HOW REAL -TIME DASHBOARDS STRENGTHENED ITN CAMPAIGN COVERAGE AND ACCOUNTABILITY IN PAKISTAN

JOINT ANNUAL MEETINGS OF THE SMC ALLIANCE AND THE ALLIANCE FOR MALARIA PREVENTION

Kampala, Uganda

24-27 Feb 2026
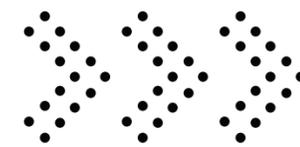
Pakistan

- **Background**

  - Severely affected due to climate changes

  - Up to seven folds increase in malaria cases

  - Substantial influx of refugees

  - Complex operating environments due to security situation particularly in Merged Areas of Khyber Pakhtunkhwa and some districts in Balochistan
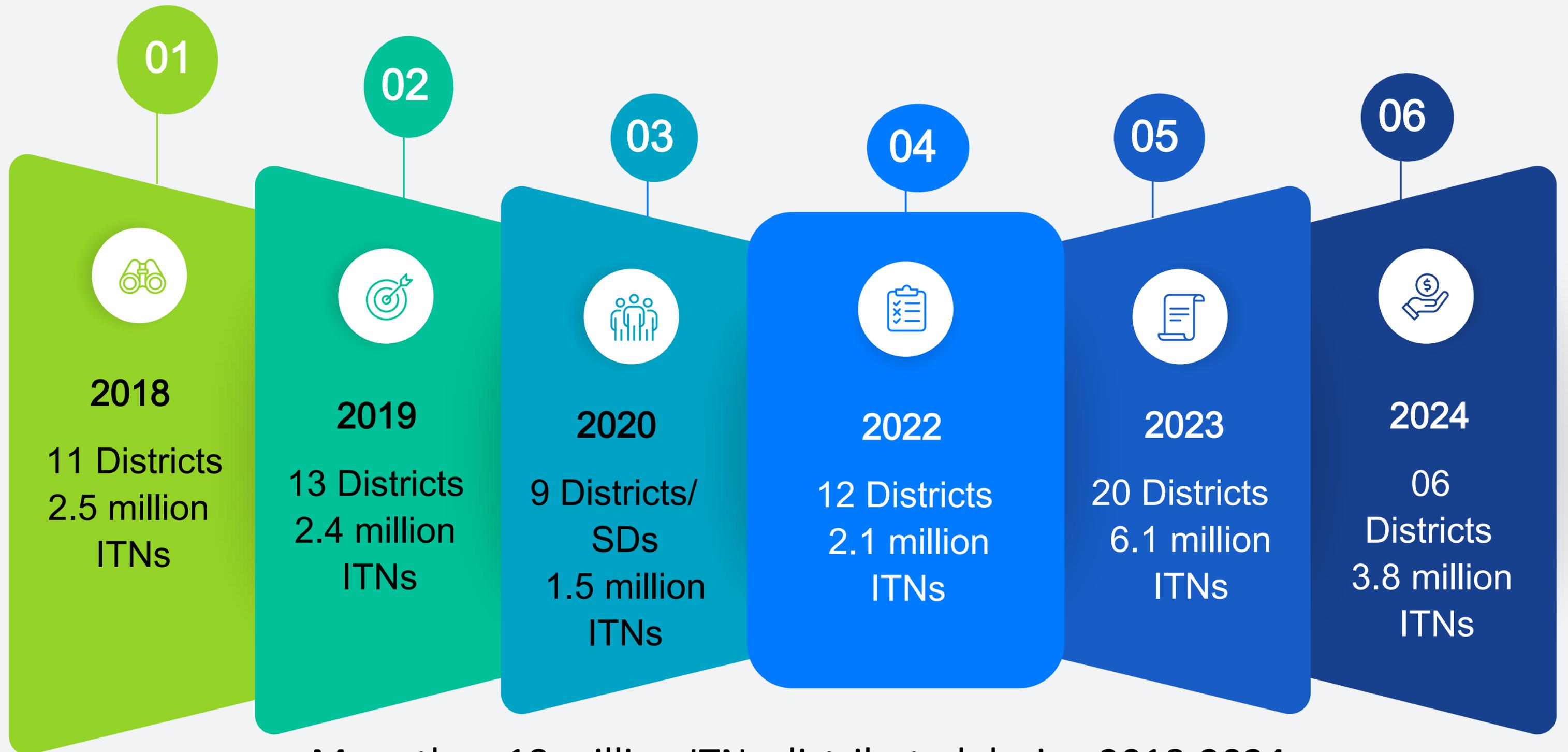
Population of more than 252 million

