POUR ELLE

Informed Push Model of Supply Chain Management: a "Meta-Analysis."

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Agenda

- Definition of Informed Push

- Operational Considerations

- Background of "Meta-Analysis"

- Objectives

- Methods

- Findings

- Conclusion

Definition Of Informed Push

'Informed Push' supply chain models (IPM): commodities are distributed to health clinics on a predetermined delivery schedule without first requiring an initiating order from clinics.

- Delivery trucks are loaded with quantities of commodities that anticipate specific needs, often based on data derived from previous usage and/or forecasting of near-future clinic needs.

- Informed Push models also referred to as 'vendor managed inventory system,' 'direct delivery,' 'direct distribution,' and 'Delivery Team Topping Up (DTTU) systems.'

Background

- IPMs have been implemented in 8 countries over the past 15 years: Benin, Mozambique, Nigeria, Senegal, Tanzania, Togo, Zanzibar, and Zimbabwe
  - Some countries have abandoned the model
  - Other countries are expanding the model to additional health commodities and/or geographic regions
- These decisions have been made under different circumstances and contexts that this analysis is trying to elucidate

Objectives

- Explore the IPMs of SCM in 8 low- and middle-income countries in terms of:
    - Where and how have IPMs been implemented?
    - What have been the outcomes?
    - What factors have impacted whether or not the model was successful?

- With a better understanding of the model, those involved in SCM can make informed decisions about whether and when this model is appropriate to address particular supply chain challenges

Methods

This analysis was based on 4 sources of information:

- Systematic review of the peer-reviewed and grey literature

- Review of the USAID GHSC-PSM program country work plans where relevant

- Key informant interviews

- In-depth country assessments (visits): Nigeria and Senegal
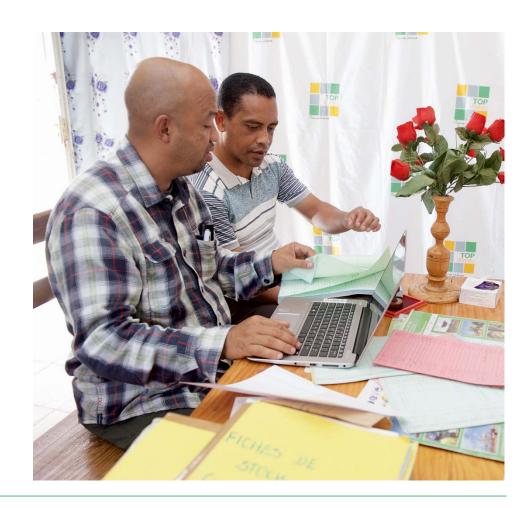
Limitations

- Limited in-country assessments (only 2 countries visited

- Lack of clear approach and guiding principles of the different models

- Implementation science and operations research in the field of procurement and supply management in LMICs is at an early stage of development

Methods: Literature Review

- We identified peer-reviewed papers in three ways:

  - Searches of 7 peer-reviewed literature databases that include or focus on health or science literature

  - Identification of papers cited in other peer-reviewed or grey literature papers reviewed

  - Papers suggested by key stakeholders (key informant interviews and USAID and GHSC-PSM-identified implementation experts)

Findings: Stockouts

- Significant improvement in stockout rates
- Decreases the time to get emergency supplies during stockouts
- Increased availability of medicines and medical supplies
- Little evidence of expirees/waste reduction
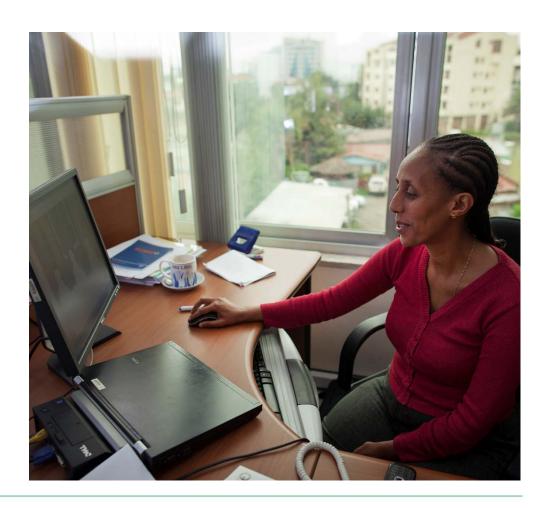
Findings: Costs

