	NOTA SEMAKAN DAN PENGESAHAN **CAWANGAN PERKHIDMATAN PENOLONG PEGAWAI PERUBATAN** **BAHAGIAN AMALAN PERUBATAN** **KEMENTERIAN KESIHATAN MALAYSIA**
SURAT / MEMO	**TAJUK :** **LAPORAN KLINIKAL AUDIT 2025 PENOLONG PEGAWAI PERUBATAN**
	NO. RUJUKAN : KKM.600-16/4/3 Jld6 (6)
	TARIKH : 31 JULAI 2026

CATATAN :

Disertakan laporan Klinikal Audit 2025 Penolong Pegawai Perubatan yang telah dilaksanakan pada bulan Julai-Ogos 2025.

Sekian, Terima Kasih.

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CATATAN PENGARAH BAHAGIAN AMALAN PERUBATAN :

Tarikh : ..... Tandatangan : .....



MINISTRY OF HEALTH MALAYSIA

ASSISTANT MEDICAL OFFICER SERVICES SECTION

NATIONAL CLINICAL AUDIT REPORT

ASSISTANT MEDICAL OFFICER

2025

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ABREVIATION

KKM	Kementerian Kesihatan Malaysia
MOH	Ministry of Health, Malaysia
AMO	Assistant Medical Officer
SOP	Standard Operating Procedure
SPG	Standard Practice Guideline
POP	Plaster of Paris
PHCAS	Pre-Hospital Care & Ambulance Service
PPM	Planned Preventive Maintenance
MTS	Malaysian Triage Scale
MTC	Malaysian Triage Category
PPE	Personal Protective Equipment
MISTTT	Mechanism, Injuries, Signs, Treatment, Time, Tagging
NSI	Needle Stick Injury
GIRN	Government Integrated Radio Network
DDA	Dangerous Drugs Act
CCTVR	Skin colour (C), capillary filling time (normal <2 seconds) (C), cold/ - warm extremities (T), pulse volume (V) and rate (R)
CME	Continuous Medical Education
ECG	Electro Cardio Graph
SAMPLE	**S**igns/Symptoms, **A**llergies, **M**edications, **P**ast History, **L**ast Oral Intake, **E**vents leading to illness
PEFR	Peak Expiratory Flow Rate
7R	Right Patients, Drug, Dose, Time, Route, Reason, Documentation

1. INTRODUCTION

1.1 National Clinical Audit Framework 2025

Pursuant to the directive **KKM.600-16/4/3 JLD5(69)**, the 2025 National Clinical Audit was successfully implemented across 138 hospitals and 8 health clinics nationwide between 1 July until 1 August 2025.

This is the second time, the audit clinical run with digitalized approach through QR code scanning and real-time data entry into a dedicated database. The scope of the audit was expanded to include seven (7) specific activities. These evaluations were benchmarked against current SOPs and CPGs to ensure clinical compliance and service quality.

1.2 Audit Activities and Implementation Methodology

The 2025 Clinical Audit encompasses seven (7) primary activities, each defined by distinct assessment compenant as detailed in **Appendix A**. To ensure standardized evaluation, sampling sizes are determined based on hospital classification. Furthermore, a cross-audit methodology was adopted to guarantee objectivity and impartiality throughout the process.

Under this framework, facilities performed reciprocal evaluations (e.g., Hospital A ⟶ Hospital B ⟶ Hospital C ⟶ Hospital A). For states with only a single hospital facility, the audit was conducted in collaboration with a designated hospital from a neighboring state to maintain the integrity of the peer-review process. However, following the resolutions of the Assistant Medical Officer (AMO) Clinical Audit Management Meeting held in Lumut, Perak, from 19 to 21 May 2025, several clinical audit targets have been amended for the 2025 cycle. The updated clinical audit activities, sampling sizes, and their respective targets are outlined in the table below:

Activities	State Hospital	Major Specialist Hospital	Minor/ Non-Specialist Hospital	Rate (%)	
				Old	New
Triage	50	30	20	85	90
Asthma care	20	10	10	85	85
Hemodialysis treatment	30	20	10	85	85
POP application	30	20	10	85	90
Infection control	30	20	10	75	75
Pre-hospital care and ambulance services	6	4	3	85	85
Management of deceased bodies	10	10	5	85	90

Table 1.1: Summary of Revised Clinical Audit Scope, Sampling, and Targets.

1.3 National Distribution of Participating Facilities

The 2025 Clinical Audit cycle involves a total of 146 healthcare facilities nationwide, comprising 138 hospitals and 8 health clinics. The hospital participation is strategically categorized to include State Hospitals, Major Specialist Hospitals, and Minor/Non-Specialist Hospitals, ensuring a diverse and representative data set across various levels of care. This stratified inclusion is essential for benchmarking clinical performance against the specific operational capacities and resource allocations of each facility type.

Regarding primary healthcare involvement, the Pre-Hospital Care (PHC) component is localized specifically to health clinics within the state of Selangor for this audit cycle. Furthermore, the audit scope for Hemodialysis services has been extended to include selected health clinics nationwide that are equipped with specialized Hemodialysis Units. This targeted expansion ensures a comprehensive and rigorous evaluation of clinical services, maintaining high standards of patient care and safety across both hospital and community-based settings.

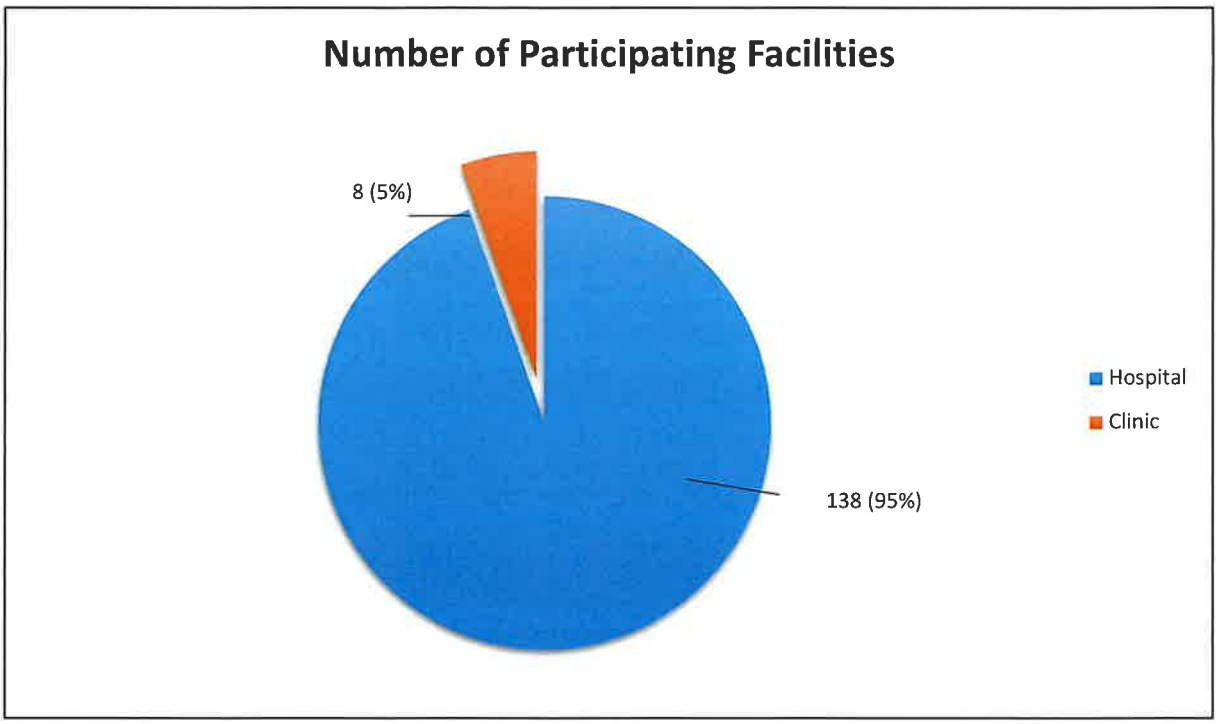


Figure 1.1: Total Participating Facilities for the 2025 Clinical Audit.

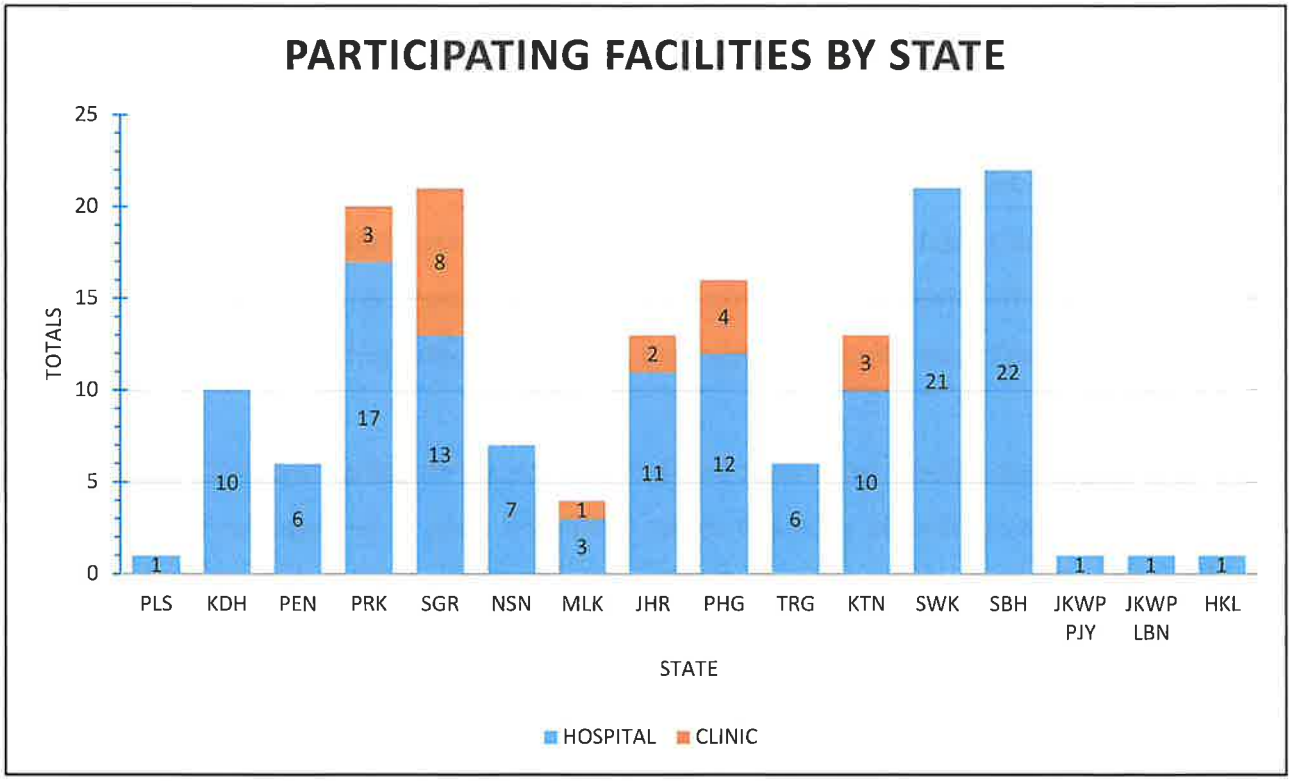


Figure 1.2: Participating Facilities for the 2025 Clinical Audit by State.

1.4 Timeline

The following timeline delineates the key milestones of the clinical audit process, beginning with the initial administrative directive and culminating in the 2025 implementation phase. This visual representation illustrates the progression of the National Clinical Audit for Assistant Medical Officers (AMO), highlighting the transition from the late 2024 baseline assessment to the strategic refinements established during the Lumut Management Meeting in May 2025. Furthermore, the roadmap underscores the administrative continuity and systematic shift toward updated clinical targets and broader facility participation for the upcoming cycle.

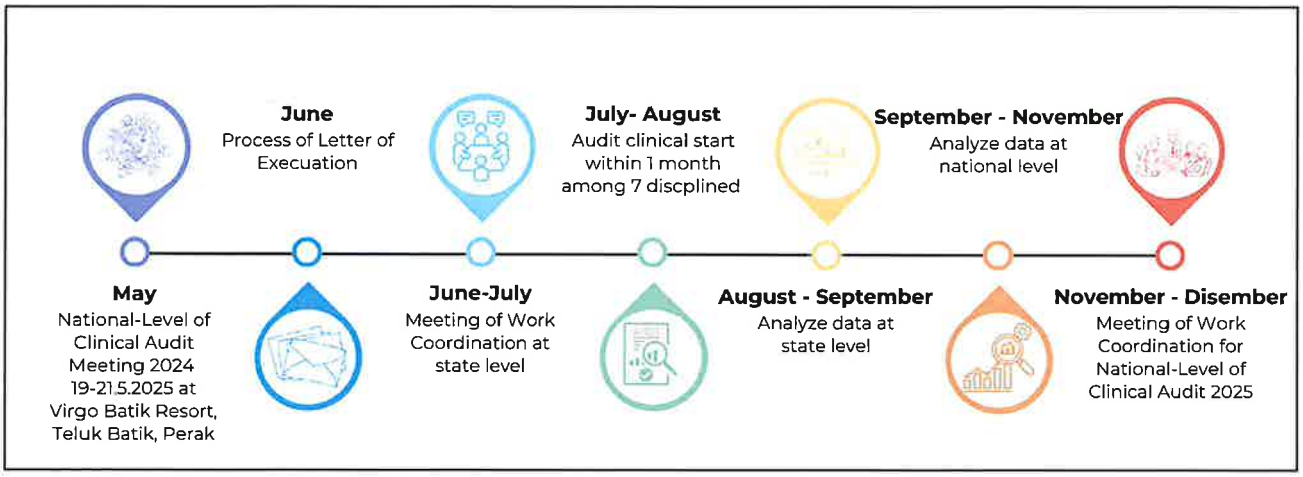


Figure 1.3: Strategic Roadmap of the AMO Clinical Audit Cycle.

