

# Mapping Laboratory and Surveillance Capacities for Health Security in Kenya: Progress Since Baseline From a 2025 Cross-Sectional Study

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## BACKGROUND:

Strong laboratory and surveillance systems are essential for timely disease detection and effective public health response. Kenya's first nationwide laboratory capacity mapping (2017-2020) established a baseline of system strengths and gaps. An updated assessment was needed to measure progress and identify current gaps and priority actions for strengthening national laboratory and surveillance capacities.

## OBJECTIVE:

To evaluate national and subnational testing and surveillance capacities for priority infectious diseases and to identify key investment actions needed to strengthen Kenya's health security systems.

## METHODOLOGY:

A 2025 cross-sectional assessment used an IHR-aligned self-assessment checklist and purposive sampling to evaluate selected laboratories and surveillance units.

## RESULTS:

### Laboratory Capacities

#### Strengths

- Country achieved near universal access (98%) for routine basic diagnostics for high burden infectious diseases (TB, HIV and Malaria)
- Improved laboratory capacities compared to 2020 baseline (figure 1)
- 91% laboratory workforce government employed
- 93% equipment functionality

#### Gaps

- Only 57% of equipment on service and maintenance contracts (34% in 2020)
- Up to 36% and 30% of laboratory workforce in primary-level facilities (Level 3) and NPHL is partner supported
- Capacity scores of less than 2 (max score of 4) across all domains observed for counties in arid and semi-arid lands (ASAL) of Kenya in 2020 and 2025
- Low-capacity maturity scores particularly at primary and mid-level facilities (Level 3 and 4), which form the backbone of service delivery and early detection

