

# MMSC Case study – Zipline Data for Forecasting

By the end of this session, you will be able to:

- Demonstrate how real-time logistics data can transform state-level vaccine forecasting and distribution decisions.
- Highlight leadership strategies and stakeholder alignment in using data for agile and responsive health supply chains.
- Explore the role of change management in transitioning from retrospective to real time data-informed resupply systems.

Refer to page 74 in your Team Member Workbook

# B

## Theory: Introduction to Zipline Data

Zipline tracks the following KPIs:

- Track deliveries in packages or unit products.
- Monitor unit fill rate for fulfilled orders.
- Measure on-time delivery for order processing.
- Assess stock-out rates in the warehouse.
- Evaluate service utilization by health facilities.



**B**

# Theory: What is Forecasting and Why is it Important?

- Forecasting is the process of estimating future demand for medical commodities using historical data, current trends, and known variables.
- Forecasting enables decision-makers to:

**Procure the  
right Quantity**

**Deliver the  
right  
Quantity**

**Avoid  
stockout or  
expiries**

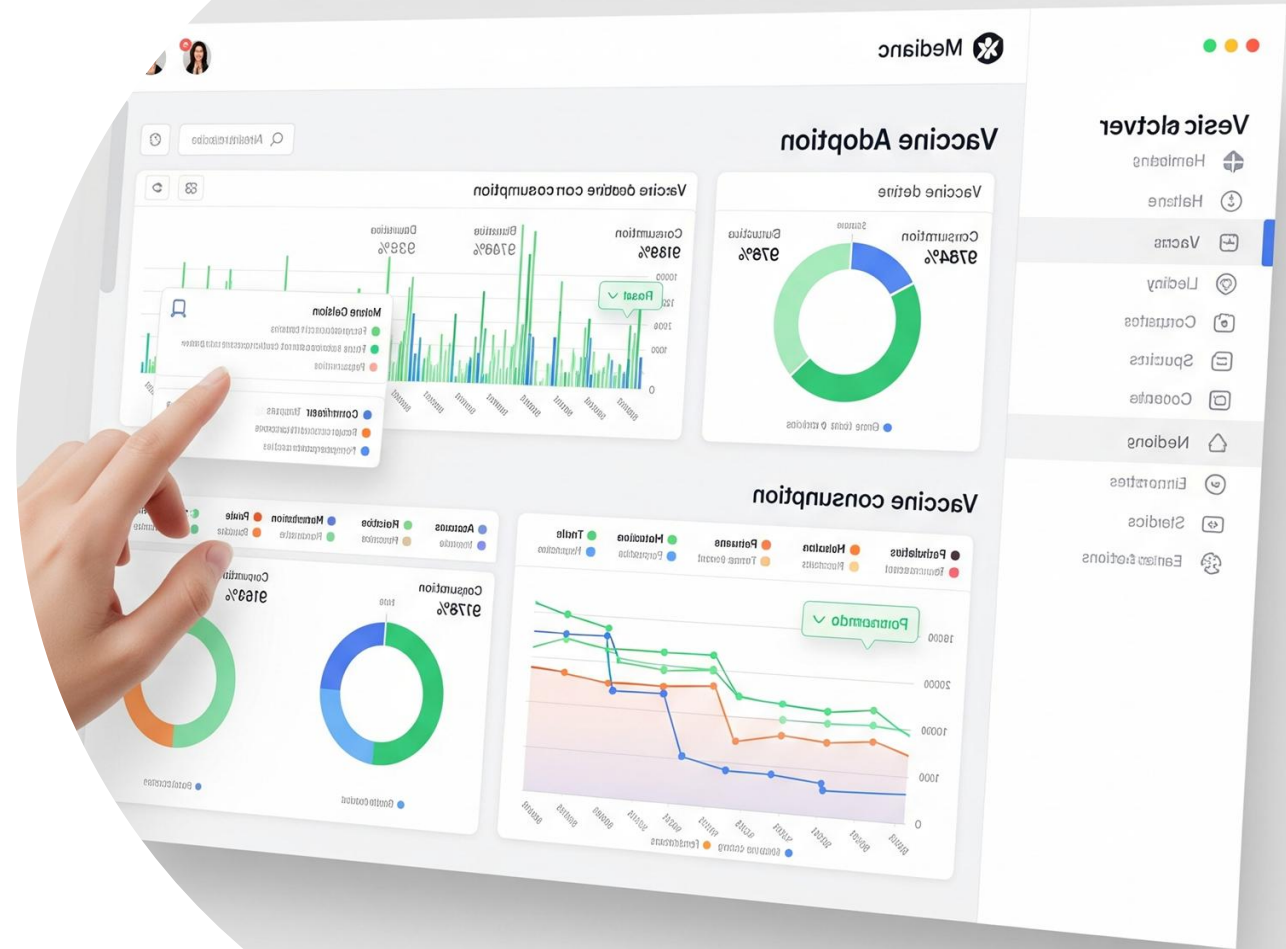
**Ensure  
uninterrupted  
access to  
essential  
Healthcare**

# Leveraging Zipline Data

01 — Create dashboards to monitor consumption trends for medical and vaccine products