2. CLINICAL AUDIT (2025) OUTCOMES

2.1 NATIONAL-LEVEL PERFORMANCE AND COMPARATIVE TRENDS

This section details the outcomes of the clinical audit conducted from July to August 2025. The data presented reflects the evaluation of service standards and compliance levels across the specified period.

As illustrated in the charts below, the findings reveal significant variations in the performance of different activities. Furthermore, a comparative analysis shows a clear disparity in results between states, highlighting the diverse levels of implementation and clinical adherence nationwide. This section outlines the results of the National Clinical Audit 2025, which achieved an impressive overall national success rate of 95.4%. The data reveals that most audited clinical

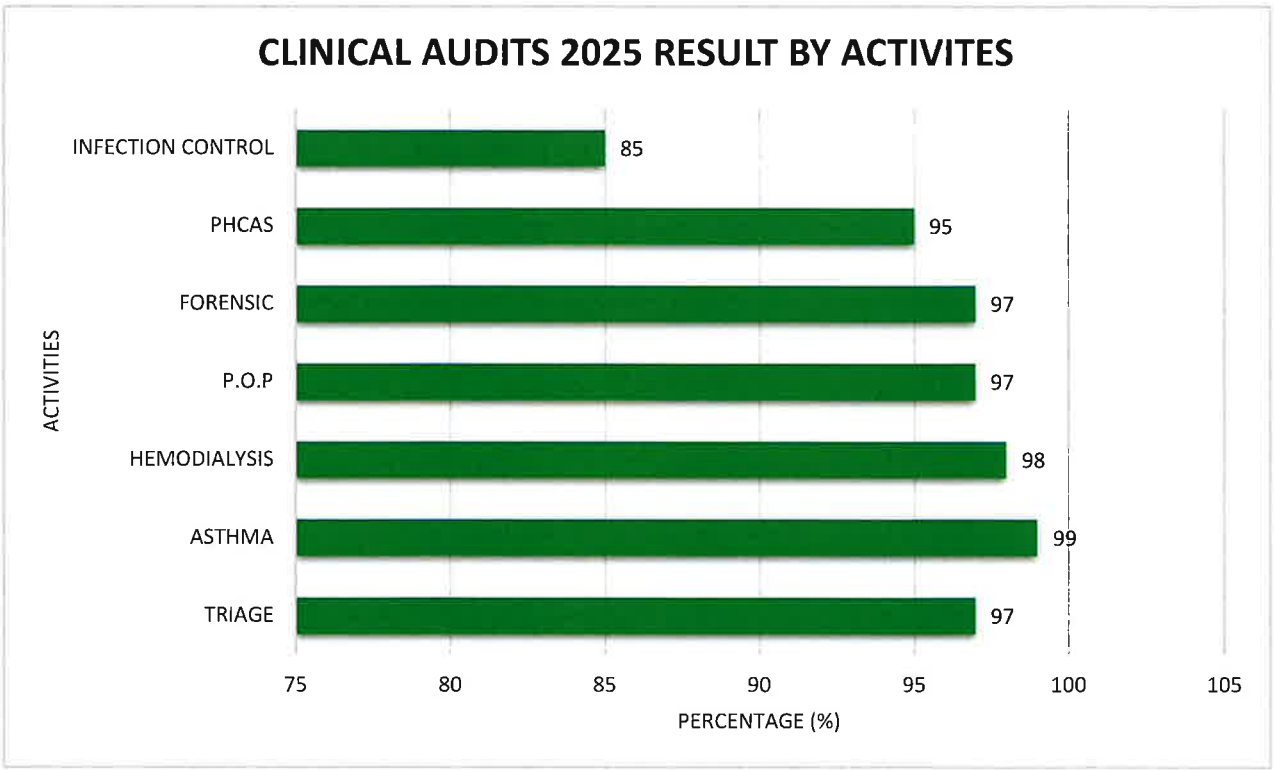


Figure 2.1: Clinical Audits results by activities in 2025.

activities performed exceptionally well, with Asthma management recording the highest compliance at 99%, followed closely by Hemodialysis at 98%. Other core activities, including Forensic, P.O.P, and Triage, maintained a consistent and high performance level of 97%.

However, the audit identifies specific areas that require further attention to achieve full standardization. While PHCAS (Pre-hospital Care and Ambulance Services) showed a strong performance at 95%, Infection Control recorded the lowest compliance rate among all activities at 85%. These findings highlight a significant variation in clinical adherence, particularly indicating that while specialized clinical treatments are meeting high standards, fundamental elements such as infection prevention protocols necessitate more robust monitoring and targeted improvement strategies.

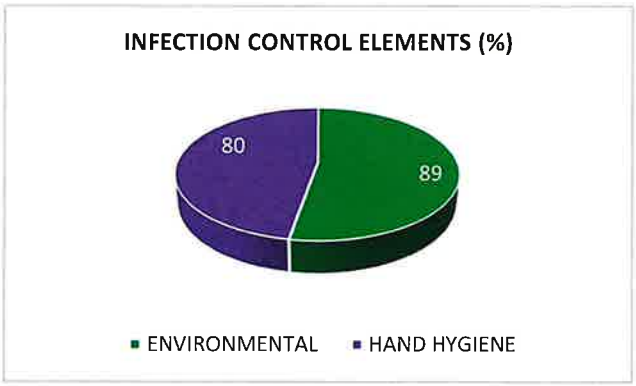


Figure 2.2: Breakdown of Infection Control Components

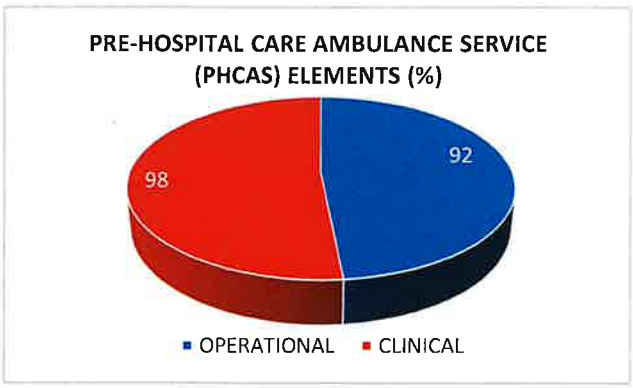


Figure 2.3: Distribution of Pre-Hospital Care and Ambulance Service Elements

For the Infection Control activity, the audit focused on two primary sub-elements: Environmental and Hand Hygiene. The findings indicate that Environmental factors achieved a higher compliance rate of 89%, reflecting a strong adherence to sanitation and workplace safety protocols. In contrast, Hand Hygiene recorded a lower compliance level of 80%, identifying it as a critical area that requires more stringent monitoring and continuous education to ensure clinical safety standards are fully met.

In regards to the Pre-Hospital Care and Ambulance Service (PHCAS) component, the audit evaluated both Clinical and Operational elements. The Clinical aspect demonstrated an exceptional performance with a 98% achievement rate, signifying a very high standard of medical care delivery during pre-hospital interventions. Meanwhile, the Operational element achieved a commendable score of 92%. While both areas show robust results, the slight disparity suggests that further refinements in operational logistics could help bridge the gap to match the near-perfect clinical performance.

2.2 STATE-LEVEL PERFORMANCE AND COMPARATIVE TRENDS

2.2.1 TRIAGE

The following figure illustrates the findings of the Clinical Audit for Triage activities. A comparative analysis of Triage performance between 2024 and 2025 across various states reveals a generally positive trajectory, with Melaka (MLK) achieving a perfect score of 100% in both years. Several states showed notable improvements in 2025, particularly Perak (PRK), which rose to 99% from 94%, and Selangor (SGR), which increased to 97% from 92%.

While some regions, such as Sarawak (SWK) and JKWP Labuan (LBN), maintained high standards at 96% and 99% respectively despite slight year-on-year fluctuations, the overall data reflects a successful upward trend in clinical adherence across the majority of states. These findings underscore the effectiveness of ongoing clinical monitoring and the commitment to enhancing emergency department frontline services nationwide.

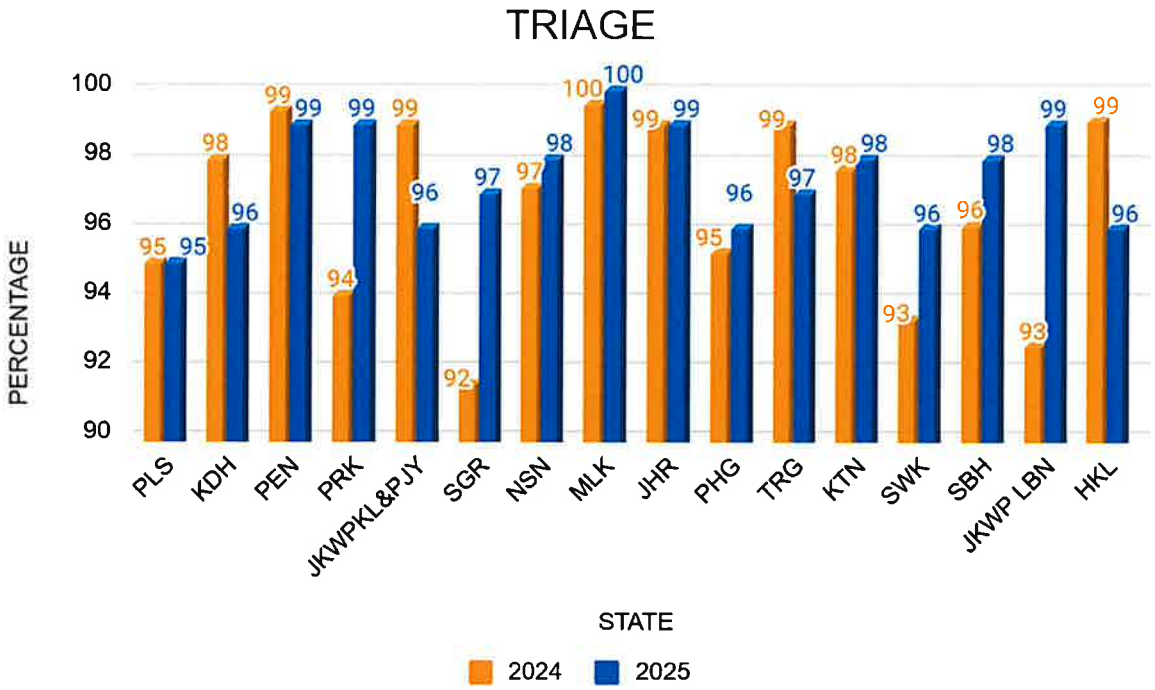


Figure 2.4: Comparative Analysis of Triage Clinical Audit Performance by State (2024 vs 2025)

2.2.2 ASTHMA

Based on the 2025 Clinical Audit results, Asthma management has demonstrated exceptional performance nationwide, achieving the highest compliance rate of 99% among all clinical activities. The data reveals that four regions—Melaka (MLK), Terengganu (TRG), JKWP Putrajaya, and JKWP Labuan—attained a flawless 100% achievement. Other states, including Penang (PEN), Johor (JHR), Negeri Sembilan (NSN), and Selangor (SGR), also showed high adherence levels, ranging between 98% and 99%.

A year-on-year comparative analysis between 2024 and 2025 indicates a significant upward trend in clinical adherence across various states. Notable improvements were observed in Negeri Sembilan (NSN), which rose to 99% from 94%, and Sarawak (SWK), which increased to 97% from 94%. Furthermore, HKL

showed a steady improvement from 95% to 97%. These findings reflect a successful and consistent effort to enhance asthma care protocols across Malaysia. The figures below illustrate the findings from the 2025 Clinical Audit by state.

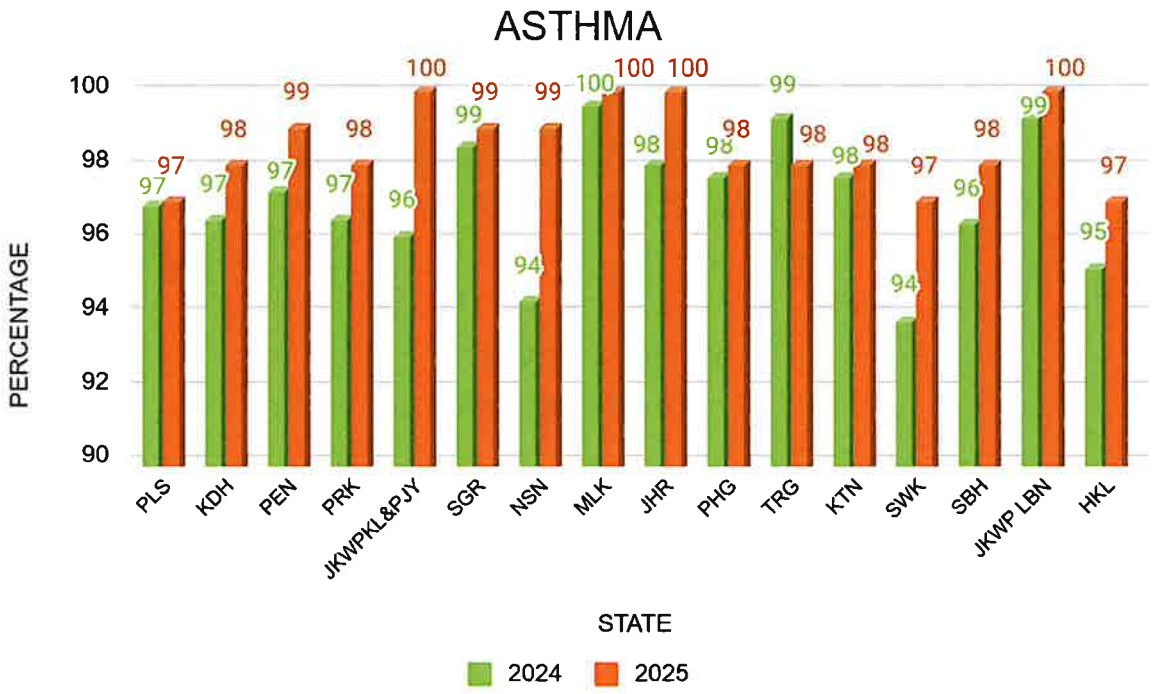


Figure 2.5: Asthma data for Malaysian states.

