Survival Rate of Infants with Birthweight 1000g–1400g in Malaysia: A KPI Analysis

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ABSTRACT

Introduction: The survival of infants with very low birthweight (VLBW) serves as an important indicator of neonatal care quality and patient safety. **Methodology:** This study analyzed a national KPI data that measures the survival rate of VLBW infants from 95 public hospitals in Malaysia between 2020–2024. Microsoft Excel was used for aggregation, calculation of survival rates, and trend analysis. **Results:** The national survival rate in 2024 was **93.0%**, showing a slight decline compared to previous years. State-level analysis in 2024 revealed variations, between 96.97% (highest) and 60% (lowest). **Conclusion:** Malaysia maintains a high survival rate for VLBW infants, but recent declines and state-level disparities need to be highlighted. Findings also highlight the importance of strengthening neonatal intensive care and ensuring equitable quality of care nationwide.

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INTRODUCTION

- Very low birthweight (VLBW) infants (1000–1400g) face higher risks of mortality and morbidity. Survival rates in this group reflect the quality, safety, and equity of neonatal care services.
- Monitoring survival outcomes through the KPI program enables benchmarking, identification of gaps, and development of targeted interventions.
- This e-poster presents Malaysia's national and state-level performance in the survival of VLBW infants, in line with World Patient Safety Day 2025's theme: Safe care for every newborn and every child.

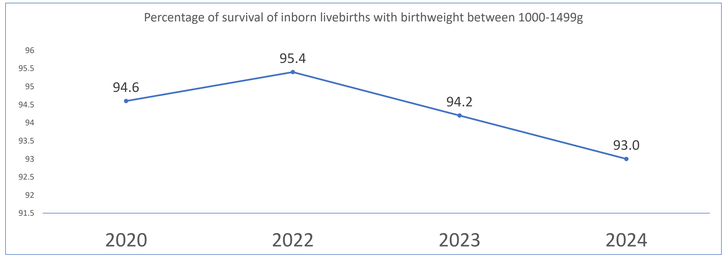
METHODS AND MATERIALS

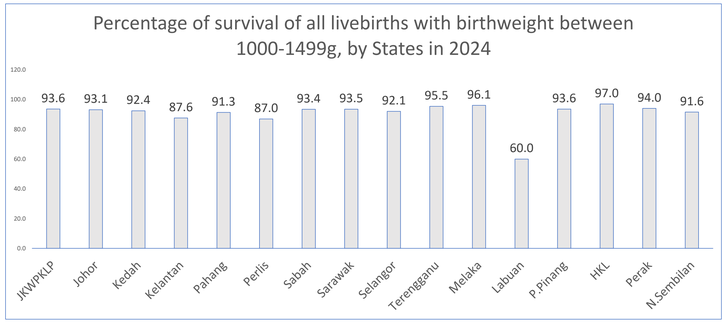
- Data Source: Clinical Service Quality Indicators (CliSQI) –Pediatrics Discipline
- Population: Livebirth infants with birthweight 1000–1400g, born in 95 public hospitals with resident paediatrician/neonatologist (excluding babies born with major / lethal congenital anomalies)
- Data Collection: Participating hospitals and State health departments compiled and submitted the data via matrix KPI reporting system.
- Analysis Tool: Microsoft Excel for aggregation, calculation of survival rates, and trend analysis.
- Study Period: Data from 2020–2024 (no data for 2021 due to COVID-19 pandemic disruption).

RESULTS

- From 2020 to 2023 the national survival rate of VLBW infants was between 94.2 to 95.4%. In 2024, there is slight decrease of survival rate with 93.0% (2451 over 2637 infants survived).
- In terms of state level performance in 2024, the highest was Hospital Kuala Lumpur with 96.97%,followed by Melaka (96.10%), and Terengganu (95.45%). The lowest was Labuan with 60.0%, followed by Perlis (86.96%), and Kelantan (87.63%).
- As the target was set at ≥85%, only Labuan had shortfall in quality (SIQ) for this KPI.

GRAPHS





DISCUSSION

- **Overall performance remains high (>90%)**, reflecting good quality neonatal care across Malaysia.
- **Declining trend since 2022** might raises concern and need for further monitoring for few years more to confirm the trend, although rate above 85% is considered acceptable and within target.
- **Variation between states** highlights disparities: larger tertiary hospitals show higher survival rate, while smaller states/facilities were vulnerable to be at a lower side, perhaps due to a lower denominator.
- **Patient safety perspective:** Strengthening infection control, neonatal intensive care training, early referral systems, and family-centred care could improve outcomes.
- **Policy implications:** Enhanced support for underperforming states, equitable distribution of resources, and continuous monitoring of neonatal outcomes.

CONCLUSIONS

Malaysia maintains a high survival rate for VLBW infants, but recent declines and state-level disparities need to be highlighted. Strengthening neonatal intensive care capacity, promoting equitable care, and reinforcing patient safety practices are crucial for sustaining and improving outcomes. The findings underscore the importance of prioritizing safe care for every newborn and every child.