02 — Improve ROI with timely DRF tracking and credit checks

03 — Audit health facility medical usage and drug policy adherence



# C

## Application: Case Study 1- Data Harmonization

- **Read Case Study 1: Data Harmonization for Effective Forecasting of Vaccine**
- **Challenge** - Despite Zipline's deliveries and data collection via Qualtrics, a gap emerged in the data harmonization process. The state's DHIS was not receiving comprehensive immunization data from CHWs, leading to inaccurate forecasting and subsequent vaccine stockouts. This resulted in a supply chain breakdown, with the state expecting Zipline to take on a larger role in data integration, which was not initially intended.
- **Discuss Solutions.**



Refer to pages 68-69 in your Team Member Workbook

# C

## Application: Case Study 1- Solutions

### Leadership intervention: Diagnosis and Stakeholder engagement

- Initiated an emergency roundtable involving critical stakeholders
- Identified the core issue.
- Clarify roles and responsibilities

### Change Management Actions:

- Zipline data was standardized and shared weekly instead of monthly
- A task force was created to reconcile discrepancies between DHIS entries and Zipline records.
- Behavioral Shift Campaign: emphasize role of real time data

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## Application: Case Study 1- Outcomes and Impact

- **Forecast Accuracy Improved:** Vaccine quantification accuracy increased from 64% to 91% within six weeks.
- **Outreach Continuity Restored:** Zero-dose outreach resumed across all 9 LGAs, reaching over 45,000 children by July 2025.
- **Trust Rebuilt:** CHWs reported improved motivation due to reliable resupply and inclusion in feedback loops.
- **System-Wide Change:** The Ministry of Health committed to piloting similar real-time data integration models in two additional states

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## Application: Case Study 2- Forecasting for Medical Products

### Challenge

The state team became overwhelmed by daily data emails and requested monthly summaries instead. Over several months, this shift to retrospective, infrequent data led to serious supply chain issues such as: **Unreconciled Inventory & Debt, Stock Management Failures (Stockouts soared and wastage increased) and Missed Forecasts**; orders filled by the state central store didn't match actual facility needs, exacerbating shortages in some areas and oversupply in others.

### Group Exercise

Group Activity: Participants should form 3 groups, read *Case Study 2- Forecasting for Medical Products* and discuss the following questions and propose solutions:

- **Group 1 – Leveraging Real-Time Data:** Based on the case study, how can the state use Zipline's real-time delivery data to improve medical product forecasting and prevent mismatches in supply and demand? Identify 2–3 concrete steps or processes that would help turn daily data into better distribution decisions.
- **Group 2 – Leadership & Stakeholder Alignment:** If you were a leader at the State (Central Store), what strategies would you use to align all key stakeholders (state officials, Zipline, health facility staff, and possibly donors) toward a responsive, data-driven supply chain?
- **Group 3 – Managing the Change to Real-Time Systems:** The state team initially found daily data overwhelming and fell back to a monthly system, causing problems. What change management actions would you implement to transition this team to effectively using real-time data?

Plenary Report: Nominate someone from your team to outline practical solutions and tactics. Present ideas clearly and concisely, and limit your report-out to 3–5 minutes

Refer to pages 70-71 and 75 in your Team Member Workbook

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# Application: Case Study 2: Group 1 Discussion

## Real-Time Data as a Catalyst for Better Forecasting & Distribution

**Real-time data** flips a reactive decision-making paradigm to a proactive approach:

- **Accurate Demand Forecasting:** capturing consumption and stock levels daily (or in real time)
- **Preventing Stockouts and Wastage:** Timely data allows' to redistribute and reorder supplies before shortages or expiries occurred
- **Data-Informed Distribution Decisions:** live data on consumption and stock enables rapid re-allocation of products to where they are needed most
- **Improved Performance Metrics:** , key supply chain performance indicators like fill rate, are visible and can be acted upon quickly.
- **Enhanced service utilization/Vaccine Coverage:** Real-time data use can ensure remote clinics are resupplied before they stock out, thereby increasing vaccination rates in hard-to-reach areas.

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# Application: Case Study 2: Group 2 Discussion

## Leadership Strategies and Stakeholder Alignment for an Agile Supply Chain

- **Establish a Shared Vision and Policy Support:** incorporate the innovation into official strategies and policies so all stakeholders
- **Foster Collaboration and Communication:** Regular coordination meetings or task forces should be established.
- **Align Incentives and Responsibilities:** set up performance indicators and even performance-based incentives or penalties for meeting supply chain targets
- **Invest in Systems and Integration:** centralized dashboard or eLMIS portal where all stakeholders can view real-time orders and stock status.
- **Capacity Building and Data Literacy:** mandate training programs for staff at all levels on data interpretation, forecasting techniques, and basic analytics.
- **Maintain a Collaborative Culture:** leaders should nurture a culture where data-driven decision-making and cross-functional teamwork is the norm

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# Application: Case Study 2: Group 3 Discussion

## Change Management: Transitioning from Retrospective to Real-Time Systems

- **Address Resistance through Communication:** Overcoming old ways or data system requires clear communication of *why* the change is needed and how it benefits everyone
- **Phased Implementation:** Rather than a sudden switch, a gradual integration of real-time practices helps staff adjust.
- **Training and Empowerment:** Comprehensive training programs are essential. Users need to know how to use new tools (e.g., an eLMIS interface, a data dashboard) and how to interpret the data.
- **Workflow and Process Redesign:** Moving to real-time data often demands changes in daily routines.
- **Leadership Support and Accountability:** Change management must be championed from the top.
- **Cultural Shift to Data-Driven Mindset:** Perhaps the hardest part is changing mindsets – from making decisions by habit or hierarchy to making them based on evidence.
- **Ongoing Support and Adaptation:** Change is not a one-time event.