Moderate malaria endemic country

During 2025
1.7 Million Malaria Cases

P. Vivax 64%,
P. falciparum 32% & Mix 4%

Problem Statement

- **Before dashboards: we couldn't see problems early enough to act**

- Microplanning in Excel → version control issues and manual errors

- Major variations in microplanning estimates (denominator) vs household registration (HHR)

- District Health Departments had lesser ownerships (different secondary data sources)

- Missing areas / villages (because of manual record)

- At least two weeks required for cleaning and sharing with national level

- Dependency on external vendors for providing services → delays and higher costs

Consequences

- **Operational impact: delays, limited visibility, and slow issue resolution**
  - Variations between microplanning estimation and actual needs based on household registration (HHR)
  - Campaign timing slipped beyond peak season (see planned vs actual)
  - Limited provincial/central visibility → late escalation
  - ITNs coverage issues due to missing areas/villages
  - Slow resolution of bottlenecks

Year	Planned	Actual
2018	June-July	Oct
2019	June-July	Nov
2020	June-July	Dec
2022	June-July	Oct-Nov
2023	June-July	Dec-Jan

How it worked

- **What we built in DHIS2 (in-house)**

  - 3 modules:

    - Microplanning (hallmark as was first time)

    - household registration/enrolment, coupon (with QR codes) for HHR

    - ITN distribution

  - Offline capture +

    - later sync for low-connectivity areas

  - Automated aggregation and validation checks

  - Real-time dashboards for daily performance and accountability

2024 delivery improvements enabled by DHIS2 dashboards

- Developed modules were piloted, and rolled out in 6 targeted districts

- Offline data entry enabled continuity in low-connectivity areas

- Improved data quality + strengthened local digital capacity

- Variations in microplanning estimates vs HHR reduced significantly (less than 10%)

- Only few complaints about missing areas/villages

- First time campaign implemented on time (August 2024) before the peak malaria season

Report date *

2024-05-03

Due date

yyyy-MM-dd

Micropositioning

Village Name served by the DP	A
Population	57
Distribution team	2
Is there a mosque in the village? (yes/no)	⊙ Yes ○ No
Does the mosque have a loudspeaker? (Yes / No)	⊙ Yes ○ No
Is the village covered by radio? (yes/No)	⊙ Yes ○ No
Name of radio station (channel & frequency)	FM 87
The language used by the radio for broadcasting	Urdu

Complete   Delete   Print form

PAKISTAN ITN CAMPAIGN 2024 - MICRO PLANNING REPORT - Abbottabad

Download Data Into Excel

Micropositioning Plan											
Distribution site (DP)	Address Of Dp	Village Name served by the DP	Population Rural	Population Urban	Total Population	Number of Households	Storage warehouse(District / Nearest Fixed DP)	Distance between district warehouse and Fixed DP (KM)	# of ITNs for this DP	# of bales of ITNs of 50 for this DP	Area (in S meter)DP ITNs Store(Hei = 2m)
Test D	ABC	Azeeem	300	0	300	43	Random	3.0	167	4	1
Test D		1	300	0	300	43	Random	3.0	167	4	1
Junaid	ABC	Test	400	0	400	58	Market	5.0	834	17	2
		Test	500	0	500	72					
		Test4	600	0	600	86					
Junaid		3	1500	0	1500	215	Market	5.0	834	17	2
BHU Gaggra	Daggar Road, Gaggra	Mali Khel	1500	0	1500	215	Warehouse Daggar	15.0	8334	167	12
		Rega	800	0	800	115					