- Costs increased 57% (Benin)

- 21% lower cost per vaccine dose (Mozambique)

- Lower operational costs compared to other systems of commodity delivery (Nigeria)

- Modeling suggested that DTTU is less costly than a pull system for a smaller number of commodities (Zimbabwe)

Findings: Political Buy-in

- Political buy-in is requisite to the success of the model

- The model has been more successful where a champion was identified among the host government and other stakeholders

- Challenges with governance, transparency within health systems, and changes with the political structure might lead to a lack of continuity

Findings: Information Flow

- Improved data quality, although some concerns expressed about data accuracy

- Improved data for resupply decisions

- Little evidence for data use to inform programmatic priorities or decision making.

Findings: Volume/Types Of Products

- IPM generally considered successful with family planning commodities

- Less successful where commodities were not fully financed *and if expanded to include a large number of commodities without the financial commitment or infrastructure*

- The model is most efficient when number of commodities is low. As demand and the number of commodities delivered increases, it may become less so

Findings: Human Resources

- Health providers have more time to spend with clients

- Appropriate trainings at each level of the system is necessary for the success of the model

- IMP offers additional opportunities for supervision of health providers at the point of service

- Human resource challenges in the supply chain are exacerbated with the model if not resolved (training, lack of staff, etc....)

Findings: 3PL Performance

- Informed Push models sometimes make use of third party groups (3PLs) for making deliveries, collecting data at the clinic, and logistics management, sometimes through public-private partnership, to inform the system

- Little evidence of proper monitoring of 3PL performance

- Staff not trained to outsource or manage contracts with private-sector providers

Conclusion: Scalability

- There is evidence that the model can be scaled up to large geographic areas. Route infrastructure is a key factor in the success of the scale up.

- Most countries addressed at the onset product and information in their implementation of Informed Push. Few addressed the financial implications, which may be a factor when scaling up or integrating more products.

- The model's limitations for scalability include:
  - Volumes and line items that a truck can carry at any given time
  - Its dependence on reliable road networks

Conclusion: Scalability Cont'd

- The model **requires sustained advocacy** for its continued uptake

- Appropriate training at multiple levels and internalization of the mission and objectives of the model by local entities lead to better outcomes and ownership

Conclusion: Cost Effectiveness

- Informed Push models may move costs to a different part of supply chain without reducing the overall cost of supply chain (monies may need to be moved around to make the model work)

Conclusion: Efficiency

- The Informed Push model is most efficient when product volume is low. As demand and the number of commodities delivered increases, it may become less so. (How many items can you fit on a truck?)

- Sometimes the Informed Push model is accompanied by other reforms which may further impact outcomes

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Thank you

Methods: Literature Review

- We identified grey literature generally following the protocol described by Adams et al., which included 5 information sources:

  1. Review of 3 grey literature-relevant search engines
  2. Review of 11 clinical trial registries
  3. Identification of grey literature cited in the peer-reviewed and grey-literature papers reviewed
  4. Review of the websites of the 5 largest funders of health commodities in low and middle income countries that are in English
  5. Websites/organizations/papers suggested to us through discussions with key stakeholders

Methods: Additional Considerations

- While we were primarily interested in this topic as it relates to family planning, we considered any health commodity based on the assumption that lessons from supply chains for most health commodity types may be informative for family planning commodities

- By health commodities we mean drugs, diagnostic test kits, vaccines, as well as protective gear (gloves, masks, etc.), and other items that healthcare providers give to or use on their clients