

DOSE PER CONTAINER PARTNERSHIP: INITIAL INSIGHTS

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FRAMING THE ISSUE

Countries need access to affordable and appropriate vaccine products and programmatic tools to achieve immunization coverage targets. To choose the appropriate product, it is essential to understand the choices available and the trade-offs of the selection. Since there are many different immunization settings such as urban/rural and outreach/fixed site, it is important to understand the most appropriate DPC per context. The Partnership was established to address the following issues which were identified as obstacles to reach these targets:

1. There is continued reliance on multi-dose presentations to maintain low purchase costs per dose.
2. Healthcare worker (HCW) fear of wastage and stockouts leads to missed opportunities to immunize.
3. More evidence needed to assess dose per container (DPC) trade-offs between costs and system impacts.
4. DPC decisions impact program performance.
5. There has been little historical focus on DPC in the context of making decisions about products or supply issues

THE PARTNERSHIP

The Dose Per Container Partnership (DPCP) formed with the objective to support decision making for vaccine programs and products in order to optimize equitable, timely, safe and cost-effective coverage. The DPCP is comprised of six partners and a Technical Advisory Group (TAG) to help guide the appropriate approach to audiences and stakeholders.

SYSTEM COMPONENTS CONSIDERED FOR DPCP

DPCP is gathering evidence on these systems components to better understand the trade-offs related to the components and better inform both country and global level decision-making:



COVERAGE RATES
Equity, timeliness, session size and frequency



WASTAGE RATES
Open and closed vial



SAFETY
Risks of multi dose containers and adherence to MDVP



COSTS PER DOSE
Cost effectiveness



SUPPLY CHAIN
Supply, distribution, and cold chain storage



HCW BEHAVIOR AND NEEDS
Missed opportunities, willingness to open a multi-dose vial

HOW DO COUNTRIES MAKE DPC DECISIONS?

The DPCP first wanted to understand what decision making resources/tools are currently used in country to make DPC decisions. The following studies are providing insight into DPC decisions.

“IN VIEW OF THE INTRODUCTION OF TWO NEW VACCINES—PNEUMOCOCCAL AND ROTAVIRUS—WHICH WE WERE ALSO GOING TO ADD IN TO THE PROGRAM, WE NEEDED TO CREATE SPACE”

National Stakeholder in Ghana when asked about the decision to switch to a 10 dose vial of pentavalent from a single-dose vial

TOOLS REVIEW: REVIEW TOOLS AVAILABLE TO INFORM DPC DECISION-MAKING

Tools

- Cold Chain Equipment Inventory and Gap Analysis Tool (Inventory Tool)
- EPI Logistics Forecasting tool (Forecasting Tool)
- Immunization Supply Chain Sizing Tool (Sizing Tool)
- Vaccine Volume Calculator
- District Vaccination Data Management Tool
- Comprehensive Multi-Year Plan
- Vaccine Forecasting and Cold Chain Tool
- Cold Chain Weight & Volume Calculator
- Vaccine Presentation Assessment Tool
- Cold Chain Equipment Total Cost of Ownership Tool

FINDINGS

- No existing tool currently addresses DPC considerations
- Existing tools considering DPC require a high level of effort by the end-user
- Country-level stakeholders prefer to adapt current tools to support DPC decisions

“IT WAS QUITE OBVIOUS—WE DIDN'T USE ANY TOOL TO DO ANY CALCULATION OF THIS.”

National Stakeholder in Ghana when asked about the decision to switch to a 10 DV of pentavalent from a single-dose vial

CASE STUDY: GHANA

Case study documenting the decision-making process for the previous switch in DPC for Yellow Fever and Pentavalent

FINDINGS

- Decision determined by market availability and procurement agencies
- Prefer products that reduce cold chain capacity
- High level stakeholders often make decisions with little input from the lower levels
- National-level stakeholders have different perspectives from frontline healthcare workers on how well the health system might manage multiple DPC presentations of the same vaccine

OBSERVATIONAL RESEARCH: SENEGAL AND VIETNAM

Observation Research conducting to understand how DPC may effect country-specific policies and practices related to coverage, timely coverage and session frequency, safety concerns, and economic impact through mixed methods

METHODS

- Health facility and district costing survey
- Administrative data review
- Key informant interview
- Immunization session observation

YES, BECAUSE EVERYONE IS CONCERNED ON REDUCING THE VACCINE WASTAGE. IT IS A REASON WHY MOTHERS ARE SENT BACK AND ASKED TO COME A DIFFERENT DAY WHEN THERE ARE ENOUGH CHILDREN TO OPEN THE VIAL. THIS IS SO BECAUSE EVERYONE WANTS TO REDUCE THE WASTAGE.”

National Stakeholder in Ghana when asked about the decision to switch to a 10 dose vial of pentavalent from a single-dose vial

CASE STUDY: BENIN, CÔTE D'IVOIRE, AND THE DEMOCRATIC REPUBLIC OF CONGO

Case study to examine national vaccine policy, decision-making on vaccine presentation, and perceptions of decisions on dose per container

FINDINGS

- Decision determined by market availability and procurement agencies
- Stakeholders are lacking comprehensive information and evidence to make informed decision

IMPLEMENTATION RESEARCH: ZAMBIA

Implementation research in 14 districts across 2 provinces in Zambia to examine effects of switching from 10-dose to 5-dose Measles Rubella (MR) vials

METHODS

- Household coverage survey
- Health facility and district costing survey
- Administrative data review
- Key informant interviews
- Immunization session observations

NITAG REVIEW: REVIEW NITAG ROLE FOR DPC IN 6 GAVI COUNTRIES

FINDINGS

- Take into consideration cold chain logistics
- Absence of evidence, expertise, or lack of clarity about NITAG scope were listed by NITAGs as possible reasons why DPC evidence remains marginal in NITAG technical documents

COMPUTER SIMULATION MODELING OF SYSTEMS IMPACT OF DPC CHANGES

Results of the modeling will quantify the trade-offs related to DPC changes among the different system components. The model will be built on the current structure of the Zambia supply chain with different factors being modeled, including 5- and 10-dose MR, rural or urban areas, ideal session size with different DPC, and health worker behavior related to willingness to open a vial depending on session size.

FINAL OBJECTIVES

- ▶ The culmination of the DPCP work will lead to evidence to make better informed decisions on trade offs for countries and will build on existing processes and tools to develop integrated decision-making approaches that help countries assess their DPC options and increase awareness of choices.
- ▶ For example, the global and country level tools and products could be very relevant for ongoing and emerging work on Total Systems Effectiveness and for understanding the effect of DPC on various system elements of immunization programs.