

Vaccination has been shown to be one of the most effective public health interventions. In the past ten years, many new vaccines have become available to low- and middle-income countries. The London School of Hygiene & Tropical Medicine carried out two studies, in collaboration with partners in eight countries, one exploring national decision-making processes around new vaccine adoption and another on the impact of new vaccines on country health systems and immunisation programs.

Guatemala

Introducing rotavirus vaccine

Study 1 Decision-making for new vaccine adoption

As new and improved vaccines become available, countries need to make decisions on which vaccines to adopt into their immunisation programmes. Rotavirus is a leading cause of severe diarrhoea in many countries. In Guatemala, diarrhoea was the second most common cause of morbidity and death in children aged below 5 years. Rotavirus vaccine was introduced into routine childhood services in Guatemala in February 2010. This study investigated processes of national decision-making for this new vaccine adoption and sought to understand the factors affecting these decisions in Guatemala.

Methods

Interviews were conducted with 12 key informants in March 2011, including Ministry of Health officials, staff from international agencies, social security and medical corporations and academics. Interviews focused on the decision to introduce rotavirus vaccine.

Findings

Main actors

Only a small number of actors were directly involved in the decision to introduce rotavirus vaccine. The Minister of Health made the decision with support from senior staff from the Ministry of Public Health and Social Assistance. Interviewees reported that many officials were unaware of discussions around introducing the new vaccine until the decision was announced. In particular, the Expanded Programme on Immunization (EPI) department within the Ministry of Health had little involvement in decision-making. The National Advisory Committee on Immunization Practices (ACIP) had been suspended several years prior to the decision about the rotavirus vaccine introduction and did not participate in the adoption decision. The decision to introduce rotavirus deviated from formal decision-making procedures and was generally considered to be a 'quick' decision. There were strong advocates for the adoption of rotavirus vaccine, such as the Pan American Health Organization (PAHO) and the United Nations Children's Fund (UNICEF).

Key drivers of the decision

- New vaccine introductions were viewed positively from a political perspective and rotavirus was a political priority
- There was a large outbreak of severe diarrhoea resulting in hospitalisations and deaths in 2009, gaining media attention and leading to pressure on the Minister of Health
- Rotavirus surveillance had been established a year earlier to calculate disease burden

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CONCLUSION: *The decision-making process in Guatemala was rooted in internal and political dynamics. The political prioritisation of rotavirus was a key driver in the decision to adopt this vaccine.*

Study 2

Assessing the impact of rotavirus vaccine introduction on the health system

It is often hoped that introducing additional vaccines may help to strengthen immunisation programmes and health systems more broadly. There are also concerns, however, that such additions may prove to be an added stressor where resources are already overstretched. This study evaluated the impact of rotavirus vaccine introduction on Guatemala's immunisation programme and on its wider health system.

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RotaTeq™ was purchased directly from the private local supplier and introduced in February 2010 but when stocks ran out, Rotarix™ was procured through PAHO until RotaTeq™ could be re-introduced in February 2011. Both vaccines have different dosing schedules.
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Methods

The study used a mixed methods approach and data were collected during July 2011, 17 months after rotavirus vaccine was introduced. Semi-structured interviews with 41 key informants were conducted at national, department and municipal levels. Three municipalities in each of the following three administrative departments/Health Area Directorates (Chimaltenango, Santa Rosa and Suchitupéquez) were selected for data collection.

Three facilities were selected in each municipality; structured questionnaires were completed with staff in each health facility. Routine data on the number of monthly outpatient visits, antenatal visits and reported diarrhoea cases were collected from 9 municipalities and 25 health facilities one year before and one year after rotavirus vaccine introduction. Data collection tools and data analysis were structured using the WHO health system building blocks framework.¹



Photo: Robin Biellik

“The introduction of this new vaccine strengthened us, in relation to the expectations of the population of what the Ministry has to offer for the protection of their children. It has strengthened the immunisation programme considerably because...this vaccine is... increasing the population's trust in the Ministry”

National level interviewee

Guatemala

Findings

There was no vaccine introduction plan and no evaluation of the need for cold chain expansion prior to the introduction. Procurement was disrupted by several changes in the presentation of vaccines during the first year. The rotavirus vaccine was introduced relatively quickly, with little planning. Despite this, it was successfully integrated into the National Immunization Program.

- The vaccine was well accepted by the population, although there was no specific social mobilisation campaign
- Most respondents perceived an increase in demand for vaccination, however, routine data did not confirm this
- It was suggested that the cost of rotavirus vaccination accounted for 40% of the immunisation programme and that it may have affected other vaccines or programmes
- Staff were positive about the vaccine because of the expected impact on decreasing rates of childhood diarrhoea
- Staff training was specifically focused on the new rotavirus vaccine rather than providing general vaccination skills
- Workload was perceived to have increased, owing to additional vaccination and reporting activities as well as the effect of the change of vaccine types
- There was no change in the provision of supervision of routine vaccination services

Edad	Vacunas	Fecha de Administración	
		Día	Año
Al nacer	Hepatitis "B" Dosis única BCG		
2 meses	Polio 1 Penta 1 Rotavirus 1		
4 meses	Polio 2 Penta 2 Rotavirus 2		
6 meses	Polio 3 Penta 3		
12 meses	SPR		
18 meses	Polio R1 DPT R1		
4 años	Polio R2 DPT R2		
Edad:	Otra Vacuna:		
Edad:	Otra Vacuna:		
Edad:	Otra Vacuna:		

• Las vacunas y vitaminas son gratis y están disponibles en todos los servicios del Ministerio de Salud.
• Lleve a vacunar a su niño aunque tenga los, calor o diarrea.
• Para aliviar molestias o reacciones de las vacunas Penta y DPT, déle a su niño la dosis indicada de acetaminófen inmediatamente después de administrar las vacunas cada 4 horas por 3 días.

Photo: Wayne MacPhail

References

- 1 World Health Organization, *Everybody's business: strengthening health systems to improve health outcomes. WHO's Framework for Action*. Geneva: World Health Organization. 2007.

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CONCLUSION: Rotavirus vaccine was introduced in a relatively short time without adequate planning to consider the need for or implement cold chain expansion, social mobilisation and training activities. The use of two vaccines with different schedules led to confusion and increased workload. However, despite this, the vaccine was introduced with minimal disruption to health services and few impacts, either positive or negative, were noted. Overall, health care staff members were generally positive about the introduction of rotavirus vaccine.
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