

Malaria and Other Vector Borne Diseases



Strengthening Health Systems: Building resilient health systems that are capable of effectively responding to malaria and other health threats



Integration of South Africa's Malaria Information Systems for Enhanced Elimination Efforts



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Outline of the presentation



Background

Current Surveillance Tools

Enhancing Health Information System in South Africa

Conclusion & Recommendations



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Background



Malaria remains a major global health challenge with 249 million cases worldwide in 2022.

South Africa's malaria transmission is endemic in Limpopo, Mpumalanga, and KwaZulu-Natal provinces.

According to our National Elimination Strategic Plan 2025/26- 2029/30, South Africa has the goal to eliminate malaria by 2030

Effective surveillance systems are critical for monitoring and supporting elimination efforts.

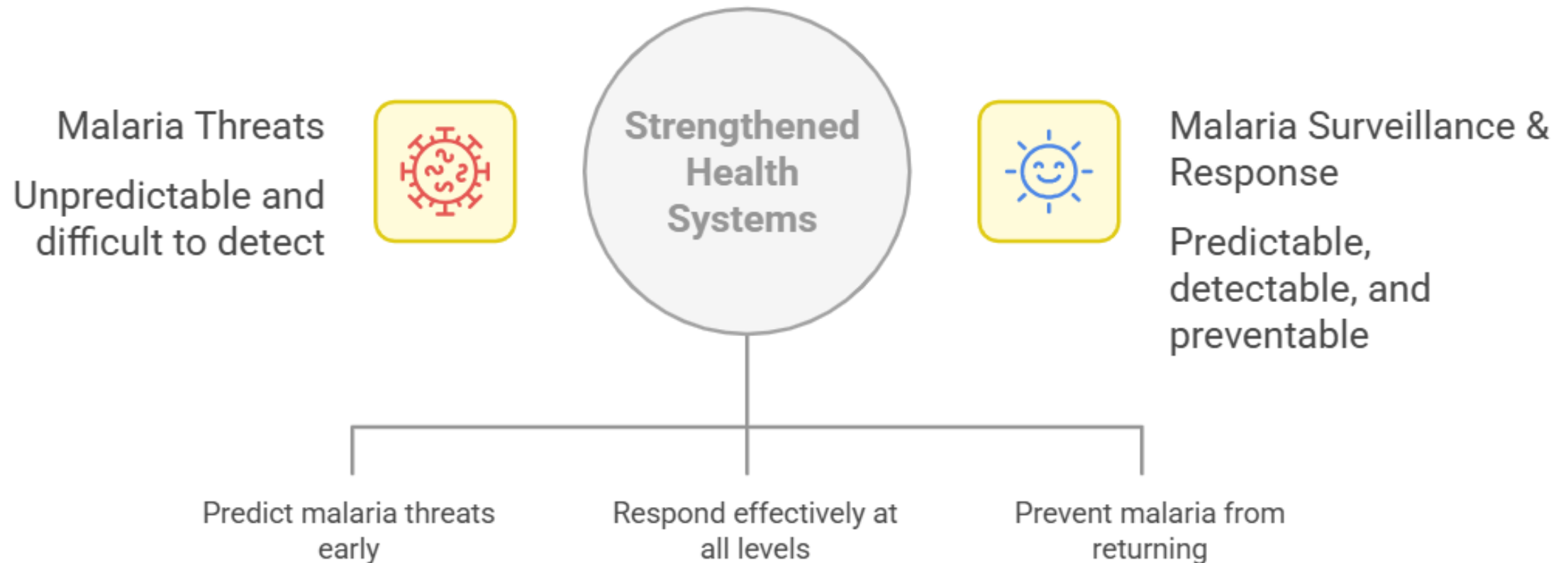
Introduction: Resilience is not built during the crisis — it is built before the crisis.



Malaria continues to test the strength of our health systems across the SADC region. As we move closer to elimination, the challenge is no longer only about responding to malaria cases it is about building systems strong enough to prevent resurgence, withstand shocks, and adapt to emerging threats.

A resilient health system is our defense, our strategy, and our legacy in the journey toward a malaria-free region.

