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INTEGRATED DATA ANALYTICS & VISUALIZATION

BACKGROUND:

Vector control interventions are critical to maintaining gains in malaria control and for continued progress towards elimination. Using data to inform vector control decisions can support efficient use of resources to ensure high vector control coverage. Data use is also key to developing strategies to adapt to insecticide resistance, and can facilitate effective use of the expanded toolbox for malaria vector control as new indoor residual spray (IRS) and long lasting insecticide treated net (LLIN) products are introduced. Although evidence is critical for effective malaria vector control strategy, timely and relevant data are often not integrated and readily available to decision makers in easily accessible and actionable reports or data dashboards.

INTEGRATED DATA ANALYTICS AND VISUALIZATION:

PMI VectorLink is working with national malaria control programs (NMCPs) in PMI country programs to compile, analyze, and visualize relevant, existing data to guide malaria vector control decisions and strategies. National program and partner datasets are integrated for review and analysis, including entomological, epidemiological, intervention coverage, and meteorological data. The goal of this work is to increase the use of evidence in malaria vector control decision-making with a focus on better use of existing data. To achieve project goals, PMI VectorLink is addressing barriers to using existing data through data dashboards that make relevant data more easily accessible, digestible, timely, and action-oriented and by facilitating a data review process at the more granular levels optimal for planning, stratification, and targeting (i.e. to the district or sub-district level).

Dashboard users are individuals making vector control decisions, including NMCPs, PMI, and PMI VectorLink. Use cases may include:

- Stratification and targeting for specific vector control interventions such as IRS and LLIN campaigns.
- Optimizing implementation of vector control interventions, for example informing strategies to achieve coverage targets.
- Addressing and managing insecticide resistance through insecticide rotation.
- Supporting national vector control strategy, for example selection of approaches or products to meet program goals.

2019 PORTFOLIO:

In 2019, PMI VectorLink is supporting data use for vector control decision making in the following PMI countries:

- 1) Ethiopia: PMI VectorLink is developing dashboards to examine the impact of PMI-supported IRS in Benishangul-Gumuz and Gambela regions in 2017-2018. While PMI has supported IRS in other areas of Ethiopia since 2008, the evaluation is focusing on recent implementation in relatively high-burden areas of the country.



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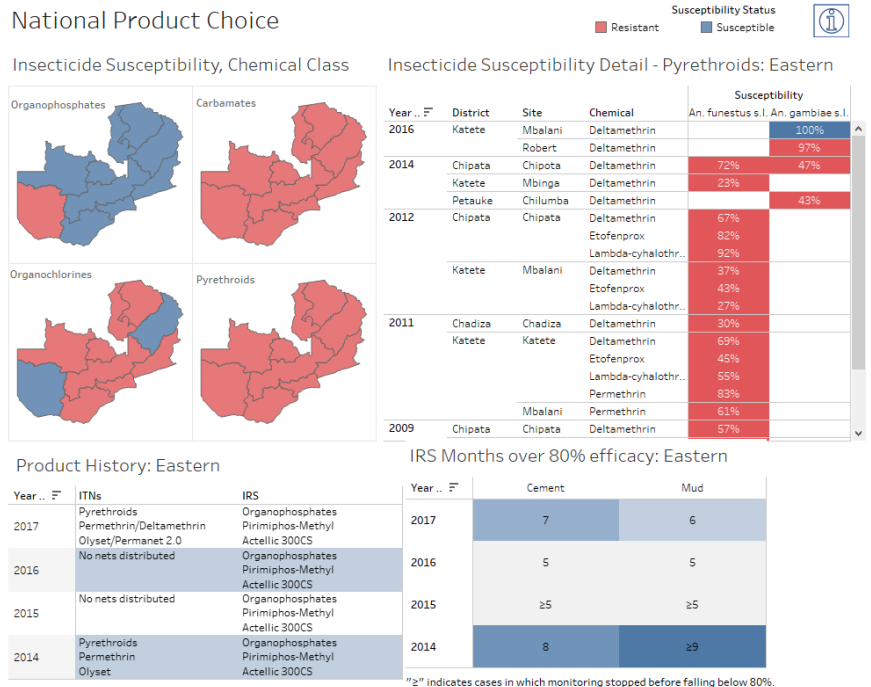
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- 2) Mali: PMI VectorLink is developing dashboards to support program planning, targeting, and evaluation. Visualizations will be developed to track IRS impact on malaria burden. Program planning and targeting visualizations will support decisions around where to target vector control interventions, particularly new nets as they become available.
- 3) Zambia: In Year 2 of PMI VectorLink support, the project will focus on optimizing program planning dashboards to inform IRS campaign micro-planning for 2019 and insecticide choice for 2020. The team will additionally focus on supporting data use through increasing capacity to navigate data dashboards.
- 4) Nigeria: PMI is supporting procurement and delivery of 1.7 million piperonyl butoxide (PBO) LLINs in Ebonyi State, where high levels of pyrethroid resistance have been detected. PBO LLINs are designed to overcome pyrethroid resistance by inhibiting the resistance mechanism and restoring efficacy of the pyrethroid insecticide. PMI VectorLink will develop a program monitoring dashboard with visualizations that summarize relevant data for monitoring malaria burden, risk, and coverage in the context of the PBO LLIN distribution in Ebonyi.
- 5) Cote d'Ivoire: With the rollout of PMI-supported IRS in 2020, PMI VectorLink is preparing for dashboard development to monitor and evaluate the impact of IRS campaigns.

VISUALIZATION EXAMPLE - INFORMING INSECTICIDE CHOICE:

PMI VectorLink developed an interactive dashboard to facilitate review of relevant data for selecting IRS insecticides in Zambia. The dashboard allows for reviewing data at national level as shown at the right, and for exploring data at district level within each province by clicking through to sub-national views. The dashboard summarizes the insecticides that have been used on LLINs and for IRS in recent years; residual efficacy of chemicals sprayed for IRS; and susceptibility testing data. Data for this dashboard was sourced from multiple reports and datasets. Rather than reviewing each source document for summary information, or each individual dataset for more detailed information, decision makers now have all relevant data for insecticide choice and targeting readily available.



FOR MORE INFORMATION, PLEASE CONTACT:
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