Lessons from dual PCV-rotavirus vaccine introductions and integrated PCV campaigns (e.g., Ghana, Niger, Tanzania)

Dr. Adicatou- Laï Adeothy
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PCV & ROTAVIRUS VACCINES
GHANA

Ghana introduced Rota and PCV vaccines in 2012 and was the first Gavi-eligible country in Africa to introduce two vaccines simultaneously. The concurrent introduction was a generally positive experience that saved Ghana time and cost without negatively impacting the EPI program, demonstrating the feasibility of dual introductions when proper planning is made in advance even in limited resource settings.
STRENGTHS AND KEY STRATEGIES (1)

EARLY PLANNING

Early planning a year before introduction allowed ample time to involve stakeholders and make appropriate logistical preparations. Early on, Ghana held regular ICC meetings and established working groups for the various components of vaccine introduction.

PILOT INTRODUCTION

Conducting a pilot introduction 1-2 months prior to launch and real-time monitoring of the roll-out was found to be critical for a successful nationwide launch.
EXPANSION OF COLD CHAIN

Expansion of cold chain storage capacity at all levels, including the construction of cold rooms in every regional warehouse, allowed for a smooth introduction. Also, districts and HFs get additional storage capacity.

COMMUNICATION

Ghana was able to relieve concerns among parents/caregivers about the administration of the additional vaccines to their children by communicating an understanding of the impact of diarrhea and pneumonia on children.
CHALLENGES FACED

INSUFFICIENT TRAINING
Combined training created some confusion among HCW, especially with regard to age restrictions for Rota. In addition, HCW trainings that were <2 days long were generally found insufficient.

COLD CHAIN STORAGE STRAIN
Cold chain storage was a concern, with some staff suggesting that the selection of a multi-dose presentation of PCV could have alleviated some cold chain strain.
IMPACT OF SIMULTANEOUS INTRODUCTIONS IN GHANA

Estimated $1.3 million USD saved compared to introducing separately

High acceptance of concurrent administration

Allowed for improved data collection & management

Areas of time & cost reductions
- 25% Preparatory meetings and development of communication materials
- 33% Grant application process
- 50% Training time and cost

Areas of increased spending
- 50% vaccine storage waste disposal labor costs

CHOICES is a partnership of the International Vaccine Access Center at the Johns Hopkins Bloomberg School of Public Health, the JSI Research and Training Institute, and the U.S. Centers for Disease Control and Prevention.
SIMULTANEOUS INTRODUCTIONS OF PCV & ROTAVIRUS VACCINES
NIGER
STRENGTHS AND SUCCESSES

Cold chain preparedness

New cold rooms as well as emergency generators were paid for and installed at the central level and in six regions before the introduction of the new vaccines.

Successful social mobilization and communication

Communication strategies were developed based on results from community-based focus groups that were conducted with parents to identify knowledge/awareness of - and any concerns with - the two vaccines.

In addition, an integrated communication plan for the introduction of PCV and rotavirus vaccines was developed within the broader diarrhea and pneumonia prevent-protect-treat approach.

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CHALLENGES AND LESSONS LEARNED (1)

• **Insufficient data**

  ✔ Population data obtained from projections from a 2011 census were likely to be underestimated, and the forecasting of vaccine needs using this population data led to stock-outs for PCV.

• **Financial impact and funding**

  ✔ The financial impact of introducing two new vaccines was found to potentially be a strain for the country to meet its co-financing contribution of $652,519 USD, dispersed in less than two years.

  ✔ In allocating funds, Niger found insufficient funding allocated for the reproduction and dissemination of communication materials.
CHALLENGES AND LESSONS LEARNED (2)

• Delays
  ✔ The late installation of cold rooms contributed to delays in the new vaccine introduction.

