

RATIONALISING VACCINE DELIVERY – A CONTRIBUTION TO THE HEALTH WORKFORCE CRISIS

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Keywords

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Background

The implementation of the WHO Expanded Program on Immunization (EPI) is one of the most effective public health initiatives worldwide. Immunization is essential to achieve the Millennium Development Goal (MDG) of reducing child mortality. Immunization reduces the costs of treatment and of disability caused by infectious diseases. However, many obstacles remain in providing poor countries with appropriate vaccines to meet global objectives of eradicating vaccine-preventable diseases. Efforts to increase coverage are hampered by weak health and immunisation systems. Shortage of health staff is an important obstacle to scaling up immunization. Without efficient and effective delivery systems and a trained and motivated workforce, vaccines will not be delivered where they are needed.

Rationalising vaccination delivery, for example by combining vaccines, can enable the introduction of new vaccines into immunization programs without necessitating additional visits to the healthcare provider. Furthermore, simplification of vaccine delivery reduces the potential for handling errors, facilitates training and enables vaccination programs to reach children in remote areas. Technological improvements such as fully liquid combination vaccines in a single injection have been developed to rationalize vaccine delivery and to simplify supply and administration of vaccines.

The availability of new vaccines and easy-to use technologies will strengthen vaccination delivery systems, alleviate immunization workload and hence contribute to increasing health service performance.

Summary/objectives

A study was carried out to understand implications of a single vial fully liquid pentavalent DTP-HepB-Hib vaccine given as one injection in terms of resource requirements, efficiency and impact on vaccination programs.

A time-motion study was conducted at the Institute of Child Health (ICH) in Calcutta, India. The observational study compared a fully liquid pentavalent DTP-HepB-Hib vaccine in a single vial with a combination vaccine in multiple vials requiring reconstitution. Vaccination staff preparing, administering and disposing the vaccines, and eligible children for the routine childhood vaccination schedule were observed during the immunization procedure. Every vaccination step was observed, timed and recorded. 312 children were vaccinated over 6 weeks in 2006. An analysis was done to estimate potential time savings for the immunization clinic and nationwide.

Results

Study results indicated statistically significant time savings for vaccine preparation and total vaccine consultation for the single vial combination vaccine of about 50% and 20% as compared to multiple vial combination vaccines. At current vaccine load, working time savings at ICH are estimated to be about 20 working days per year. Extrapolated to India, delivery time savings could be over 100,000 working days per year.

Lessons learned

A single vial fully liquid pentavalent combination vaccine offers important time gains for vaccine delivery as compared to a multiple vial vaccine requiring reconstitution. Single injection combination vaccines simplify logistics, training and delivery management and offer significant time savings, critical for scaling up immunization coverage in view of the health workforce crisis. Single vial combination vaccines might contribute to better resource management and ultimately improve efficiency of immunization programs.

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