ITN Campaign Dashboard
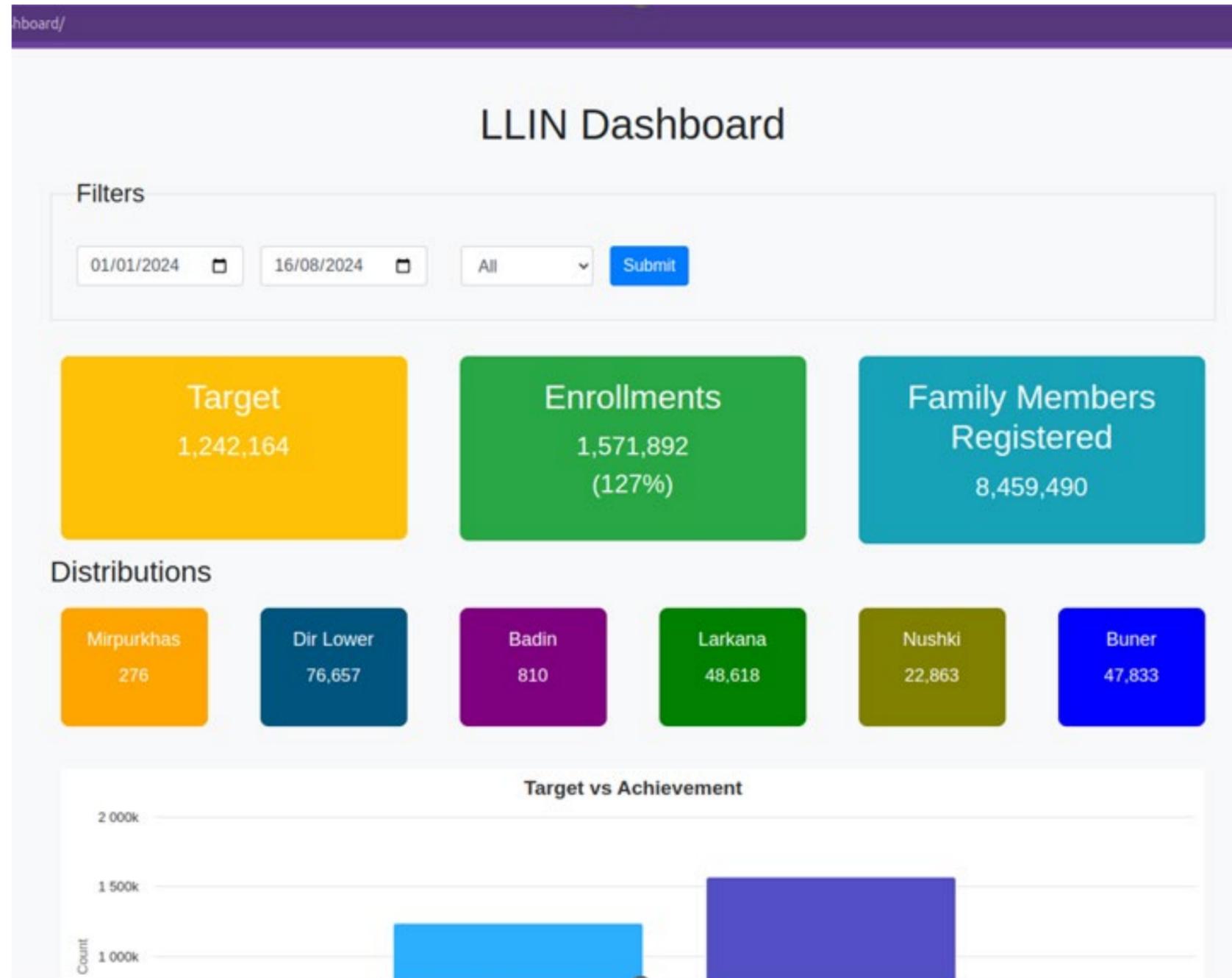
What we monitored daily (and who acted)

- **Daily:** target vs achieved, enrolment progress, distribution by district

- **Users:** district teams, provincial leads, national coordination cell

- **Cadence:** daily check-ins + weekly review with action owners

Outcomes

Results: faster action + fewer errors

- Overall achievement: 93%

- Reporting time reduced from 14 days to 8-12 hours (automation + live dashboard)

- Data errors reduced (duplicates/invalid codes) after validation rules + monitoring

- Escalation speed improved: issues identified and assigned within few hours
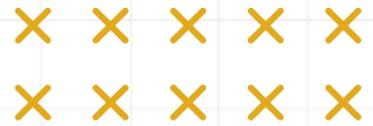
Invalid codes

Duplicate QR Codes

Duplicate CNICs

Challenges using DHIS-2

Errors in printing of coupon

Hosting of data

Internet connectivity

Next priorities

1 Digitize logistics and warehouse management (stock visibility + distribution reconciliation)

2 Digitize micro-budgeting and volunteer payments (timeliness + audit trail)

3 Upgrade dashboards: clearer visuals, automated alerts, role-based views

4 Institutionalize in-house expertise for future campaigns

Recommendations

Digitalization as a Driver of ITN Campaign Success

- **One Integrated Digital Platform** should be used covering microplanning, household registration, logistics, distribution, and reporting to improve coordination and accountability.

- **Digital Microplanning** is helpful in accurate estimation of ITN needs and select distribution points.

- **Strengthen in-house expertise, capacities & strengths** – Upgrade and optimize current digital platforms to reduce costs, simplify implementation, and ensure sustainability.

- **Real-time dashboards** should be deployed to quickly identify gaps and take corrective action during implementation.

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