2.2.3 HEMODIALYSIS

The national performance for Hemodialysis services in the 2025 Clinical Audit reached a high compliance benchmark of 98%. Exemplary results were recorded in Johor (JHR), Terengganu (TRG), and JKWP Labuan, all of which achieved a flawless 100% achievement rate. Furthermore, a strong and consistent adherence level of 99% was maintained by several other regions, including Penang (PEN), Perak (PRK), Negeri Sembilan (NSN), Melaka (MLK), and Sarawak (SWK).

Evaluating the year-on-year progress from 2024 to 2025 reveals a significant positive trajectory in clinical standards. Notable advancements were seen in Perlis (PLS), which improved to 98% from 91%, and HKL, which rose from 93% to 99%. Kedah (KDH) also demonstrated an upward trend, reaching 98% compared to 94% in the previous year. Despite slight fluctuations in Sabah (SBH) and JKWP Putrajaya, the majority of states have successfully met or exceeded the national clinical benchmarks. The figures below illustrate the comprehensive findings from the 2025 Clinical Audit by state.

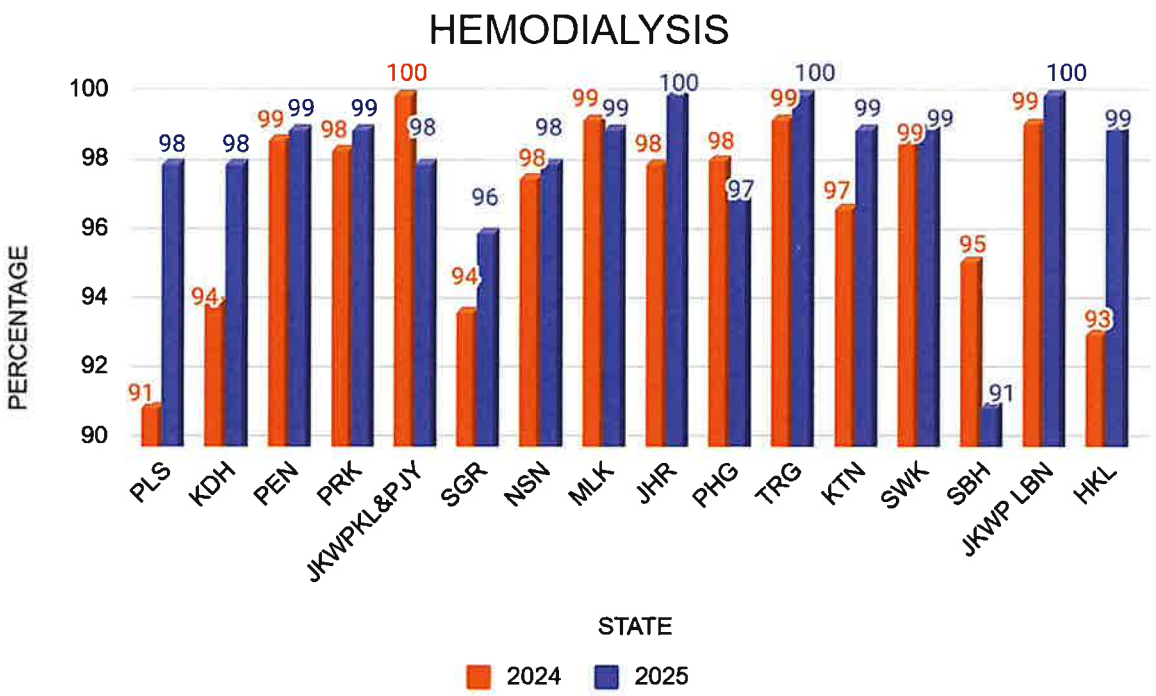


Figure 2.6: National Hemodialysis Compliance Rates and Achievement Trends Across Malaysian States.

2.2.4 PLASTER OF PARIS (P.O.P)

The 2025 Clinical Audit for Plaster of Paris (P.O.P) services reflects a strong national compliance level, with an overall achievement rate of 97%. Leading the national performance, Terengganu (TRG) attained a perfect score of 100%. This high standard was further supported by Kedah (KDH), Penang (PEN), Melaka

(MLK), Johor (JHR), and JKWP Labuan, all of which recorded an impressive 99% compliance rate during this audit cycle.

A longitudinal comparison between 2024 and 2025 highlights notable progress in several regions, with Terengganu (TRG) successfully transitioning from 99% to 100%. Improved adherence was also observed in Kedah (KDH) and Penang (PEN), which rose to 99% from 98% and 97% respectively. While the majority of states maintained or improved their performance, slight declines were noted in Perlis (PLS) and Pahang (PHG), which both recorded 93%. Overall, these findings demonstrate a robust national commitment to clinical excellence in P.O.P management. The figures provided below illustrate the comprehensive findings from the 2025 Clinical Audit by state.

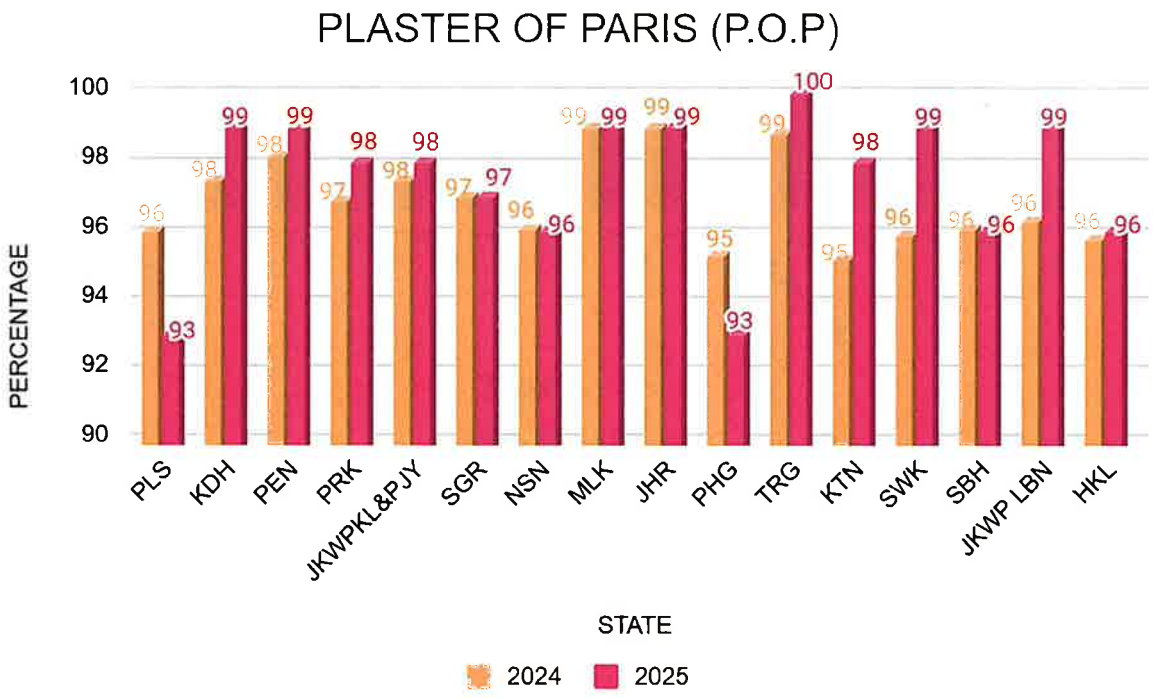


Figure 2.7: State-Level P.O.P Audit Outcomes and Longitudinal Performance Trends.

2.2.5 FORENSIC

The national landscape for Forensic clinical compliance remains exceptionally strong, with an overwhelming majority of states meeting or surpassing performance targets. A perfect 100% achievement rate was recorded in Perlis (PLS), Melaka (MLK), JKWP Labuan (LBN), and HKL, setting a high benchmark for the 2025 cycle. This excellence is further reflected in states like Penang (PEN), Selangor (SGR), Terengganu (TRG), and Sabah (SBH), all of which maintained a near-flawless compliance level of 99%. These statistics highlight a mature and stable adherence to forensic standards across the federation.

An evaluation of year-on-year trends shows commendable progress in Negeri Sembilan (NSN) and Johor (JHR), both of which successfully elevated their performance to 99% and 98% respectively. While these gains are significant, the audit also reveals a notable performance outlier in Sarawak (SWK), where compliance plummeted to 69% from a 2024 score of 93%. Addressing this specific regional variance through focused intervention will be essential to maintaining national service integrity. The accompanying charts provide a detailed state-by-state visualization of these findings.

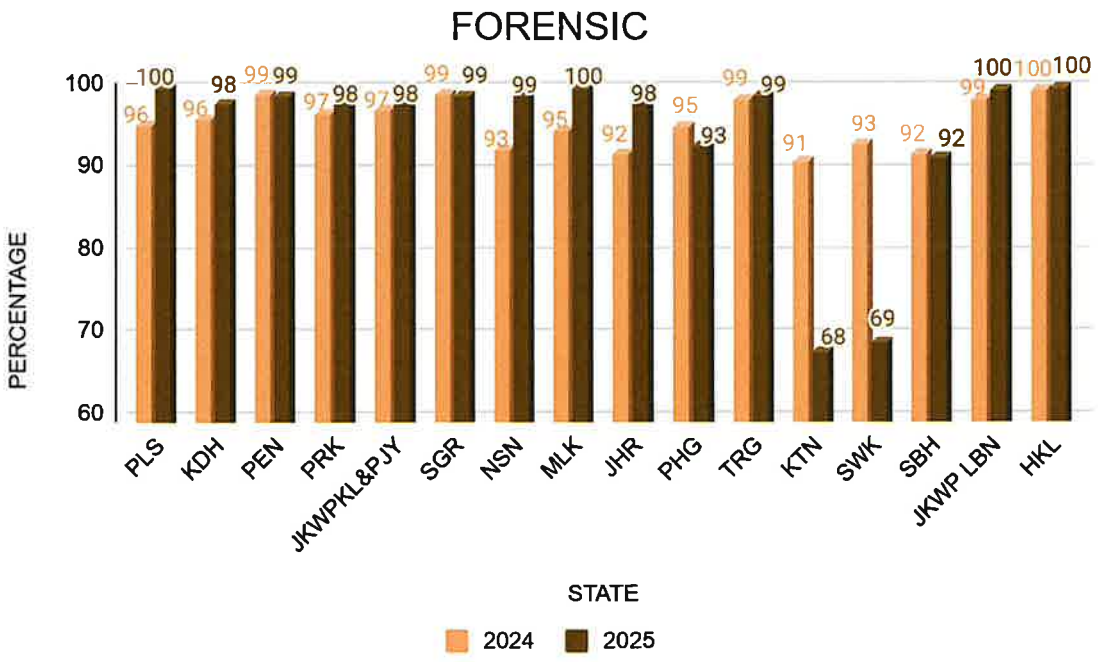


Figure 2.8: Annual Progress Report on Forensic Service Adherence and Compliance Benchmarks by State.

2.2.6 INFECTION CONTROL

The 2025 Clinical Audit results for Infection Control reflect a significant variance in regional performance, with an overall trend showing increased challenges in maintaining compliance compared to the previous year. Sabah (SBH) led the national rankings with a perfect achievement of 100%, while Perlis (PLS) and Perak (PRK) demonstrated strong adherence at 97% each. Additionally, Melaka (MLK) and Kedah (KDH) maintained respectable standards, both securing a compliance rate of 93%. These figures identify the regions that have successfully sustained high-quality hygiene and safety protocols.

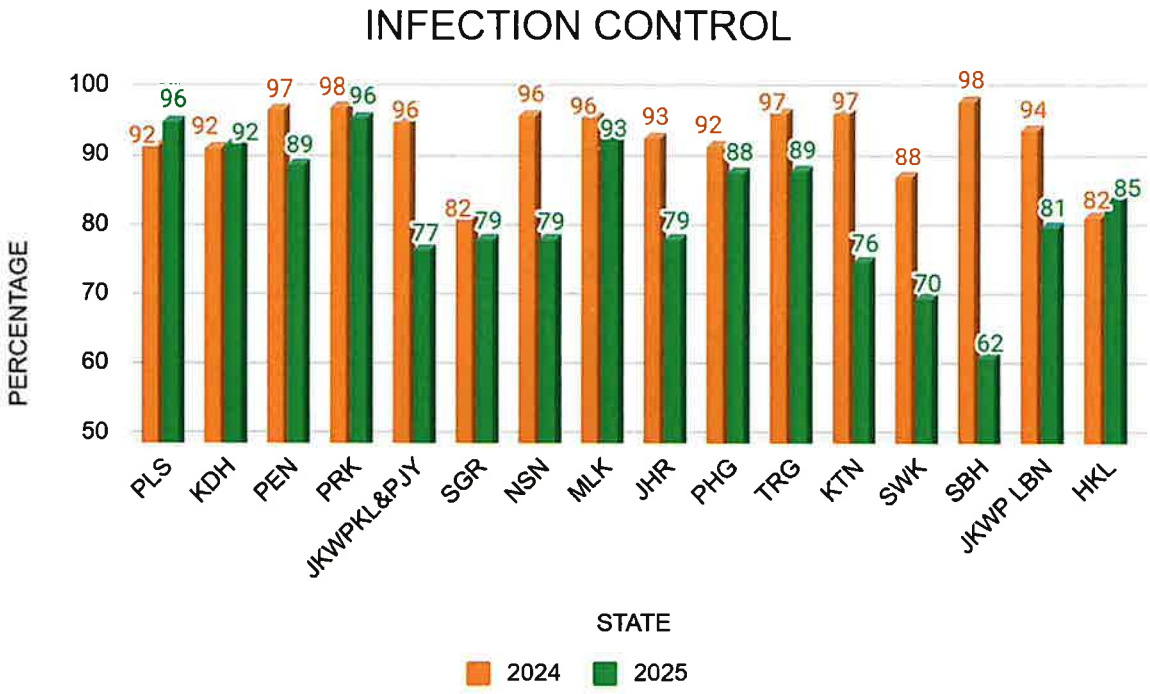


Figure 2.9: Distribution of Infection Control Audit Scores and Compliance Variance Across Malaysian States.