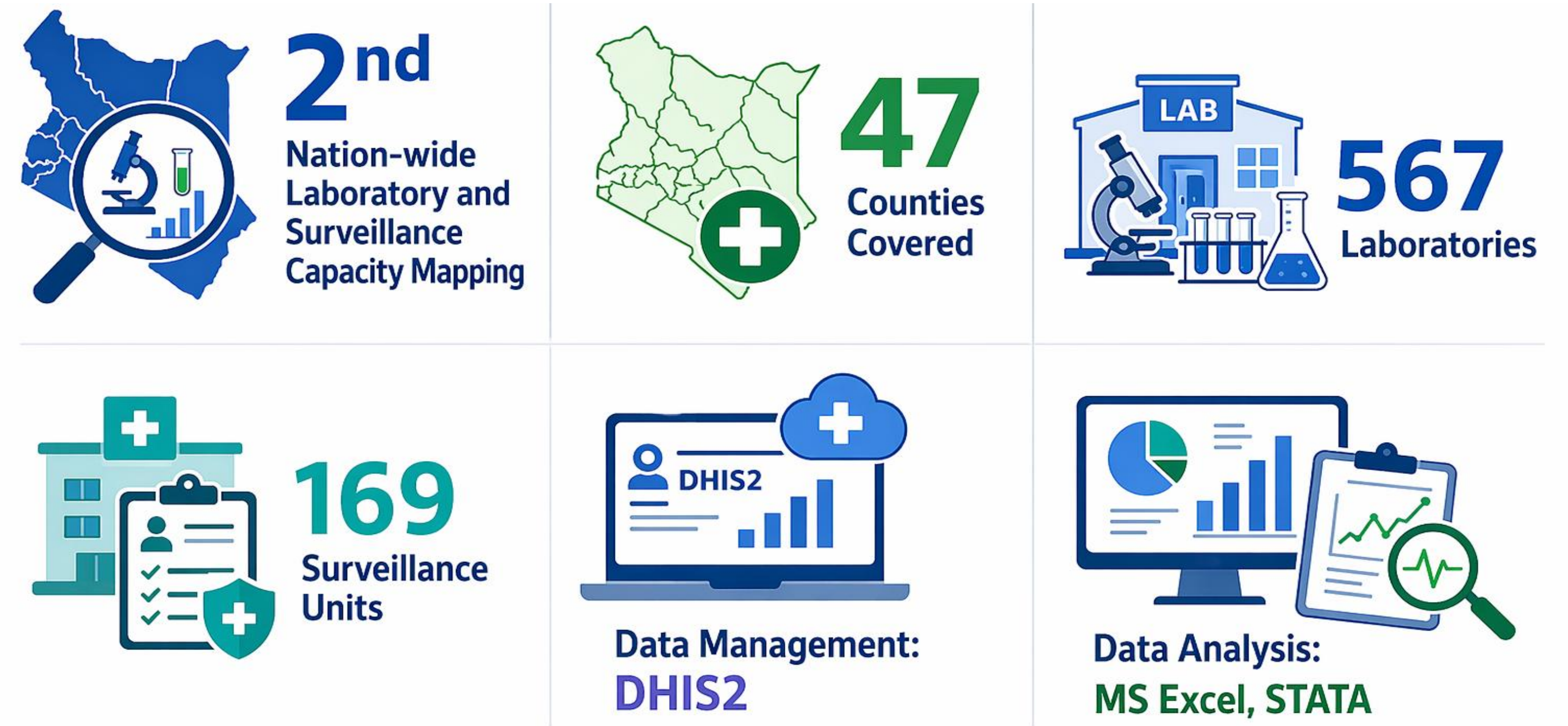
### Surveillance & EPR Capacities

#### Strengths

- 71% of sub-counties implementing Event-Based Surveillance (EBS)
- 88.2% of sub-counties have Rapid Response Teams (RRTs)

#### Gaps

- 42% of sub-counties do not review and analyze EBS data collected (figure 2)
- 90.5% of the sub-counties lack emergency preparedness and response plans
- Only 57.4% counties have Public Health Emergency Operation Centers established
- Only 11% of sub-counties have RRTs trained
- Only 14.2% of sub-counties have strategic stockpiles (e.g. PPEs) for emergencies



Facility Level	Faith-Based Organizations n (%)	Government of Kenya n (%)	Private n (%)	Total Facilities
Level 3	4 (5.1)	59 (74.7)	16 (20.3)	79
Level 4	52 (13.3)	275 (70.2)	65 (16.6)	392
Level 5	17 (23.3)	40 (54.8)	16 (21.9)	73
Level 6	0 (0.0)	5 (83.3)	1 (16.7)	6
NPHL	0 (0.0)	9 (100.0)	0 (0.0)	9
Veterinary Laboratories	0 (0.0)	8 (100.0)	0 (0.0)	8

