine health information systems by providing a standardized form for legibly recording an individual's vaccination history in an organized and consistent manner for future reference and review [6] with the potential to alleviate some of the risks (e.g., missed opportunities for delivering vaccination [7], unnecessarily re-vaccination [8]) associated with absent or suboptimal documentation within health facilities.

The demand for timely, complete and accurate health-related data has perhaps never received greater attention. From the very

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first Progress Report on the Global Vaccine Action Plan [9] as well as in subsequent assessments, poor data quality from routine health information systems and the need for improvement in data use have been recurring themes among the WHO Strategic Advisory Group of Expert on Immunization (SAGE). However, despite continued rhetoric highlighting the importance of the right data at the right time and at the right place for effective and efficient management of national immunization programmes, many countries continue to be challenged by slow progress towards improved data for programme management, whether derived from paper-based or electronic health information systems. And this is particularly the case in today's rapidly changing environment where immunization schedules are increasingly more complex with new vaccine introductions and requisite doses added as well as new delivery approaches, such as the use of periodic intensification of routine immunization and supplementary immunization activities (including campaigns for which the World Health Organization encourages doses be recorded on the HBR [10]) to deliver routine and supplemental immunization services (>200 vaccine introductions and campaigns occurred in low- and middle-income countries eligible for support from Gavi, the Vaccine Alliance during 2011–2015 [11]). These complexities have implications on many fronts, but are a particular concern in areas where population-based surveys are a primary source of information for programme monitoring. Perhaps more than ever before, it is reasonable to question what is really known about vaccination coverage in a country when current HBR ownership prevalence levels are low (e.g., in 49 DHS surveys conducted between 1993 and 2013, current HBR ownership levels were less than 50% [12]) given research [13] that calls into question the accuracy of caregiver recall of vaccination history.

There is growing interest to invest in improving our understanding of how HBRs function in practice, how they may support good recording practices that benefit facility-based recording systems, how they may support more effective communication between caregivers and health workers as well as support greater demand for immunization services. In addition, we must better understand the factors influencing interruptions in timely supply of HBRs (e.g., forecasting, financing, distribution); factors impacting long-term, responsible HBR ownership (e.g., document design, owner's understanding of purpose and value of the document) and appropriate utilization by health workers (e.g., document design, absent or lacking pre-/in-service training on the appropriate use; individual behaviour of health workers and institutional behaviour of the health system vis-à-vis use of and value towards HBRs). Once knowledge gaps are identified, interventions can be developed and implemented, and this evidence can help to generate further interest at the country, regional, and global level to further build a robust case for investing in HBRs as a component of a highly functioning immunization system.

In the near term, and in parallel to applied research around the areas noted above, action can be taken to improve the design, management, and utilization of HBRs in low- and middle-income countries. In March 2016, the UNICEF Regional Office for South Asia and the Bill and Melinda Gates Foundation organized a four-day workshop aimed at optimizing the quality, availability and use of HBRs through a collaborative south-south exchange of state and national officials, development partners, data experts and design professionals. The workshop included participants from Afghanistan, India, Nepal, and Pakistan as well as representatives from Sri Lanka, who shared positive experiences from their country's HBR (Box 1). The workshop provided a unique opportunity for country teams to delve deeply into the complexities and considerations of the HBR and generated interest and momentum to take action to improve how HBRs function in practice in each of the four distinct country contexts.

Box 1. Home-based records in Sri Lanka: A 40 year success in the making.

Sri Lanka's national immunization programme, which maintains high coverage [14] for the vaccines in its recommended national schedule, has a long history with home-based health records. Sri Lanka introduced a home-based immunization record more than four decades ago and has established a culture of responsible ownership and utilization of the document with current HBR ownership prevalence levels of ⩾90% observed in the periodic district coverage surveys used to monitoring the programme. Since its introduction, the record has undergone numerous modifications to reflect the evolving needs of the programme. Today, the Sri Lanka home-based record (images available online at http://www.immunizationcards.org/lka-sri-lanka) is integrated into the national child health programme and includes information needed by caregivers to optimize children's nutrition and health status and covers a range of topics including newborn care, breastfeeding, complementary feeding, immunization, and psychosocial development. All children born in Sri Lanka are issued a home-based record, which is used until the age of 14 years.

The workshop hinged upon a user-centered approach whereby participants began by focusing on the users—caregivers, healthcare workers, and public health officials—who routinely engage with HBRs, then worked together to hypothesize how this tool could better serve the needs and challenges of each of these users over time. Teams collaboratively generated a concept for improvements to the HBR, visualized and prototyped changes aligned with the specific country context and created a plan for implementation. The actions proposed in these implementation plans were tailored to the distinctive roles of the HBR in the local context (e.g., degree of integration with health programmes other than immunization; balance between role of HBR as delivering health education messaging and as serving as a data recording tool).

Yet, the continued momentum among the workshop participant countries, as well as efforts to address challenges in availability and utilization of HBRs in other countries, is fragile due in part to a crowded agenda in an environment of increasingly scarce resources that often leads to issues of recording and monitoring being pushed down the list of priorities. Growing evidence of the barriers to optimal availability, adoption and use of HBRs and enthusiasm for change notwithstanding, motivating real change in national immunization programmes will ultimately require leveraging existing opportunities in health system strengthening. For instance, all countries can ensure plans for HBR printing and distribution are integrated into comprehensive health planning processes (e.g., comprehensive multi-year plans), including dedicated resources through annual budgeting. Countries are encouraged to include HBRs when planning and conducting data quality improvement activities. And in countries receiving support from Gavi, the Vaccine Alliance and other international development investment assistance, corrective activities that address gaps in HBR availability, adoption and utilization should be considered when making requests for financial and non-financial assistance, such as in applications for new vaccine introduction support and health systems strengthening grants.

In closing, good clinical and public health practice benefits from good documentation that reflects the importance of complete, timely, and accurate recording of information. This is obvious but cannot be overstated. Current inefficiencies (i.e., missed opportunities for immunization, extra-immunization) that result from suboptimal documentation are no longer acceptable; a more effective and efficient system is imperative. Put very simply, too much that needs to be known remains unknown, and, unfortunately, the poor quality data that exist in many areas of the world fundamentally shapes what we know about the performance of immunization programmes which in turn shapes how decisions are made. We believe HBRs represent an opportunity as a cost-effective frontline mechanism supportive of (i) improvements in caregiver awareness, compliance and empowerment to seek out health services for their child, (ii) public health monitoring through improved survey coverage estimates based on greater proportions of documented evidence and (iii) high quality primary care service delivery. Backed by a recognition of existing challenges in current data quality and aligned with calls for improved monitoring and accountability, we continue looking forward with a refocused attention on the importance of a complete and accurate health record at the household level.

Disclaimer

The views and opinions expressed here are those of the authors alone and do not necessarily reflect those of their respective institutions.

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