In contrast, the longitudinal data reveals a concerning downward trajectory for several other states and territories. The most notable declines were observed in Sarawak (SWK), which plummeted to 59%, and Negeri Sembilan (NSN), which fell to 77%. Other regions showing a need for intensified monitoring include Kelantan

(KTN) at 71% and JKWP Putrajaya (PJY) at 77%. These results highlight the urgency of implementing remedial strategies and enhancing audit oversight to stabilize infection control standards across all healthcare facilities. The figures provided illustrate the comprehensive findings from the 2025 Clinical Audit by state.

2.2.7 PRE-HOSPITAL CARE & AMBULANCE SERVICE

The 2025 Clinical Audit outcomes for Pre-Hospital Care & Ambulance Service signify a period of robust operational excellence, with the national achievement rate anchored by top-tier performances in Perlis (PLS) and Pahang (PHG) at 99%. This high standard of clinical care is mirrored in Kelantan (KTN), JKWP Labuan (LBN), and HKL, all of which secured an impressive 98% compliance rating. These results demonstrate a consistent and successful application of emergency medical protocols across diverse geographical regions, ensuring high-quality intervention prior to hospital arrival.

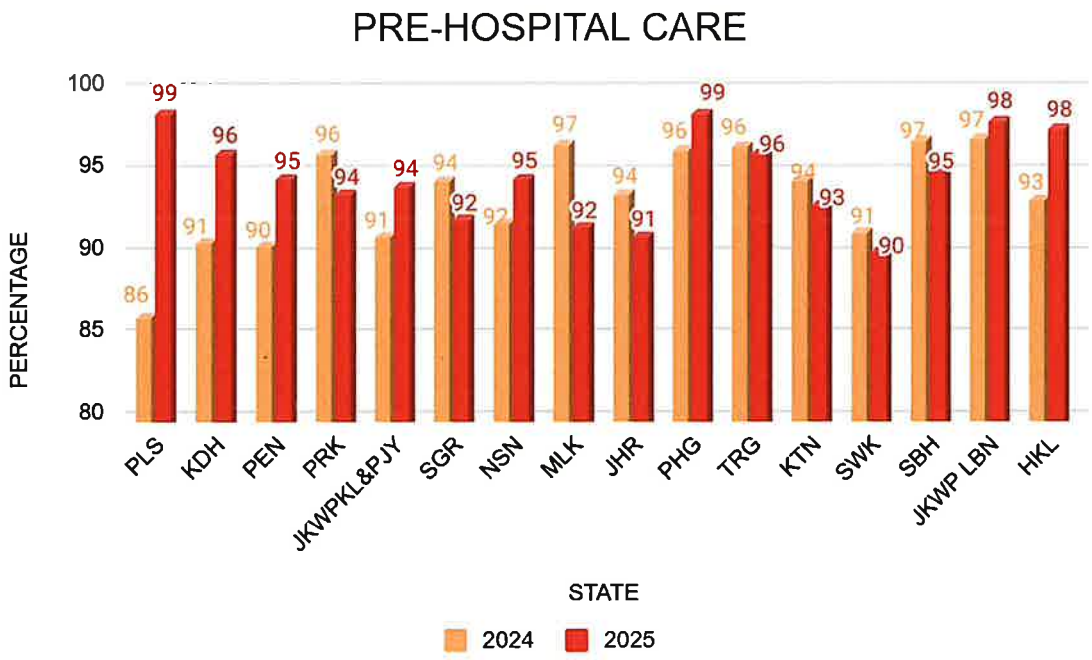


Figure 2.10: Comparative Analysis of PHCAS Clinical Compliance and Regional Performance Variance (2024–2025).

A comparative review of longitudinal data highlights a significant year-on-year advancement in service quality from 2024. The most striking progress was recorded in Perlis (PLS), which underwent a substantial performance surge from 86% to 99%, while Kedah (KDH) and Penang (PEN) also achieved notable gains, reaching 97% and 95% respectively. While the overall trajectory remains positive, the audit identifies a slight performance dip in Perak (PRK) and Sabah (SBH), which fell to 94% and 95%. Despite these minor fluctuations, the collective data confirms a strengthened national framework for pre-hospital care and ambulance services.

TARGET	≥90 %	≥85 %	≥85 %	≥90 %	≥75 %	≥85 %		≥90 %
STATE	TRIAGE	ASTHMA	HD	POP	INFECTION CONTROL (ETD)	PHC (CLINICAL)	PHC (OPERATIONAL)	FORENSIC
PERLIS	95	97	95	93	96	99	98	100
KEDAH	96	98	98	99	92	98	94	98
PULAU PINANG	99	99	99	99	89	98	91	99
PERAK	99	98	99	98	96	98	89	98
JKWPKL & PUTRAJAYA	96	100	98	98	77	100	88	98
SELANGOR	97	99	96	97	79	96	88	99
NEGERI SEMBILAN	98	99	98	96	79	96	93	99
MELAKA	100	100	99	99	93	96	87	100
JOHOR	99	100	100	99	79	95	87	98
PAHANG	96	98	97	93	88	100	97	93
TERENGGANU	97	98	100	100	89	98	94	99
KELANTAN	98	98	99	98	76	99	87	68
SARAWAK	96	97	99	99	70	97	83	69
SABAH	98	98	91	96	62	96	94	92
JKWP LABUAN	99	100	100	99	81	97	99	100
HOSP. KUALA LUMPUR	96	97	99	96	85	99	96	100
TOTAL	97	99	98	97	83	98	92	94

Figure 2.11: Percentage Achievement of Clinical Audit for Assistant Medical Officers by State (2025).

3.0 SHORTFALLS IN CLINICAL AUDIT 2025 (ISSUE)

3.1 TRIAGE

This report aims to present the findings of the 2025 clinical audit regarding shortfalls and non-compliance with key criteria for Triage services across Ministry of Health Malaysia hospitals. This report is prepared in accordance with the Standard Practice Guidelines for Assistant Medical Officers to identify service gaps and recommend continuous improvement measures.

The audit of Triage services encompasses five main categories, with the findings detailed as follows:

1. For Category 1 regarding Safety Management for Infectious Diseases, Hazmat, and Aggressive Patients, this represents the second-largest operational area with 414 procedures. The main focus involves executing protocols for high-risk infectious disease isolation, hazardous chemical decontamination, and the de-escalation of aggressive individuals. In terms of regional distribution, Sarawak recorded 82 cases involving Sarawak General Hospital with 33 cases, Betong Hospital with 10 cases, and Miri Hospital with 10 cases. Kedah recorded 70 cases across Hospital Tuanku Fauziah, Pendang Hospital, Jitra Hospital, Kulim Hospital, and Kuala Nerang Hospital. Furthermore, Pahang recorded 58 cases, with Hospital Tengku Ampuan Afzan contributing 24 cases. Kelantan recorded 54 cases, consisting of Jeli Hospital with 19 cases and Hospital Raja Perempuan Zainab II with 16 cases. Meanwhile, the combined region of Selangor and Kuala Lumpur Hospital recorded 74 cases, where Kuala Lumpur Hospital contributed 37 cases and Cyberjaya Hospital contributed 18 cases.

2. For Category 2 regarding Assisting in Extrication, a total of 39 procedures were recorded for inter-agency rescue assistance, spinal immobilization, and trauma extrication protocols. The primary facilities involved were Sarawak General Hospital with nine cases, Hospital Raja Perempuan Zainab II with seven cases, and Kulim Hospital with six cases.

3. For Category 3 regarding Patient Assessment using the Malaysian Triage Scale Approach, a total of 96 procedures were audited. Sarawak General Hospital was

the primary contributor with 39 cases, representing 40.6 % of the total for this category. This was followed by the Pahang Region with 17 cases at Raub Hospital and Hospital Sultanah Hajjah Kalsom, the Kedah Region with 16 cases led by Kulim Hospital, and the Sabah Region with 12 cases where Lahad Datu Hospital contributed 10 cases.

4. For Category 4 regarding Categorizing Patients into Appropriate Zones, a total of 84 procedures were recorded. Sarawak General Hospital recorded the highest number of cases at 47, accounting for 56.0 percent of the section total, followed by the Kedah Region with 11 cases (Kulim Hospital contributing five cases), and the Pahang Region with eight cases (Hospital Sultan Haji Ahmad Shah contributing four cases).

5. For Category 5 regarding Performing and Documenting Vital Signs and Initial Tests, this area constitutes the largest operational sector, accounting for 55.7 % or 879 procedures of the overall triage audit. By state breakdown, Selangor recorded 227 cases, with Shah Alam Hospital leading nationwide at 170 cases while Cyberjaya Hospital recorded 38 cases. Pahang recorded 213 cases, encompassing Hospital Tengku Ampuan Afzan with 34 cases, Raub Hospital with 28 cases, Jerantut Hospital with 27 cases, Bentong Hospital with 24 cases, and Jengka Hospital with 22 cases. Sabah recorded 149 cases, with Tawau Hospital contributing 59 cases and Lahad Datu Hospital contributing 50 cases. Sarawak contributed 111 cases, with Sarawak General Hospital recording 53 cases. Lastly, Kedah recorded 107 cases involving Kuala Nerang Hospital with 37 cases, Kulim Hospital with 28 cases, and Jitra Hospital with 22 cases.

The 5 Most Frequent Errors Committed Based on Triage Audit Data:

1. **Failure to Practice Hand Hygiene (2.3)** — Assistant Medical Officers failed to perform hand rubbing or hand washing after assessing and examining patients.

2. **Omission of Capillary Refill Time Verification (6.4 - CCTVR)** — Examination and documentation of Capillary Refill Time (CRT < 2 seconds) were not performed or incompletely recorded.

3. **Incomplete Patient Allergy History (6.14)** — Critical information regarding the patient's allergy history was omitted or not filled out in the assessment form.

4. **Absence of Pain Score Assessment (6.13)** — Assessment and documentation of the patient's Pain Score were overlooked during the triage process.
5. **Lack of Pulse Volume Examination (6.6 - CCTVR)** — Evaluation of the quality and Pulse Volume of the patient was not documented in detail.

3.2 PLASTER OF PARIS (P.O.P)

This report contains a non-compliance analysis of key criteria (Major Errors) in Plaster Cast (POP) procedures across MOH hospitals based on the Standard Practice Guidelines for Assistant Medical Officers (Orthopaedic Discipline), covering 9 process phases:

1. Receiving Orders & Patient Registration (1–3 | 2 incidents): Penang (Seberang Jaya Hosp.), Pahang (Jengka Hosp.).
2. Patient Assessment / Examination (5–6 | 45 incidents): Pahang (17), Kedah (14), Sarawak (11), Perlis (2), Penang (1). (Focus: X-Ray Review).
3. Assessing Condition of the Affected Limb (7–15 | 192 incidents): Pahang (48), HKL (42), Perlis (26), Sarawak (20), Kedah (13), Penang (10), Perak (9), Selangor (8), Putrajaya (6), Kelantan (5), Johor (3), Melaka (1), Labuan (1). (Focus: Pain Score & 5P Status).
2. Preparation of Equipment & Patient (18–19 | 8 incidents): Pahang (5), Kedah (1), Penang (1), Sarawak (1).
3. Performing POP Procedure (28–36 | 9 incidents): Johor (3), Kedah (2), Pahang (2), Perlis (1), Melaka (1).
4. Post-Procedure Observation (38–40 | 172 incidents): HKL (62), Pahang (42), Sarawak (21), Perak (14), Kedah (9), Selangor (7), Kelantan (7), Putrajaya (4), Perlis (3), Johor (3). (Focus: Post-Procedure Pain Score).
5. Verbal Health Education (41–43 | 8 incidents): Pahang (5), Melaka (2), Kedah (1).
6. Advice to Return Immediately If Red Flag Symptoms Occur (44–47 | 10 incidents): Perlis (10 - Tuanku Fauziah Hosp.).

7. Documentation (51–55 | 139 incidents): Pahang (75), Perlis (14), Sarawak (12), Selangor (12), Kelantan (10), Putrajaya (5), Kedah (3), Perak (3), Penang (3), Johor (2). (Focus: Procedure Time & Advice Slip).

Root Causes (85.2% of Errors): Failure to record pre/post-procedure Pain Score Charts (286 cases), recording procedure time (77 cases), issuing Advice Slips (53 cases), and reviewing X-rays (45 cases). Highest States: Pahang (195 cases), HKL (104 cases), and Sarawak (65 cases). Recommendations: Mandate the Pain Score checklist and Advice Slip issuance prior to discharge, and enforce strict real-time documentation audits.

3.3 ASTHMA

Based on the non-compliance audit data submitted for hospitals across various states, the following is a brief analysis of the top five (5) hospitals with the highest number of noncompliance findings, along with their details, and the top five (5) most frequently committed errors overall. Top 5 Hospitals with the Highest Number of Non-Compliance Findings:

• Hospital Duchess of Kent, Sandakan (Total: 32 Errors) o Main Error Types: Able to calculate predicted/best PEFR (7 cases), Perform continuous observation/ monitoring of patient (7 cases), and Post PEFR after given nebulizer and inform Medical Officer (5 cases).

• Hospital Sarikei (Total: 26 Errors) o Main Error Types: Give asthma medication as ordered (using 7 R's) (7 cases), Follow up (5 cases), and Adhering to the technique of hand rub/ hand washing (4 cases).

• Hospital Raja Permaisuri Bainun, Ipoh (Total: 25 Errors) o Main Error Types: Drug Used (Expiry & Open) (5 cases), Place of follow up (4 cases), and Able to perform Pre PEFR measurement (4 cases).

• Hospital Sultanah Bahiyah, Alor Setar (Total: 24 Errors) o Main Error Types: Greeting (5 cases), Adhering to the technique of hand rub/ hand washing (5 cases), and Place of follow up (4 cases).