Table 1. Summary of laboratories assessed in 2025

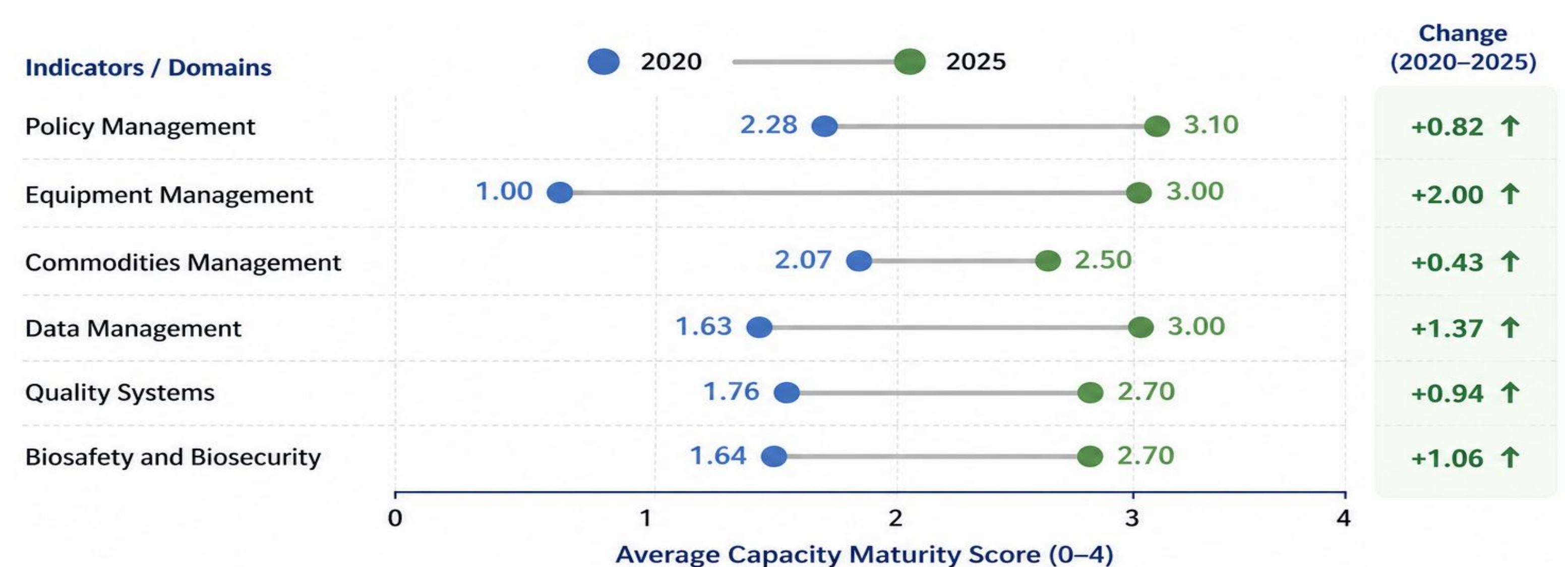


Figure 1. Improvement in Laboratory Capacity Maturity Scores (2020 vs 2025)

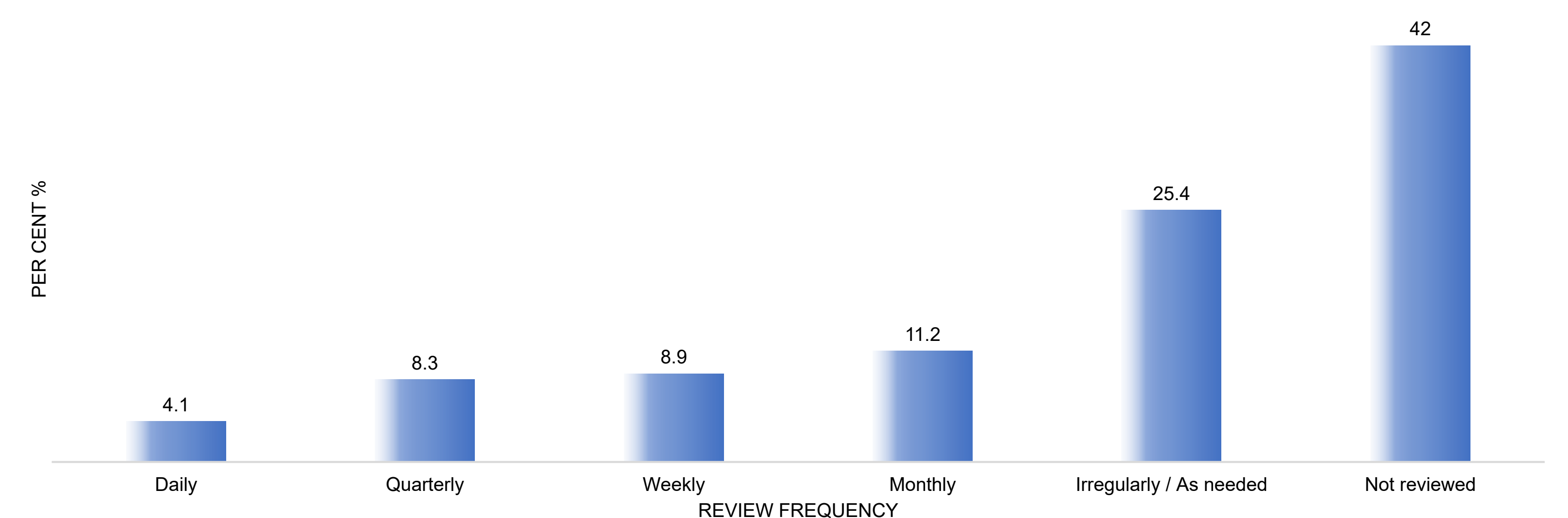


Figure 2. Frequency of review of EBS data at sub-county level

## CONCLUSION:

Kenya has a foundation for detection and surveillance that can be leveraged. Key actions for capacity improvement:

- Prioritize investments in lower-tier laboratories and ASAL counties, particularly for quality management systems, equipment management.
- Decentralize diagnostics for emerging threats leveraging existing infrastructure and cross-sectoral capacities.
- Develop comprehensive preparedness plans with targeted capacity building efforts.
- Strengthen routine review and analysis of EBS data at sub-county level.
- Maintain strategic stockpiles of essential laboratory supplies, PPE, and outbreak response commodities.

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