

Supplementary Material

From ambulance dispatch to trauma-centre commissioning: an audit-informed assessment of post-crash care readiness in Karnataka

Supplementary Material S1. Coding framework

Field	Definition
Record identifier	Stable PC### identifier for one source observation
Period	Exact financial year, date or audit interval
Stage	Dispatch, geographic coverage, scene response, transport/handover, workforce, equipment, trauma network, capital execution, commissioning or activity
Metric and value	Source-defined observation; no imputation
Denominator	Recorded only where reported or exactly reconstructable
Evidence type	Audited database, audit sample, document review, departmental reply or annual programme report
Scope	State, district subset, institution sample, fleet or project
Interpretation limit	Restriction preventing overgeneralisation or false comparability

The complete 43-row ledger is distributed as post_crash_metric_ledger.csv (see Data availability).

Supplementary Material S2. Formulae and reconciliation checks

Indicator	Formula	Result
Response within 15 min	314,123 / 599,417	52.40%
Response over 30 min	(65,394 + 24,722) / 599,417	15.03%
Response over 45 min	24,722 / 599,417	4.12%
Pilot availability	1,563 / 1,966	79.50%
EMT availability	1,348 / 1,966	68.57%
Medical personnel availability (two district hospitals)	2,131 / 2,571	82.89%
Health civil works completed within one year	1,750 / 3,104	56.38%

EMT, emergency medical technician.

Non-comparability decisions

- Scene-response data were road-crash specific, whereas hospital-handover data covered all emergencies; the two were reported separately and never pooled.

- Annual delay counts lacked annual call denominators and were therefore not expressed as rates.
- Facility and ambulance equipment findings came from audit samples and were not extrapolated to statewide prevalence.
- The annual reports' "lives saved" figures were not analysed, because neither the operational definition nor the counterfactual was published.
- The reported population per ambulance changed from 85,000 to 95,000 while the fleet changed from 711 to 715; without a stated denominator method, this was not treated as a coverage trend.
- No monetary value was assigned to delay, vacancies or idle equipment, because the utilisation, outcome and opportunity-cost inputs required for costing were absent.

Reproducibility

The analysis is fully scripted. Running the analysis code validates the unique record identifiers, reconciles the response categories, recalculates the derived indicators, and regenerates the 600-dpi figure in PNG and TIFF form. The script and the coded ledger will be deposited in a permanent open repository on acceptance.