• Hospital Tuanku Fauziah, Kangar & Hospital Kuala Lumpur (Total: 21 Errors - Tied) o Main Error Types (HTF Kangar): Greeting (3 cases) and follow up (3 cases). o Main Error Types (HKL): Greeting (14 cases) and Patient comfort (7 cases).

Top 5 Most Frequently Committed Error Types:

1. Greeting-1.1 (78 errors): This is the most common error nationwide by a significant margin, involving the initial welcoming and communication with the patient. The main hospitals contributing to this figure are Hospital Kuala Lumpur (14 cases), Hospital Raja Perempuan Zainab II (6 cases), and Hospital Sultanah Bahiyah (5 cases).

2. Patient comfort -4.1 (45 errors): Ranking second highest, the failure to ensure optimal patient comfort during asthma treatment was frequently detected at Hospital Kuala Lumpur (7 cases), Hospital Seri Manjung (5 cases), and Hospital Taiping (4 cases).

3. Adhering to the technique of hand rub/ hand washing-9.1 (39 errors): This error ranks third highest, where non-compliance with hand washing techniques or the use of hand rubs for infection control was most notably observed at Hospital Betong (9 cases), Hospital Duchess of Kent (5 cases), and Hospital Sultanah Bahiyah (5 cases).

4. Place of follow up-2.4 (27 errors): In fourth place, the failure to properly manage or document the plan for the patient's follow-up referral location after discharge was largely driven by Hospital Raja Permaisuri Bainun (4 cases), Hospital Sultanah Bahiyah (4 cases), and Hospital Sungai Siput (3 cases).

1. **Drug Used (Expiry & Open)-9.3 (25 errors):** Completing the top five list, an oversight in checking drug expiry dates or recording the date a bottle was opened was frequently recorded at Hospital Raja Permaisuri Bainun (5 cases), Hospital Jerantut (4 cases), and Hospital Tuanku Fauziah (2 cases).

3.4 FORENSIC

1. This report covers the analysis of non-compliance regarding key criteria (Major Errors), which include:

- Section 1.1 & 1.2.1–1.2.7: Forensic Registration & Deceased Demographic Information.
- Section 2.1.1–2.1.8: Management & Temperature Control of Mortuary Refrigerator Storage.
- Section 3.1.1–3.3.8: Identity Verification, Verification Documents & Handover of Deceased to Claimants.

2. Quantitative Summary of Error Distribution. Based on audit data from hospitals across Malaysia, a total of 110 major error incidents were recorded across 5 states (Sarawak, Pahang, Perak, Selangor, and Johor):

- Section 1 (Demographic Registration): 3 incidents
- Section 2 (Storage & Mortuary): 41 incidents
- Section 3 (Verification & Handover of Deceased): 66 incidents

3. Compliance Analysis by Section & State

Section 1 — Forensic Registration & Demographics (3 Incidents)

i. Sarawak: Hospital Betong recorded 1 error for Forensic Registration Date & Time (Point 1.1), while Hospital Umum Sarawak recorded 1 error for Religion (Point 1.2.7).

ii. Pahang: Hospital Sultanah Hajjah Kalsom (Cameron Highlands) recorded 1 error for IC/Passport Number (Point 1.2.3).

iii. Points 1.2.1, 1.2.2, 1.2.4, 1.2.5, and 1.2.6 achieved 100% compliance nationwide. Section 2 — Deceased Storage & Mortuary Refrigerator Control (41 Incidents)

iv. Sarawak (33 incidents): Recorded the highest number of cases. Hospital Betong recorded high non-compliance regarding temperature chart display (Point 2.1.7: 10 incidents) and body location records (Point 2.1.4: 9 incidents). Hospital Mukah & Miri also recorded issues with twice-daily refrigerator temperature monitoring (Point

2.1.6), temperatures outside the 2°C–6°C range (Point 2.1.5), and failure to label faulty units (Point 2.1.8).

v. Pahang (4 incidents): Hospital Jerantut & Hospital Cameron Highlands recorded failures in logging daily refrigerator temperatures (Point 2.1.6).

vi. Perak (2 incidents): Hospital Teluk Intan (Point 2.1.6).

vii. Selangor (2 incidents): Hospital Tengku Ampuan Jemaah, Sabak Bernam (Points 2.1.3 & 2.1.4). Section 3 — Identity Verification & Deceased Handover (66 Incidents)

viii. Sarawak (60 incidents): Primary focus area for improvement. Hospital Betong recorded critical non-compliance in face/property identification verification (Point 3.2.1: 10) and identifier signature/thumbprint (Point 3.2.3: 10). Hospital Lundu recorded high noncompliance regarding claimant signatures (Point 3.3.5: 9; Point 3.1.6: 8) as well as Assistant Medical Officer (AMO) signatures during handover (Point 3.3.8: 9).

ix. Pahang (4 incidents): Hospital Sultan Haji Ahmad Shah (Temerloh) (3) and Hospital Pekan (1) regarding the integrity of AMO signatures during document/deceased handover (Point 3.3.8).

x. Perak & Johor (1 incident each): Hospital Selama and Hospital Kulai due to failure to complete claimant phone numbers (Point 3.1.5).

3.5 PRE-HOSPITAL CARE AND AMBULANCE SERVICES (PHCAS)

3.5.1 Clinical

1. Top Five (5) Hospitals with the Highest Number of Non-Compliances

i. Hospital Tengku Ampuan Jemaah, Sabak Bernam (24 non-compliances): Ranked highest. Non-compliances are evenly distributed (3 cases each) across initial communication (greeting patients, maintaining eye contact, explaining treatment plans) and clinical execution (strapping usage and patient handling).

ii. Hospital Serian (19 non-compliances): Tied for the second-highest position. Exhibits a heavy concentration of errors across three core procedures: strapping (6 cases), safe patient handling (6 cases), and infection control guidelines (6 cases).

iii. Hospital Beluran (19 non-compliances): Tied for second place. Primary issues involve MTS triage protocols (3 cases), scene assessments (3 cases), strapping usage (3 cases), and medication management (3 cases).

iv. Hospital Mersing (18 non-compliances): Ranked fourth. The highest frequency occurs in recording transit observations (3 cases), followed by MTS triage, strapping, and patient handling issues (2 cases each).

v. Hospital Jitra & Hospital Kota Tinggi (15 non-compliances – Tied): Sharing the fifth highest rank. Hospital Jitra shows significant deficiencies in initial communication and eliciting chief complaints (3 cases each), while Hospital Kota Tinggi records failures in MTS triage, Estimated Time of Arrival (ETA), strapping, and patient handling (2 cases each).

2. Most Frequent Types of Non-Compliances

i. Adequate use of strapping-6.3 (80 non-compliances): The most critical and widespread error by a substantial margin. The highest contributors are Hospital Serian (6 cases), Hospital Raja Permaisuri Bainun (6 cases), and Hospital Taiping (5 cases).

ii. Use of correct body mechanics-6.2 (28 non-compliances): Tied for the second-highest frequency. Notable failures were recorded at Hospital Balik Pulau (3 cases), Hospital Kuala Kubu Bharu (3 cases), and Hospital Jempol (3 cases).

iii. PPP Triage follows the Malaysian Triage Scale-4.1 (MTS) (28 non-compliances): Also tied for second place. Non-compliance with national triage standards is highly prevalent at Hospital Bukit Mertajam (4 cases) and Hospital Setiu (4 cases).

iv. Comply with infection control management guidelines-8.2 (27 non-compliances): Ranked fourth. The highest infractions occurred at Hospital Serian (6 cases), Hospital Shah Alam (4 cases), and Hospital Tawau (4 cases).

v. Safe handling of patients-8.1 (24 non-compliances): Rounding out the top five. Hospital Serian recorded the highest deficiency rate (6 cases), followed by Hospital Tengku Ampuan Jemaah, Sabak Bernam (3 cases).

3.5.1 Operational

Top Five (5) Hospitals with the Highest Number of Non-Compliances

i. Hospital Tengku Ampuan Jemaah, Sabak Bernam (24 non-compliances): Ranked highest. Non-compliances are evenly distributed (3 cases each) across initial communication (greeting patients, maintaining eye contact, explaining treatment plans) and clinical execution (strapping usage and patient handling).
ii. Hospital Serian (19 non-compliances): Tied for the second-highest position. Exhibits a heavy concentration of errors across three core procedures: strapping (6 cases), safe patient handling (6 cases), and infection control guidelines (6 cases).
iii. Hospital Beluran (19 non-compliances): Tied for second place. Primary issues involve MTS triage protocols (3 cases), scene assessments (3 cases), strapping usage (3 cases), medication management (3 cases), and D.A.M.A management (3 cases).
iv. Hospital Mersing (18 non-compliances): Ranked fourth. The highest frequency occurs in recording transit observations (3 cases), followed by MTS triage, strapping, and patient handling issues (2 cases each).
v. Hospital Jitra & Hospital Kota Tinggi (15 non-compliances – Tied): Sharing the fifth highest rank. Hospital Jitra shows significant deficiencies in initial communication and eliciting chief complaints (3 cases each), while Hospital Kota Tinggi records failures in MTS triage, Estimated Time of Arrival (ETA), strapping, and patient handling (2 cases each).

2. Most Frequent Types of Non-Compliances

i. Adequate use of strapping -6.3 (34 non-compliances): The most critical and widespread error overall by a significant margin. The highest contributing facilities include Hospital Serian (6 cases), Hospital Shah Alam (4 cases), Hospital Beluran (3 cases), Hospital Pakar Sultanah Fatimah (3 cases), Hospital Temenggong Seri Maharaja Tun Ibrahim (3 cases), and Hospital Tengku Ampuan Jemaah (3 cases).

ii. Safe handling of patients- 8.1 (17 non-compliances): Ranked second highest. This critical safety issue was most prominently observed at Hospital Serian (6 cases) and Hospital Tengku Ampuan Jemaah (3 cases), followed by notable occurrences at Hospital Kota Tinggi (2 cases) and Hospital Sultan Ismail (2 cases).

iii. Comply with infection control management guidelines-8.2 (15 non-compliances): Ranked third. Non-compliance was heavily driven by three main facilities: Hospital Serian (6 cases), Hospital Shah Alam (4 cases), and Hospital Tawau (4 cases).

iv. Use of correct body mechanics-6.2 (12 non-compliances): Ranked fourth. Staff failed to utilize proper ergonomic techniques, most frequently detected at Hospital Kuala Kubu Bharu (3 cases) and Hospital Jitra (2 cases).

v. Record of observations taken during transit-5.7 & Personal belongings management-9.1 (11 non-compliances – Tied): Sharing the fifth-highest frequency: o Code 5.7 (Transit Observations): Main contributors are Hospital Mersing (3 cases), Hospital Sarikei (2 cases), and Hospital Enche' Besar Hajjah Khalsom (2 cases). o Code 9.1 (Unconscious Patient Belongings): Heavily driven by Hospital Sultanah Aminah (3 cases) and Hospital Lundu (3 cases).

3.6 HAEMODYALISIS

Based on the non-compliance audit data submitted for hospitals across various states, the following is a brief analysis of the five (5) hospitals with the highest number of errors along with their details, as well as the top five (5) types of errors most frequently committed overall. 5 Hospitals with the Highest Number of Errors:

1. Hospital Duchess of Kent Sandakan (Total: 60 Errors)

   Main Error Types: Ensure right patients name and date on the dialyzer (6 cases), Place the tip of venous blood line into a receiver/ priming bag (6 cases), and Ensure patient wash their hand and fistula arm PROPERLY (6 cases).

2. Hospital Tengku Ampuan Rahimah Kelang (Total: 54 Errors)

   Main Error Types: Secure with plaster PROPERLY using 'chevron' @ butterfly technique (8 cases), Perform hand hygiene (6 cases), and perform hourly observation and document in the treatment record (6 cases).

3. Hospital Tawau (Total: 43 Errors)

   Main Error Types: Flush heparin line with blood flow rate less than 100ml/min (6 cases), Ensure patient wash their hand and fistula arm PROPERLY (6 cases), and perform hourly observation and document in the treatment record (5 cases).

4. Hospital Queen Elizabeth Kota Kinabalu (Total: 36 Errors)

Main Error Types: Ensure all medication be prepared in the dedicated room (12 cases), Perform hourly observation and document in the treatment record (10 cases), and ensure right patients name and date on the dialyzer (6 cases).

5. Hospital Umum Sarawak (Total: 35 Errors)

   Main Error Types: Flush heparin line with blood flow rate less than 100ml/min (6 cases), Turn on blood pump speed and observe for swelling at venous return (6 cases), and Secure with plaster PROPERLY using 'chevron' @ butterfly technique (5 cases).

5 Most Frequently Committed Error Types

1. Perform hourly observation and document in the treatment record (144 errors)

   This is the most critical and most frequently committed error, showing a stark difference across the country. The main hospitals contributing to this number are Hospital Sultan Haji Ahmad Shah Temerloh (16 cases), Hospital Raja Perempuan Zainab II (13 cases), and Hospital Queen Elizabeth Kota Kinabalu (10 cases).

2. Test for residual sterilant at end of venous blood line. (71 errors)

   Ranking second highest, the failure to comply with this residual sterilant testing procedure was found to be high at Hospital Putrajaya (11 cases), Hospital Pasir Mas (10 cases), and Hospital Tumpat (9 cases).

3. Ensure patient wash their hand and fistula arm properly (70 errors)

   This error sits in third place, where neglect regarding basic hand and fistula arm hygiene of the patient prior to the procedure was most commonly detected at Hospital Duchess of Kent Sandakan (6 cases), Hospital Tawau (6 cases), and Hospital Sultanah Maliha Langkawi (6 cases).

4. Secure with plaster properly using 'chevron' @ butterfly technique (58 errors)

   In fourth place, errors involving the plaster securing technique for cannulation needles are heavily contributed by Hospital Tengku Ampuan Rahimah Kelang (8 cases), Hospital Sarikei (8 cases), and Hospital Tuanku Ampuan Afzan (6 cases).