• Training refresher
  ✔ It was identified that additional follow-up on initial training would be beneficial to ensure quality and retention of information from training and address areas needing strengthening.
SIMULTANEOUS INTRODUCTION OF PCV & ROTAVIRUS VACCINES
TANZANIA

Tanzania introduced PCV and rotavirus vaccines in January (Mainland) and February (Zanzibar) 2013. The concurrent introduction was found to be more cost and time-efficient than separate introductions, with savings, particularly on training time and overall costs.
STRENGTHS AND SUCCESSES (1)

**Stakeholder engagement**
- Good stakeholders collaboration resulted in access to key expertise, experience, and resources

**Cold chain preparedness**
- Adequate cold chain capacity and capability ensured at all levels prior to introduction.

**Robust comprehensive planning and training**
- Cascaded training was conducted before introduction at all levels with timely distribution of user-friendly training materials including dummy vials for practicing RV administration. The training was reported to have led to high levels of staff satisfaction with training. Service providers were found to be knowledgeable on PCV3 and RV, VPDs, targets, and immunization data analysis and use.
STRENGTHS AND SUCCESSES (2)

Integrated planning and delivery of services

• PCV13 and RV introduction was used to further promote additional interventions for diarrhea and pneumonia prevention in the media.

High community acceptance of both vaccines

• Community mobilization through various outlets, including health facilities, mixed media, cultural groups, and community leaders. In addition, acceptance and firm political commitment were expressed by launchings done by higher authorities in most areas.

Post-introduction supervision

• Intensive post-introduction (2-3 months) supportive supervision was implemented to identify and correct system weaknesses early on.
CHALLENGES

- Limited and inadequate data such as program calculation errors
- Lack of resources contributing to delay in printed immunization materials such as updated child health cards and registries and thus late availability
- Inadequate preventive maintenance/repairs for cold chain
- Refresher training courses not conducted frequently mainly due to lack of funding
- Printed educational material did not focus on inter-integrated approaches to pneumonia and diarrhea control as they had been in media messages

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COUNTRY EXPERIENCES IN THE SIMULTANEOUS INTRODUCTION OF MULTIPLE VACCINES

- **Ghana** introduced Rota and PCV vaccines in 2012 and were the first Gavi eligible country to introduce two vaccines simultaneously in Africa. Ghana saved financial resources and improved efficiency of planning and vaccine operations.

- **Tanzania** introduced PCV and rotavirus vaccine in January (Mainland) and February (Zanzibar) 2013. The concurrent introduction was found to be more cost and time efficient than separate introductions with savings particularly on training time and overall costs.

- **Niger** launched PCV13 and Rotarix simultaneously in August 2014. Community based communications plans and social mobilization were key to their launch.
LESSONS LEARNED

- Adequate advanced planning time and stakeholder engagement
- Proper cold chain storage preparation and dry storage for other injection materials and related supplies. Revision of M&E tools such as registers and others.
- HCW trainings prior to and following launch
- Integration with broader pneumonia and diarrhea interventions
- Social mobilization and community based communication plans

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### National Immunization Coverage PCV/Rota 2022

WUENIC-WHO/UNICEF, Last updated: 2023-07-11

<table>
<thead>
<tr>
<th>Antigen</th>
<th>Ghana</th>
<th>Niger</th>
<th>Tanzania</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCV3</td>
<td>99%</td>
<td>84%</td>
<td>83%</td>
</tr>
<tr>
<td>RotaC</td>
<td>94%</td>
<td>86%</td>
<td>67%</td>
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PCV3: final dose Rota C: Rotavirus vaccines completed dose

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HOW DO COUNTRIES MAINTAIN THIS GOOD COVERAGE?

- Strong EPI program for many years
- Robust planning
- Collaboration with partners enables immunization programs
- Good data system
- Good vaccine stock monitoring system
- Investment in cold chain and dry storage capacity,
- Regular supportive supervision
- Implementation of recommendations from previous assessments and post introduction evaluation (PIE)
Recognition:

WHO
UNICEF
GAVI
BMGF
IVD MOHSW
GHANA EPI PROGRAM
NIGER EPI PROGRAM,
TANZANIA EPI PROGRAM
JSI Research Instruct Training Inc…
IVAC
JHU…..

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Thank you!

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