Strengthening Health Systems for Malaria Surveillance & Response



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Current Surveillance System & Tools

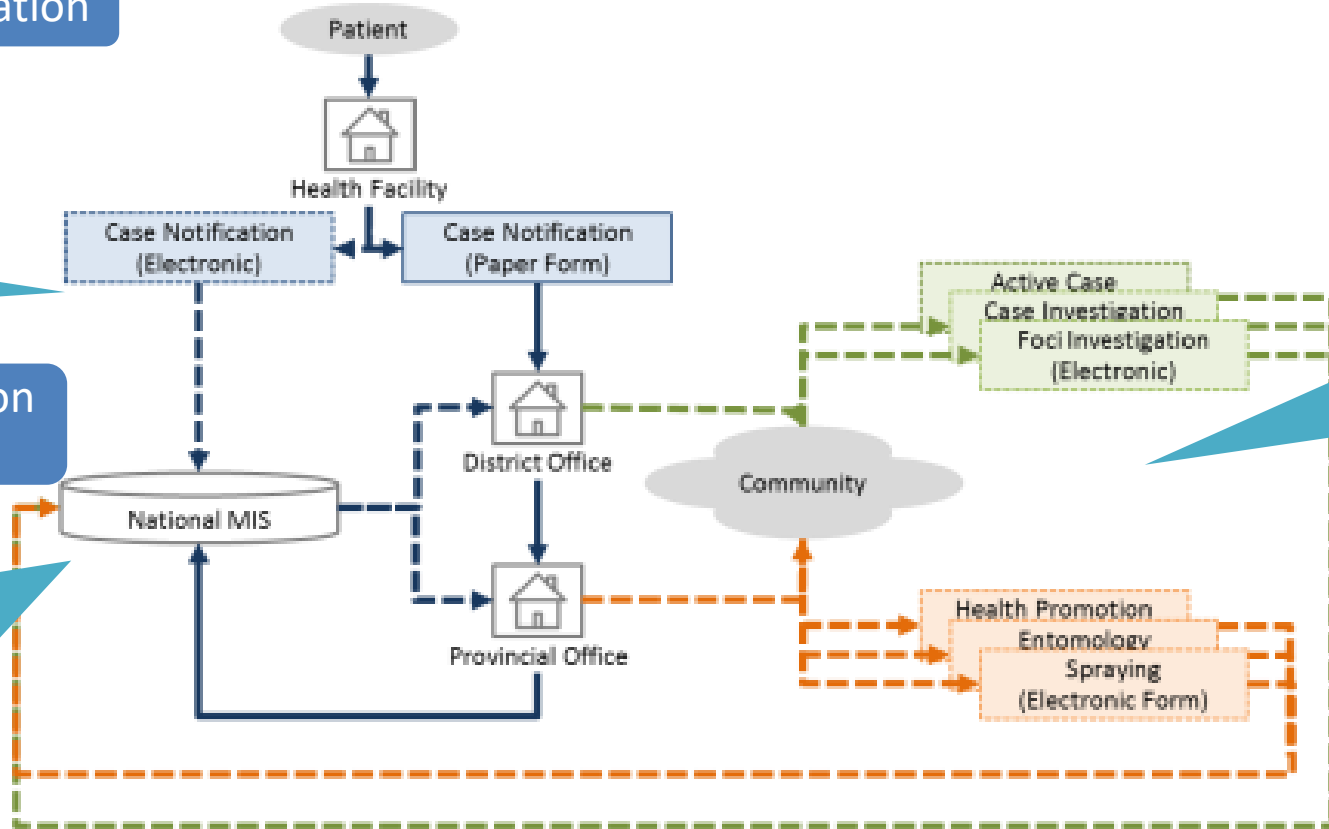


Malaria Notification

Full integration of NMCSS directly into the national MIS

Malaria Investigation & Response

Single centralized, standardized DHIS2 database with real time upload and reporting functionality for all users.