5. Ensure all medication be prepared in the dedicated room (56 errors)

   Completing the top five list, the issue of preparing medication outside the dedicated room (clean utility room) was frequently recorded in high numbers at Hospital Tuanku Jaafar (18 cases), Hospital Queen Elizabeth Kota Kinabalu (12 cases), and Hospital Keningau (10 cases).

3.7 INFECTION CONTROL

1. Medical Refrigerators (30 Affected Hospitals)

- **Shortfall:** Suboptimal functioning, missing open-date labels on medications, lack of critical temperature monitoring, and unsystematic storage of leftover medications in syringes.

- **Facilities Involved:**
    - **Perak (5 Hospitals):** Including Hospital Raja Permaisuri Bainun.
    - **Johor (5 Hospitals):** Including Hospital Pakar Sultanah Fatimah.
    - **Other States:** Hospital Queen Elizabeth I (Sabah), Hospital Sungai Buloh (Selangor), and Hospital Melaka.

2. Environmental Cleanliness / Housekeeping (24 Affected Hospitals)

- **Shortfall:** Dusty floors, untidy equipment washing/treatment rooms, cramped workspaces, and delays in promptly cleaning biological spills (vomit/blood).
- **Facilities Involved:**
    - **Johor (6 Hospitals):** Including Hospital Sultanah Aminah.
    - **Kelantan (4 Hospitals):** Including Hospital Tanah Merah.
    - **Other States:** Hospital Seberang Jaya (Penang) and Hospital Duchess of Kent (Sabah).

3. Medical Equipment Management (20 Affected Hospitals)

- **Shortfall:** Disorganized emergency trolleys, failure to label the date/time equipment was first used, and lack of periodic calibration monitoring.
- **Facilities Involved:**
    - **Johor (6 Hospitals):** Various facilities.
    - **Sarawak (3 Hospitals):** Including Hospital Sri Aman.
    - **Selangor:** Hospital Selayang and Hospital Tanjung Karang.
    - **Kuala Lumpur:** Hospital Kuala Lumpur.

4. Policies and Guidelines (16 Affected Hospitals)

- **Shortfall:** Failure to provide physical manuals or QR codes for the latest disinfection guidelines.

- **Facilities Involved:** Main focus identified in the states of—
    - **Johor:** Hospital Pakar Sultanah Fatimah, Hospital Sultanah Nora Ismail, Hospital Segamat, Hospital Sultanah Aminah, Hospital Tangkak, Hospital Kota Tinggi.
    - **Terengganu:** Hospital Sultanah Nur Zahirah, Hospital Setiu, Hospital Besut.
    - **Kelantan:** Hospital Gua Musang, Hospital Jeli.

5. Sharps Management (15 Affected Hospitals)

- **Shortfall:** Accumulation of sharp waste due to sharp bins being left overfilled beyond safety limits.
- **Facilities Involved:** Hospital Putrajaya (FT Putrajaya) and Hospital Pulau Pinang.

4.0 ENHANCEMENT AND DEVELOPMENT

4.1 TRIAGE

Administrative bodies must priorities systemic infrastructure upgrades, including the full transition to the Malaysian Triage Scale (MTS) and the enhancement of digital interfaces like e-HIS to support comprehensive clinical records. Management should further address manpower shortages to eliminate the need for officers to multitask across multiple triage zones, as limited staffing often leads to delayed responses and incomplete patient assessments. Ensuring the constant availability of essential clinical resources, such as functional ECG machines in secondary triage and readily accessible hand hygiene supplies at every station, is a management responsibility that directly impacts clinical accuracy. Facilities should also institutionalize regular Continuous Medical Education (CME) and clinical refreshers specifically targeting the latest MTS protocols and rapid assessment techniques.

At the individual level, Assistant Medical Officers (AMOs) must take professional accountability for clinical thoroughness, particularly the consistent assessment of the "5th Vital Sign" (pain score) and complete CCTVR (Color, Capillary Refill, Temperature, Volume, Rate) checks. Officers should move beyond static triaging by adopting a proactive approach, which includes promptly acknowledging patients and demonstrating effective communication skills when providing mobility aids or explaining clinical procedures. Strict adherence to infection control measures, specifically the mandatory practice of hand hygiene before and after patient contact and the correct use of Personal Protective Equipment (PPE), is vital to prevent cross-contamination. Finally, ensuring an accurate and complete "pass-over" of vital information and SAMPLE history to personnel in treatment zones is essential for maintaining patient safety and continuity of care.

4.2 PLATER OF PARIS (P.O.P)

To address the identified shortfalls, it is imperative to standardise clinical documentation by implementing dedicated procedure logbooks and ensuring that pain score charts or rulers are displayed in all procedure rooms. Regular training sessions must be conducted to reinforce mandatory hand hygiene protocols and the "5 moments" of handwashing, alongside strict enforcement of Personal Protective Equipment (PPE) usage, such as masks and aprons. Additionally, the introduction of visual workflow charts and clinical checklists within treatment areas will act as a vital reminder for staff to perform and record neurovascular (5P) assessments and review patient X-rays before and after procedures to eliminate human error.

Operational efficiency and patient care should be further enhanced through targeted infrastructure upgrades and human resource development. This includes the installation of X-ray viewers or PC monitors directly in POP rooms and the provision of additional assistants (PPK) to ensure procedures are not performed in isolation. To bridge the gap in technical and professional skills, staff should be prioritised for Post-Basic Orthopaedic training or hands-on casting workshops to cultivate better work culture and soft skills. Finally, clinics must ensure a consistent supply of written Plaster Cast Care advice slips to provide patients with clear, comprehensive instructions on complication risks, such as fever or foul odour, thereby moving beyond a reliance on verbal advice alone.

4.3 ASTHMA

To address the shortfalls identified in the 2025 clinical asthma care audits, the first priority should be addressing operational and infrastructural deficiencies. Specifically, hospitals must resolve the critical shortage of Assistant Medical Officers (PPP) by assigning dedicated personnel to asthma bays instead of sharing staff across multiple emergency zones, which currently prevents continuous patient monitoring. Facility upgrades are also

essential; this includes installing curtains or screens to ensure patient privacy, replacing old or uncomfortable plastic chairs with appropriate seating, and upgrading from bulky oxygen tanks to wall-mounted oxygen systems. Furthermore, every facility must be equipped with functional Peak Expiratory Flow Rate (PEFR) meters and clearly displayed reference charts for predicted normal values to facilitate accurate clinical assessments.

Secondly, there is a clear need for enhanced clinical training and standardised protocols regarding patient interaction and safety. Staff require refresher training on the "7R" medication principles, the correct technique for calculating PEFR, and the identification of life-threatening asthma symptoms such as bradycardia or seizures. To improve safety and hygiene, hospitals must enforce strict compliance with hand rub protocols and ensure all medications are properly labelled with the date and time they were opened. Finally, soft skills should be institutionalised; staff must be reminded to introduce themselves to patients and provide mandatory health education—including proper inhaler techniques and follow-up advice—before a patient is discharged.

4.4 FORENSIC

To strengthen the performance of Assistant Medical Officers (AMOs) in forensic services, it is essential to prioritise documentation accuracy and strict adherence to established Standard Operating Procedures (SOPs). The 2025 audits identified recurring minor shortfalls, specifically regarding missing ward admission dates and times, as well as incomplete signatures and stamps from AMOs during the reception of remains. To address these gaps, facilities should implement the use of specialised stamps to capture admission data and ensure that all police case registrations strictly utilise red ink as mandated. Furthermore, the standardisation of the Death Register across all Ministry of Health facilities is recommended to harmonise recording formats and eliminate discrepancies between hospitals. These administrative refinements will ensure that every forensic case is handled with high integrity and clear accountability.

Continuous professional development through on-site teaching and periodic briefings is crucial to keeping officers updated on clinical standards and protocols. Supervising officers must conduct regular reviews of notification forms and body management documentation to prevent major errors that could impact unit performance and audit results. Strengthening the identification process for both the deceased and their claimants—including the mandatory recording of fingerprints and contact details—is also vital for maintaining the integrity of release procedures. Additionally, consistent monitoring of mortuary freezer temperatures, which should be recorded twice daily, must be enforced to ensure remains are preserved according to guidelines. By combining systematic training with enhanced monitoring mechanisms, the competency of AMOs in forensic management can be sustained at an excellent level.

4.5 PRE-HOSPITAL CARE AND AMBULANCE SERVICES (PHCAS)

4.5.1 Clinical

To reinforce Pre-Hospital and Ambulance Services as a core clinical business, Assistant Medical Officers must strictly adopt the Malaysian Triage Scale (MTS) to replace outdated protocols while ensuring thorough assessments are conducted for every patient. Patient safety must be further prioritised by standardising a minimum of three-point strapping on all stretchers and rectifying improper body mechanics during lifting to prevent responder and patient injuries. Communication protocols require the prioritised use of the GIRN radio system over unofficial channels and the consistent application of the MISTTT format for accurate clinical handovers to the Medical Emergency Coordination Centre. Responders should also improve professional interactions by introducing themselves to patients and providing clear explanations regarding the intended treatment plans and transport destinations. Rigorous governance of medications is essential, specifically involving the regular auditing of response bags to remove expired items and the secure storage of Dangerous Drugs (DDA). Furthermore, infection control

compliance must be strengthened by enforcing the five moments of hand hygiene and ensuring sharp bins are not contaminated with domestic waste. Finally, administrative excellence should be pursued through the diligent completion of clinical documentation, including PRPA forms and patient property record books, alongside mandatory shift-based equipment checklists.

4.5.1 Operational

To resolve the persistent documentation and operational failures, the system should transition to a digitalised checklist platform that mandates electronic supervisor verification to prevent incomplete or unverified shift logs. An automated alert system is necessary to track and notify personnel of upcoming Planned Preventive Maintenance (PPM) requirements and expiry dates for medications, physical road tax displays, and safety equipment. Operational readiness can be further improved by enforcing a strict inventory protocol ensuring every ambulance is consistently equipped with at least three functional safety straps and two serviced fire extinguishers. To address communication shortfalls, dedicated charging stations for GIRN radios should be installed and alternative communication protocols should be developed for regions were poor network coverage forces reliance on personal devices. Furthermore, response times could be optimised by appointing specialised staff for ambulance operations, which eliminates the delays caused by borrowing responders from busy clinical zones. Regular safety and compliance training is required to ensure all drivers adhere to mandatory seatbelt use and strict traffic regulations, such as stopping at red lights during emergency calls. A standardised sanitation regime must also be established to maintain vehicle hygiene, addressing frequent reports of dirty or foul-smelling cabins. Finally, management should ensure that updated medical forms are universally adopted across all hospitals to maintain high medico-legal standards and accurate patient care records.

4.6 HAEMODYALISIS

To enhance the quality and safety of hemodialysis services, Assistant Medical Officers (AMOs) must prioritise stricter adherence to clinical protocols and standing orders during treatment. Staff should ensure that all patients perform thorough hand hygiene before needling and that fistula patency is verified to prevent complications. Meticulous attention is required for machine settings, particularly maintaining blood pump speeds (Qb) within prescribed limits during priming and initiation to avoid procedural deviations. Furthermore, improving the accuracy of hourly observations and ensuring that all medication syringes, specifically heparin, are clearly and permanently labelled will significantly reduce the risk of clinical errors and ensure a higher standard of patient care.

From a management perspective, higher authorities should focus on improving facility infrastructure and administrative standardisation to support clinical excellence. It is essential to install emergency alarms in patient toilets, replace inaccessible door hardware, and provide clear hazard signage in chemical and oxygen storage areas. Management must also ensure the availability of standardised documentation, such as daily RO water maintenance logs, consent forms, and orientation records, which were noted as missing in several audits. To further support safety, the provision of high-quality, water-resistant stickers or permanent markers for dialyser labelling is necessary to prevent patient information from becoming illegible over time. These systemic improvements, combined with addressing unit congestion, will provide a safer and more efficient environment for both staff and patients.

4.7 INFECTION CONTROL

To enhance service quality, management must reinforce continuous medical education (CME) programmes and regular briefing sessions to heighten staff awareness regarding hand hygiene protocols and correct Personal Protective Equipment (PPE) usage. A standardised labelling process for opened multi-dose medication vials (such as ATT,

Insulin, and Heparin), intravenous (IV) lines, and urinary catheters should be strictly mandated to ensure the accuracy of clinical documentation and patient safety. Furthermore, service improvements should involve proactive maintenance of physical facilities, which includes the universal installation of elbow-operated taps at clinical sinks and ensuring the constant availability of spillage kits and alcohol-based hand rubs (ABHR) across all treatment zones.

From a bureaucratic and administrative perspective, strategic steps should be taken to appoint Link Infection Control Personnel (ICLP) within every unit to facilitate systematic internal monitoring of compliance standards. All policy manuals, Infection Prevention and Control (IPC) guidelines, and Needle Stick Injury (NSI) flowcharts must be updated to the latest editions and prominently displayed as a rapid reference for healthcare personnel. Finally, coordination between hospital administration and support service concessionaires needs to be streamlined, particularly in overseeing clinical waste disposal schedules and terminal cleaning protocols for medical equipment, to prevent any delays that might compromise the hygiene of the clinical environment.

5.0 SUMMARY

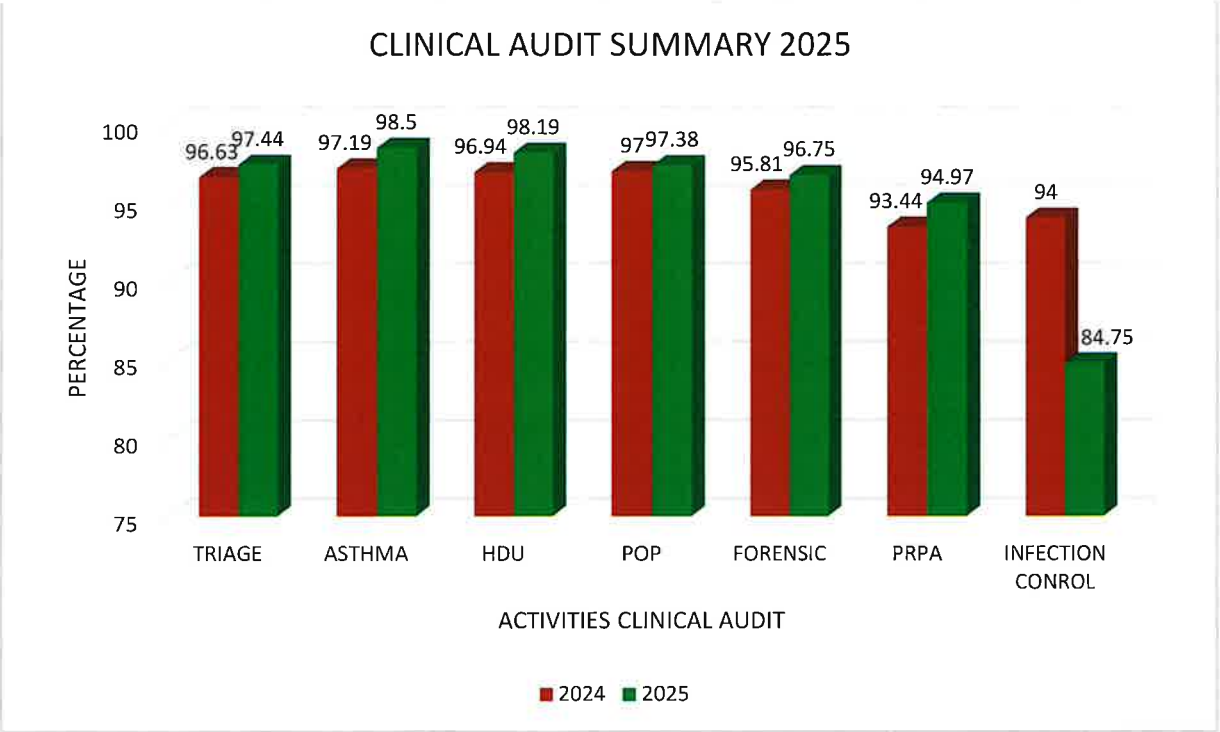


Figure 5.00: Comparative Analysis of Clinical Audit Summary (2024–2025).

The 2025 National Clinical Audit was successfully implemented between 1 July and 1 August 2025, involving a total of 146 healthcare facilities nationwide, comprising 138 hospitals and 8 health clinics. This cycle utilized a digitalised approach through QR code scanning and real-time data entry to evaluate seven primary clinical activities: Triage, Asthma Care, Hemodialysis, Plaster of Paris (P.O.P) application, Infection Control, Pre-Hospital Care and Ambulance Services (PHCAS), and Forensic management. To ensure objectivity and the integrity of the peer-review process, a cross-audit methodology was adopted, where facilities conducted reciprocal evaluations of one another. This rigorous framework was designed to benchmark clinical compliance against current Standard Operating Procedures (SOPs) and Clinical Practice Guidelines (CPGs).

National performance outcomes were exemplary, with the audit achieving an overall success rate of 95.4%. Asthma management recorded the highest compliance at 99%, followed closely by Hemodialysis at 98%. Core activities such as Triage, Forensic, and P.O.P application maintained a high and consistent performance level of 97%. However, Infection Control was identified as a

critical area for improvement, recording the lowest compliance rate at 85%. Within this domain, environmental factors performed better (89%) than hand hygiene, which reached only 80% compliance. Additionally, while PHCAS demonstrated a strong clinical performance of 98%, its operational element trailed slightly at 92%, suggesting a need for refinements in logistics and equipment maintenance.

Despite the high overall success rate, several recurring shortfalls were identified that necessitate targeted intervention. In Triage, common gaps included the inconsistent evaluation of pain scores and incomplete documentation of allergy status and CCTVR assessments. Infection Control faced challenges with improper waste management and a lack of consistent hand hygiene before and after patient contact. Furthermore, manpower shortages were noted in Asthma care, where the lack of dedicated personnel often hindered continuous patient monitoring. In Forensic services, minor but frequent documentation errors were observed, such as missing ward admission times and incomplete signatures. Operationally, PHCAS faced issues with expired safety equipment and uncharged GIRN radios in several regions.

To address these findings, the report outlines a comprehensive roadmap for enhancement, focusing on infrastructure upgrades and professional development. Key recommendations include the full transition to the Malaysian Triage Scale (MTS) supported by digital interfaces like e-HIS, and the implementation of digitalised checklists for ambulance operations. Management is urged to resolve staffing constraints in critical areas like asthma bays and to standardise medical equipment, such as wall-mounted oxygen systems and functional ECG machines. On a clinical level, institutionalising Regular Continuous Medical Education (CME) and hands-on workshops is essential to reinforce infection control protocols and technical skills. These strategic refinements aim to sustain high clinical standards and ensure a uniform 100% compliance rate across all healthcare services.

Appendix A

TRIAGE

Bil.	ITEM / COMPENANT
1	RECEIVE PATIENTS - Approach and Greet Patient
1.1	Does Assistant Medical Officer go to the patient (proactive approach)
1.2	Acknowledges and greets patient promptly
1.3	Ask appropriate questions
1.4	Soft skill in communication with patient / relatives
2	RECEIVE PATIENTS - Safety (Infectious diseases / Hazmat / Aggressive patient)
2.1	Appropriate Personal Protective Equipment by staff.
2.2	Observe if mask given to patient / relatives suspected infectious diseases
2.3	Observe if hand rub / hand wash done by Assistant Medical Officer after assess a patient
2.4	Patient are send to isolation / decontamination room / selected area of treatment
2.5	Effectively manage an aggressive patient
3	RECEIVE PATIENTS - Assist in Extrication
3.1	Observe if proper and safe extrication is carried out
3.2	Observe if non walking patients are given a wheelchair or put on trolley
4	PATIENT ASSESSMENT - Malaysian Triage Scale Approach
4.1	Perform critical first look - Appearance of the patients
4.2	Perform rapid assessment for Respiratory Distress - Airway, Breathing
4.3	Perform rapid assessment for Shock state - Peripheries, Pulses
4.4	Perform rapid assessment for Conscious level - AVPU, Brief neuro
4.5	Perform rapid assessment for Bleeding - Seen External, Suspect Internal, Bleeding Disorders, Anticoagulant Therapy
4.6	Provide appropriate immobilization and bandaging

5	CATEGORIZE THE PATIENT INTO APPROPRIATE ZONES
5.1	Patient are categorised properly according to MTS levels
5.2	Patient are send to the appropriate treatment zone
5.3	Passing over of vital information to the personnel in the zone
6	**PERFORM AND DOCUMENTATION - Vital Sign and Initial Tests**
6.1	Chief Complaint
6.2	Brief History of Present Illness - SAMPLE
6.3	CCTVR - Skin colour
6.4	CCTVR - Capillary Refill Time < 2 Secs
6.5	CCTVR - Extremities Temperature
6.6	CCTVR - Pulse Volume
6.7	CCTVR - Pulse Rate
6.8	Blood Pressure
6.9	Respiratory Rate
6.1	Sp02
6.11	Temperature
6.12	Glasgow Coma Scale (GCS)
6.13	Pain Score
6.14	Allergy
6.15	Glucose Level
6.16	Electrocardiogram (ECG)

PHCAS (CLINICAL)

Bil.	ITEM / COMPENANT
1	**1. Interpersonal Skills 'Soft Skills / Kemahiran Insaniah 'Soft Skill'**
1.1	Approaching, greeting, and introducing oneself to the patient or their family members
1.2	Asking appropriate questions to obtain the patient's chief complaint
1.3	Maintaining eye contact with the patient
1.5	Providing an explanation and treatment plan to the patient
2	**Adhering to Standard Practice Guidelines (SPG)/ Guidelines**
2.1	Carrying out tasks according to the SOP / SPG or any documents specified by the Department
3	**KNOWLEDGE AND SKILLS (AUDITOR REFERS TO SPG)**
3.1	Ask appropriate questions to the patient/family member to obtain the patient's health history
3.2	The patient/next of kin understands the explanation from the responder
3.3	AMO obtains medical direction when needed
3.5	AMO can provide clarification when interacting with the auditor
5	**PATIENT CARE**
5.1	AMO Triage follows the Malaysian Triage Scale (MTS)
5.2.1	Perform physical examination and provide interventions on patients
5.2.2	Airway
5.2.3	Breathing /Pernafasan (Breathing)
5.2.5	Circulation / Peredaran (Circulation)
5.2.5	Disability /Kekurangan keupayaan (disability)
5.2.6	Exposure / Pendedahan (Exposure)
5.3	Passover Case (MISTTT)
5	**CLINICAL DOCUMENTATION/PATIENT TREATMENT RECORD**
5.1	Scene assessment
5.2	Chief complaint
5.3	Warning signs / life threatening conditions
5.5	Treatment given
5.5	Vital signs are recorded
5.6	POCT test (All point of care testing) is carried out
5.7	Record of observations taken during transit (Observations taken on transit)
5.8	Estimated time of arrival - ETA

6	**MANUAL HANDLING OF PATIENT**
6.1	Proper usage of lifting techniques
6.2	Use of correct body mechanics
6.3	Adequate use of strapping
7	**Medication management (sedation / analgesics / others)**
7.1	Medication management (sedation / analgesics / others)
7.2	Medico-legal case
7.3	D.A.M.A / No sign of life (No Sign of Life) / refused treatment
7.5	Management of unsure cases
8	**SECURITY ISSUES**
8.1	Safe handling of patients
8.2	Comply with infection control management guidelines
8.3	Maintain patient comfort and privacy
9	**OTHERS**
9.1	Ensure that the patient's (unconscious patient's) personal belongings are collected, recorded and handed over to the Officer on duty in the relevant Zone

PHCAS (OPERATIONAL)

Bil.		ITEM / COMPENANT
1	TRANSPORT AND EQUIPMENT	
1.1	Ambulance Checklist	
	1.1.1	The checklist is checked by the driver on each shift / day.
	1.1.2	Checklist verified by PPP / Supervisor on duty.
1.2	Ambulance Exterior	
	1.2.1	Road tax does not expire and is on display
	1.2.2	The ambulance is clean
	1.2.3	Vehicle lights / emergency lights work well
	1.2.4	The external condition of the vehicle is in good condition and does not pose a danger to the team and other road users.
	1.2.5	The sliding door works well
	1.2.6	The back door working and functioning.
	1.2.7	All windows are functional and in good condition
	1.2.8	Mirror in good condition
1.3	Equipment Checklist	
	1.3.1	Ambulance Preventive Maintenance Plan (PPM) is carried out according to the set schedule.
	1.3.2	Plan Preventive Maintenance (PPM) of medical equipment is carried out according to the set schedule.
	1.3.3	Medical equipment is clean and in good working order.
	1.3.4	Stretcher Preventive Maintenance Plan (PPM) is carried out according to the set schedule, complete and functioning well.
	1.3.5	Ensure that the stretcher has a minimum of 3 safety strapping and that all of them work properly.
	1.3.6	Ensure fire extinguishers (2 units) are in the ambulance and maintained by the concessionaire
1.4	Ambulance Cabine Interior Condition	
	1.4.1	The cabin is clean and odorless.
	1.4.2	The passenger seat is in good condition and safe to use.
1.5	Maintenance & Labelling	
	1.5.1	The Responder's / medical bag is checked by the Responder on every shift / day.
	1.5.2	Items in the Responder Bag by minimum and maximum amount.
	1.5.3	Medicines and disposable equipment in the Responder Bag are still within the valid period of use.
	1.5.4	The cabin is well labeled and tidy.
	1.5.5	Equipment is placed in a properly labeled section.

2	**COMMUNICATION EQUIPMENT**	
2.1	**Communication Checklist (GIRN)**	
	2.1.1	A checklist of communication equipment is done on a daily basis.
	2.1.2	The device is charged and the battery is above 80%.
	2.1.3	The checklist is approved by the Supervisor.
	2.1.4	All complaints have been acted upon by the Supervisor.
2.2	**Use of Equipment Communication**	
	2.2.1	Checklists and communication tests (test calls) are carried out every day.
	2.2.2	Communication during ambulance call response (en route, at scene, at patient, transporting, at hospital).
	2.2.3	Communicate according to established radio etiquette (clearly and according to the radio code).
	2.2.4	Notify the MECC of ambulance readiness for the next case response.
3	**COMPLIANCE WITH AMBULANCE DRIVING ETHICS**	
3.1		Use of safety belts.
3.2		Stop at a red light.
3.3		Stop at the intersection.
3.4		*Obey the posted speed limit.*
3.5		Correct use of sirens.
4	**TEAM DISCIPLINE**	
4.1		Wearing complete uniform
4.2		Personal image / skills of the responder team
5	**DOCUMENTATION**	
5.1		Ambulance activation time (Hospital ≤ 8 minutes / Clinic ≤ 18 minutes).
5.2		Complete patient care documentation (Forms used by PRPA).
5.3		The ambulance logbook is recorded and signed after use.
6	**OTHERS**	
6.1		Supervision of the responder's health level (OSH, KOSPEN and others)