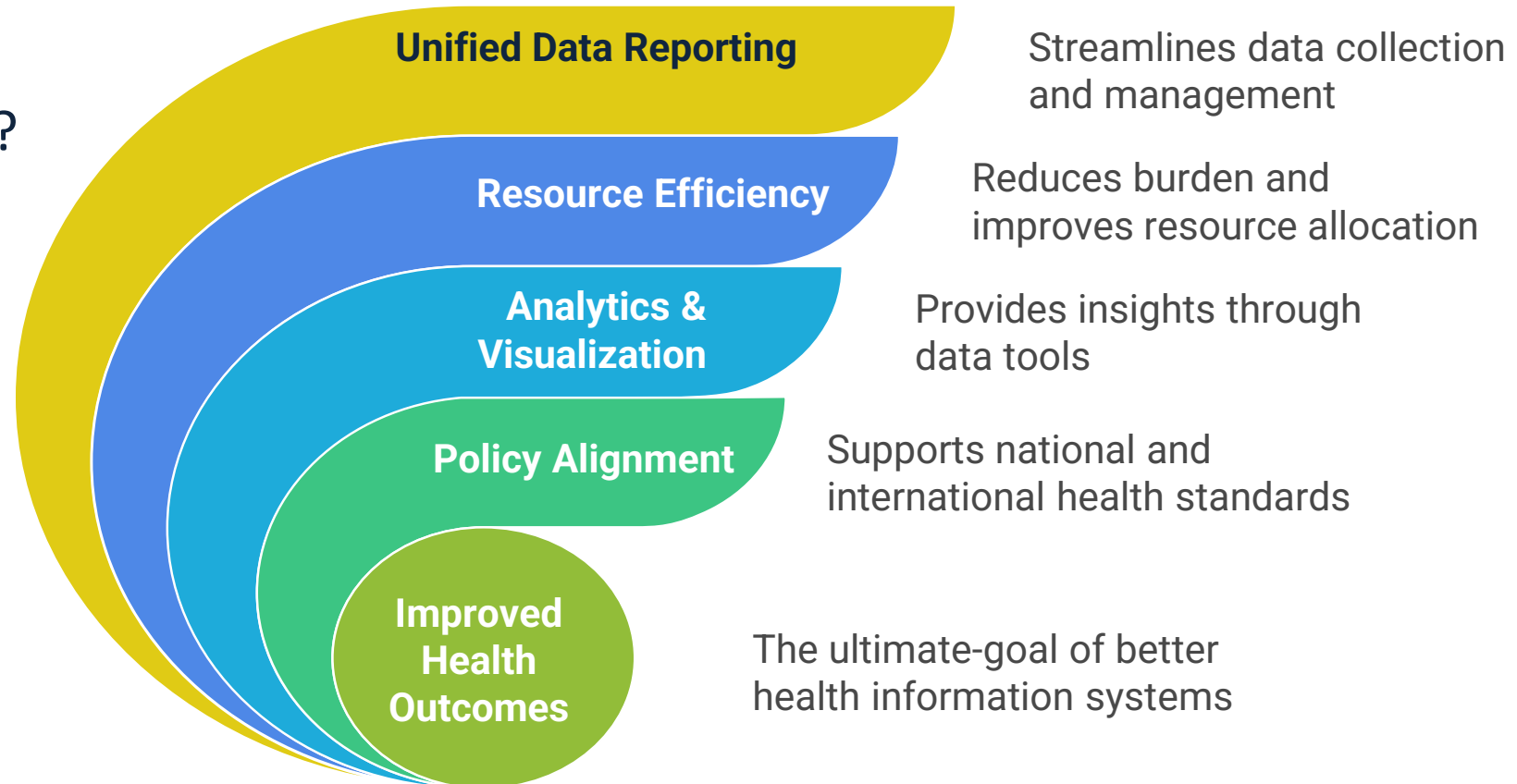
Intervention data flows directly into National MIS, allowing for planning and decision making informed by real time data.

Key	
Passive Surveillance (paper)	
Passive Surveillance (electronic)	
Re/Pro-active Surveillance (paper)	
Re/Pro-active Surveillance (electronic)	
Annual & Outbreak Intervention (paper)	

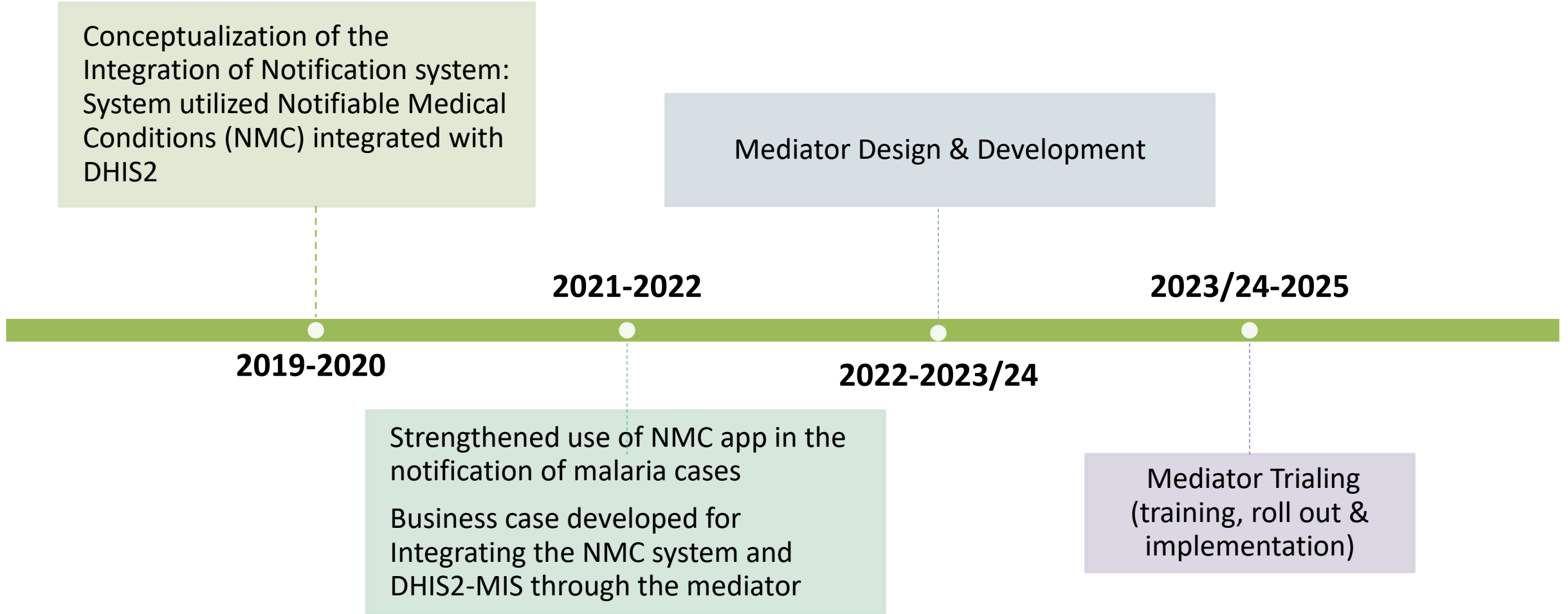
Enhancing Health Information Systems in South Africa for malaria elimination:



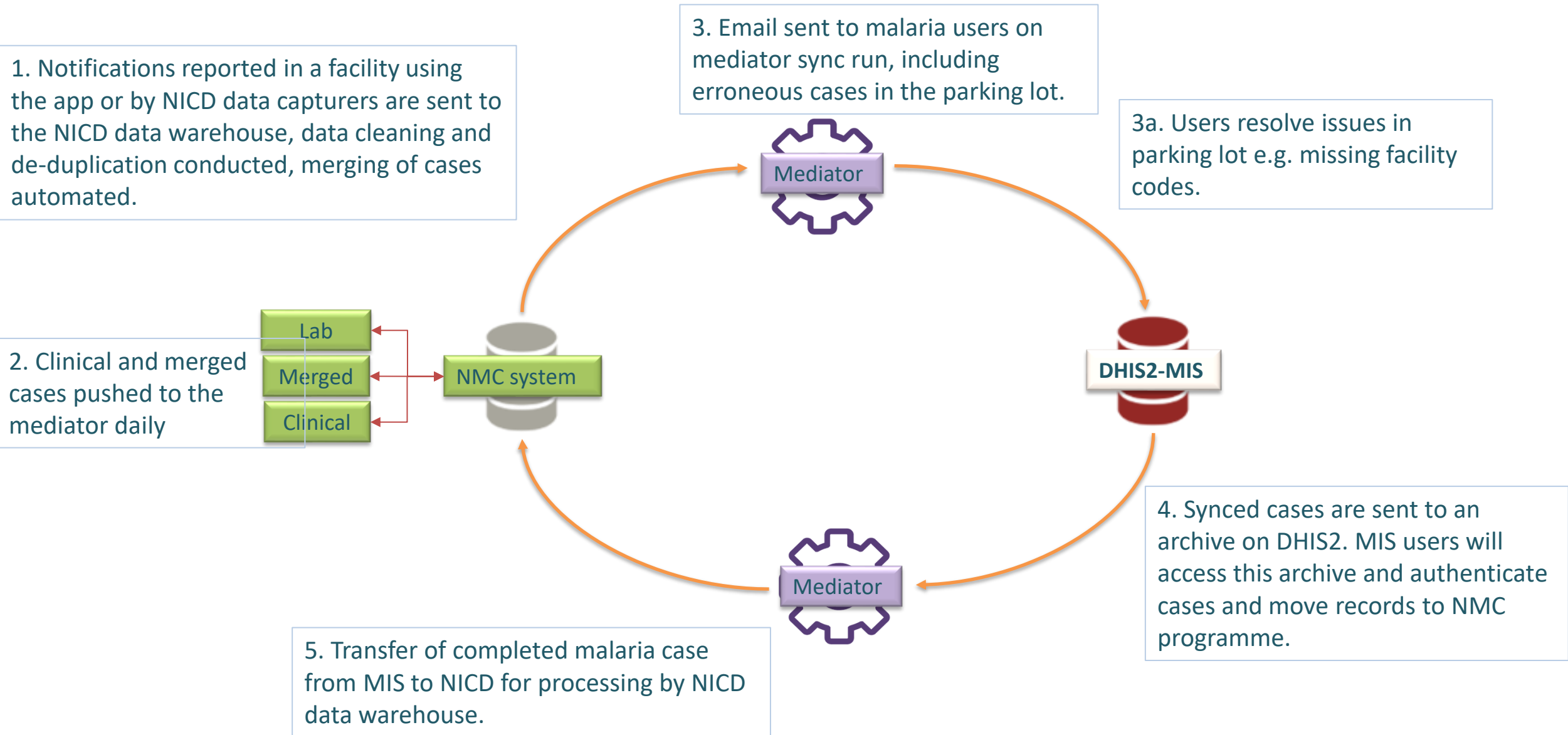
Why integrate the information systems?



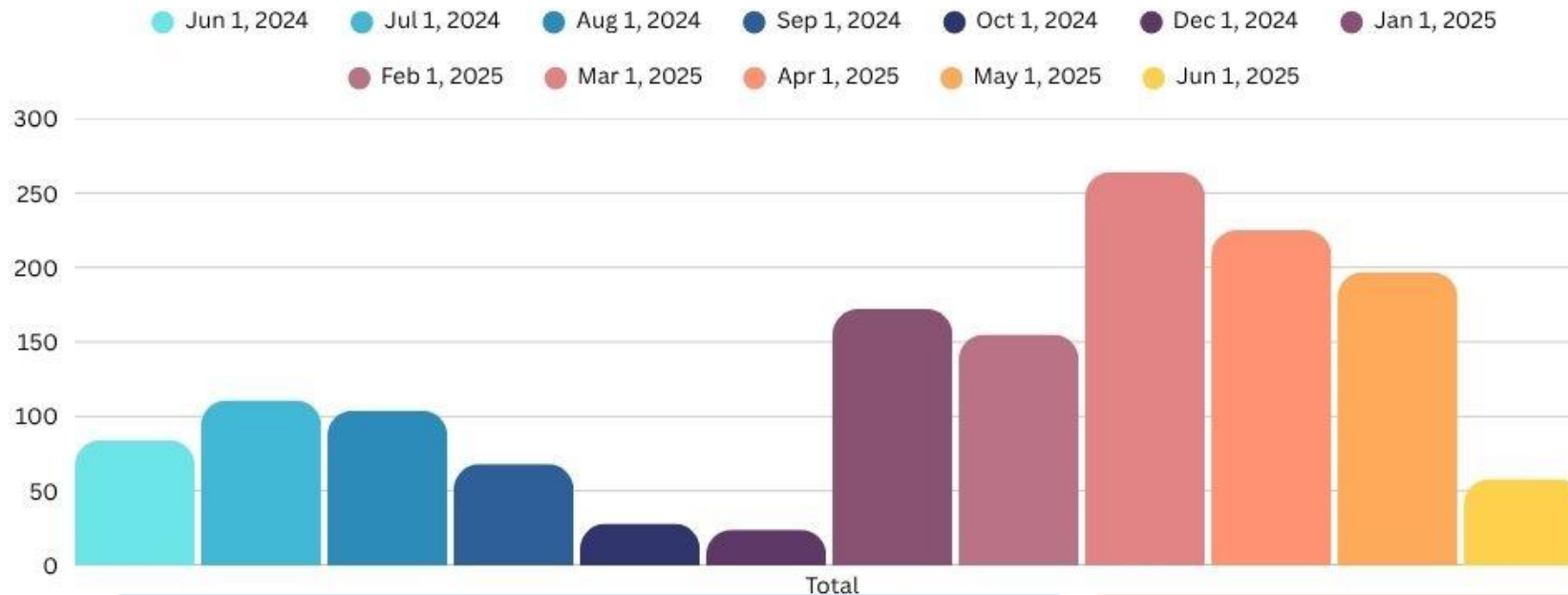
Integration Process & Timeline



NMC-MIS integration data flow



Results of Test Sync Runs



Development sync runs provided for opportunities to refine the directional sync function from the MIS to NMC and the NMC to MIS

The live run sync was scheduled to run at 5am and 5pm every day in selected weeks from march 2025.

Development Trial runs (n =746)

Post development Live runs n=744

Month	Jun -24	Jul-24	Aug -24	Sep -24	Oct -24	Dec -24	Jan -25	Feb -25	Mar -25	Apr -25	May -25	Jun -25
Total	84	111	104	68	28	24	172	155	264	225	197	58

The mediator identified challenges being addressed to strengthen the greater health information system



- Data inconsistencies in NMCSS including mismatched facility names, missing or erroneous dates, and incomplete patient information.
- Duplicate case records and outdated sub-district coding in NMCSS data.
- MIS data showed fewer inconsistencies but required alignment with national data standards.
- These issues impact data synchronization success and reliability.

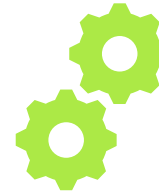
What next in the efforts to bridge the silos



Significant progress achieved in integrating malaria surveillance systems despite ongoing challenges.



Upcoming official mediator launch and comprehensive user training across provinces.



Development of a maintenance framework to ensure sustainability and continuous improvement.



This integration model provides a blueprint for other health program system integrations

National Key Achievements: Malaria Surveillance & Information System



Initiated in 2019 with collaboration between NDoH, NICD, CHAI, and HISP.



Successfully Expanded & trained all 6 non-endemic provinces on the Malaria Information System (DHIS2 MIS)



Two provinces successfully signed off and live on the production environment



Strengthened capacity for malaria data management, reporting, and surveillance



Improved readiness for timely malaria case reporting, investigation, and response



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Acknowledgement



- We thank all partner institutions and stakeholders involved in the integration project.
- Special thanks to technical teams from CHAI, HISP, and NICD.





- Initiated in 2019 with collaboration between NDoH, NICD, CHAI, and HISP.
- Phases: planning, funding acquisition, mediator development, testing, and production deployment
- Multiple test synchronization runs conducted to evaluate performance and data integrity



- Two separate systems for malaria data lead to reporting gaps and inefficiencies.
- A unified, real-time system is essential for accurate surveillance and evidence-based decision-making.
- Integration leverages NMCSS's laboratory linkages and MIS's operational data strengths.