ASTHMA

Bil.	ITEM / COMPENANT
1	**Receive & greet patient (MINOR)** **Menerima dan memberi ucapan salam kepada pesakit**
1.1	**Greeting** Memberi ucapan salam kepada pesakit
1.2	**Dedicated Asthma Bay/ Cubicle** Mempunyai ruang rawatan Asma
1.3	**Able to reassess severity of asthma attack and treatment of severity of asthma at different zones.** Dapat menilai semula tahap serangan asma dan merawat keterukan asma di zon yang berbeza.
2	**Brief history taking & vital sign monitoring. (MAJOR)** **Pengambilan sejarah ringkas dan pemantauan tanda vital.** **The AMO working in asthma bay/ cubicle able to take following history of patient.** **PPP yang bertugas di ruang rawatan asma dapat mengambil sejarah pesakit seperti berikut.**
2.1	**New or old case.** Kes baru atau lama
2.2	**Last attack** Tarikh akhir serangan
2.3	**Medication on** Ubat-ubatan yang digunakan
2.4	**Place of follow up** Lokasi susulan penyakit asma
2.5	**Able to record & take initial measurement of patient vital sign (Spo2, Blood Pressure, Pulse, Respiratory rate, Temperature, Pain score)** Dapat merekod dan mengambil tanda vital sebelum menerima rawatan (Spo2,Kadar Tekanan Darah,Nadi,Pernafasan, Suhu badan, skor sakit)
3	**Perform Pre PEFR measurement & calculate the best predicted (MAJOR)** **Melakukan pemeriksaan PEFR dan pengiraan PEFR yang terbaik**
3.1	**Able to perform Pre PEFR measurement** Dapat melakukan Pra PEFR ke atas pesakit
3.2	**Able to calculate predicted/ best PEFR** Dapat membuat pengiraan bacaan PEFR yang terbaik
4	**Assist in the examination of patient (MINOR)** **Membantu dalam membuat pemeriksaan ke atas pesakit**
4.1	**Patient comfort** Keselesaan pesakit diutamakan

4.2	**Patient privacy (Provides chaperoned if necessary)** Privasi pesakit diutamakan (Sediakan pembantu wanita jika perlu)
5	**Initiate treatment plan as ordered by Medical Officer (MAJOR)** **Mulakan pelan rawatan seperti yang diarahkan oleh Pegawai Perubatan**
5.1	**Initiate nebulizer therapy** Mulakan dengan pemberian nebulizer
5.2	**Give asthma medication as ordered (using 7 R's)** Pemberian ubatan asma mengikut arahan (menggunakan prinsip 7 R's)
5.3	**Post PEFR after given nebulizer and inform Medical Officer** Melakukan Post PEFR selepas rawatan nebulizer diberikan dan maklumkan kepada Pegawai Perubatan
5.4	**Record all medication or treatment given** Rekodkan segala ubatan dan rawatan yang diberikan
6	**Monitoring of patient in Asthma Bay/cubicle (MAJOR)** **Pemantuan pesakit di Ruang Asma**
6.1	**Perform continues observation/ monitoring of patient** Melakukan pemantauan secara berterusan ke atas pesakit
6.2	**Able to evaluate patient response to treatment plan (Good response/ incomplete/ poor response)** Dapat menilai respons pesakit terhadap pelan rawatan (Respons baik/ tidak lengkap/respons yang kurang memuaskan)
6.3	**Patient is informed of the treatment plan given** Pesakit diberitahu akan pelan rawatan yang diberikan
6.4	**Compliance of patient response to treatment plan is recorded** Pematuhan respons pesakit untuk pelan rawatan direkodkan
7	**Able to identify features of life-threatening acute asthma (MAJOR)** **Dapat mengenalpasti tanda dan gejala keadaan yang mengancam nyawa bagi kes asma**
7.1	**Central cyanosis** Pucat/ kebiruan pada tubuh
7.2	**Feeble respiratory effort / silent chest** Corak pernafasan yang lemah/ dada tidak berbunyi
7.3	**Bradycardia / hypotension** Nadi lemah/ Tekanan darah yang rendah
7.4	**Exhaustion/ confusion / Unconscious** Kepenatan/ keliru/ tidak sedarkan diri
7.5	**Convulsion** Sawan
8	**Discharges post PEFR measurement (MAJOR)** **Melakukan Post PEFR sebelum dibenarkan pulang**
8.1	**Patient asthma education upon discharge (Avoidance of triggers and preventive measures)**

	Memberi pendidikan kesihatan kpd pesakit asma sblm dibenarkan balik (Cara mengelakkan punca penyebab asma dan langkah pencegahan)
8.2	**Follow up** Rawatan susulan
8.3	**Medication/ dosages/ side effect education** Ubat-ubatan/ dos/ kesan sampingan
8.4	**Technique of using inhaler and home management education plan** Teknik penggunaan inhaler dan penjagaan diri di rumah
9	**Compliance to Infection Control Guidelines (MAJOR)** **Pematuhan kepada Garis Panduan Kawalan Infeksi**
9.1	**Adhering to the technique of hand rub/ hand washing** Melakukan teknik cucian tangan atau rub tangan
9.2	**Disposal of nebulizer mask (Discard / reused)** Nebulizer mask pakai buang (Buang / guna semula)
9.3	**Drug Used (Expiry & Open)** Penggunaan ubat botol (Tamat tempoh dan tarikh buka)

POP

Bil.	ITEM / COMPENANT
A	**Terima Arahan & Pendaftaran Pesakit** **Receive Instructions & Registration Patient**
1	**Terima arahan bertulis / Slip Pesanan daripada doktor.** Receive written instructions / Order Slip from the doctor.
2	**Semak Slip Pesanan & pastikan pesakit betul** Check Order Slip & ensure correct patient.
3	**Daftar pesakit.** Register patient
B	**Penilaian / Pemeriksaan Pesakit** **Patient Assessment /Examination**
4	**Beri salam pada pesakit dan perkenalkan diri [2].** Greet patients and introduce self [2].
5	Semak X-Ray pesakit. Review patient X-ray.
6	Sahkan anggota terlibat seperti yang diarahkan oleh doktor. Confirm the affected limb as directed by the Doctor.
	Menilai keadaan anggota yang terlibat. **Assess the condition of the limb affected.**
7	**Bengkak** Swollen
8	**Lebam** Bruises.
9	**Melepuh.** Blister.
10	**Tegang** Tense.
11	**Luka** Wound.
12	**Merekod dan menilai peredaran darah / Status Neurovaskular pesakit menggunakan 5P (Sakit, Pucat, Tanpa Nadi, Paraesthesia dan Lumpuh).** Record and assess patient's circulation / Neurovascular Status using 5P (Pain, Pallor,Pulseless, Paraesthesia and Paralysis) of the limb.
13	**Rekod Skor Tahap Kesakitan.** Record Pain score Chart.
14	**Tanggalkan aksesori jika ada.contoh: cincin.** Remove accessories if any. eg: ring

15	**Rujuk Doktor jika terdapat sebarang abnormaliti.** Refer Doctor if any abnormalities.
C	**Penyediaan Peralatan dan Pesakit.** **Equipment and Patients**
16	**Pastikan Troli Plaster cast lengkap sepenuhnya dan berfungsi dengan baik** Ensure Plaster Cast Trolley was fully equipment and well function
17	**Sediakan set cucian luka (jika diperlukan)** Prepare a wound dressing set (if dressing needed)
18	**Terangkan kepada pesakit/saudara berkaitan prosedur yang akan dilakukan** Explain to the patient/relative about the procedure to be performed
19	**Sahkan dengan pesakit anggota yang terlibat** Confirm with patient the affected limb
20	**Letakkan pesakit dalam kedudukan yang selesa** Place patient in a comfortable position.
21	**Letakkan alas linen di bawah anggota yang cedera** Place linen protector under the injured limb
D	**Melakukan Prosedur: Pemasangan Plaster Cast mengikut SOP KKM dan Garis Panduan Amalan Standard Penolong Pegawai Perubatan Disiplin Ortopedik - Bab Pemasangan Plaster cast** **Perform Procedure: Apply Plaster Cast according to SOP by KKM and Standard Practice Guideline for Assistant Medical Officer Dicipline Orthopedic - Chapter Apllication Plaster Cast / Slab.**
22	**Lakukan kebersihan tangan** Perform hand hygiene
23	**Pemakaian pelitup muka** Wear mask
24	**Pemakaian sarung tangan** Wear glove
25	**Pemakaian apron** Wear apron
26	**Selesakan pesakit dan berikan privasi.** Make patient comfortable and provide privacy
27	**Lakukan cucian luka - jika ada** Dress a wound - If indicated
28	**Arahkan pembantu untuk menyokong dan posisikan anggota terlibat dengan teknik yang betul** Instruct assistant to support and positioning affected limb in the proper technique
29	**Pasangkan Stokinette / Orthoban seperti yang diperlukan - dengan menggulung ortoban dengan kemas dari hujung distal ke atas, meliputi sekurang-kurangnya 1/2 daripada orthoban dengan setiap pusingan.**

	Apply Stokinette / Orthoban as required - by rolling orthoban snugly from the distal end upward, covering at least 1/2 of the orthoban with every turn
30	**Lakukan pembalutan Plaster Cast yang direndam dan diperah dengan cepat.** Wrap the soaked and squeeze plaster cast quickly
31	**Mould Plaster Cast mengikut bentuk anggota badan** Mould the plaster cast to the shape of the limb
32	**Lipat hujung Orthoban** Fold up the edge of Orthoban
33	**Teruskan pembalutan Plaster Cast seterusnya** Continue the next roll of Plaster Cast
34	**Teruskan mould plaster cast mengikut bentuk anggota badan** Continue mould the plaster cast to the shape of the limb
35	**Bersihkan anggota yang terlibat** Clean the affected limb
36	**Tandakan tetingkap (jika ada)** Mark window (if indicated)
37	**Bersihkan troli Plaster Cast dan peralatan** Clean the Plaster Cast trolley and equipment
E	**Pemerhatian** **Observation**
38	**Pemeriksaan selama 5 - 10 minit dan rekod status neurovaskular** Observe for 5 - 10 minutes and record neurovascular status.
39	**Rekod Skor Tahap Kesakitan** Record Pain Score Chart
40	**Rujuk doktor jika terdapat sebarang komplikasi** Refer to doctor if any complication arises
F	**Beri Pendidikan Kesihatan Secara Verbal** **Health Education Verbally**
41	**Nasihat penjagaan Plaster Cast / Slab secara lisan** Plaster Cast / Slab care advice verbally
42	**Galakkan pergerakan minimal anggota terlibat** Encourage minimal movement of extremities
43	**Penjagaan luka - jika ada** Care of wound - if any
	Nasihatkan pesakit untuk kembali ke Klinik Ortopedik / Jabatan Kecemasan dengan segera jika mengalami: **Advise patient to return to Orthopaedic Out-Patient Clinic / Emergency Department immediately if develops:**
44	**Bengkak** Swelling

45	**Kesakitan yang teruk** Severe pain
46	**Kebas** Numbness
47	**Perubahan warna pada anggota yang terlibat** Change in colour or extremities
48	**Demam** Fever
49	Bau busuk Foul smell
50	**Plaster Cast yang rosak** Broken Plaster Cast
G	**Dokumentasi** **Documentation**
51	**Rekod dalam sistem rekod prosedur** Record in procedure record system
52	**Tarikh** Date
53	**Masa** Time
54	**Jenis prosedur dan ditandatangani** Type of procedure and signed
55	**Slip nasihat penjagaan Plaster Cast mesti diberikan kepada pesakit** The Plaster Cast Care advice slip must be given to the patient

HAEMODYALISIS

Bil.	ITEM / COMPENANT
1	**Initiate Hemodialysis (Pre Assessment)**
1.1	Ensure that the patient has registered
1.2	Look for signs & symptoms of general appearance
1.3	Perform hand hygiene
1.4	Pre Hemodialysis vital signs observations
1.5	Prepare sterile dressing set/ disposables items/ pharmaceuticals
2	**Preparation of Anticoagulation**
2.1	Ensure all medication be prepared in the dedicated room (medication preparedness/clean utility room)
2.2	Perform hand hygiene
2.3	Heparin 10,000 units in 10/20 mls. Mark/ label the syringe
2.4	Prepare heparinize saline (1000 units heparin in 500 mls Normal saline). Mark/ label the saline
3	**Initiate Hemodialysis (Priming Procedure)**
3.1	Using full PPE and perform hand hygiene
3.2	Ensure right patients name and date on the dialyzer
3.3	Place arterial bloodline on to the machine.
3.4	Prime the arterial blood line and arterial chamber with blood pump speed (Qb) of 150-250 ml/min of normal saline
3.5	Place the tip of venous blood line into a receiver/ priming bag. If receiver is used ensure that the venous tip does not touch the receiver.
3.6	Prime the venous blood line and venous chamber with Qb of 150- 250ml/min of normal saline
3.7	Continue to flush the bloodline and retain about 100ml of heparinase saline.
3.8	Connect dialysate lines to the dialyzer during priming with heparinized saline (for new dialyzer)
3.9	Flush heparin line with blood flow rate less than 100ml/min
3.1	Continue priming until about 100ml of heparinized saline remains in the bottle
3.11	Test for residual sterilant at end of venous blood line. Continue flushing if test still positive. Keep about 100ml of heparinize saline in the bottle by stopping blood pump.
3.12	Lower the fluid level of both arterial and venous chambers
3.13	Start blood pump with a speed of 200 -550 ml/min for recirculation procedure for about 10-15 minutes.
4	**Initiate Hemodialysis (Cannulate of AVF)**
4.1	Perform hand hygiene and wear full PPE
4.2	Greeting patient
4.3	Ensure patient wash their hand and fistula arm PROPERLY

4.4	Ensure patient has a functioning fistula
5	**Fistula Needle Cannulation**
5.1	Swab cannulation site with antiseptic solution
5.2	Cannulate the fistula and check patency of blood flow
5.3	Secure with plaster PROPERLY
6	**Initiate Hemodialysis (Starting treatment)**
6.1	Set hemodialysis parameters as prescribed
6.2	Turn on blood pump to a speed of 100-150ml/min
6.3	Inject bolus heparin as prescribed into the extracorporeal circuit when blood reaches the dialyser and mount the syringe to the heparin pump.
6.4	Swab the needle end with end of venous blood line with antiseptic swab before connect
6.5	Ensure AIR BUBBLE DETECTOR is activated
6.6	Turn dialyzer with arterial end up
6.7	Turn on blood pump to a speed of 100-150ml/min and observe for any swelling at the venous return and status of venous pressure. Then, gradually increase the blood pump speed to the prescribed blood flow rate
7	**Monitor and record the following observations This refers to activities carried out to monitor patient and treatment parameters during hemodialysis treatment to ensure safety and minimize complications.**
7.1	Perform hand hygiene
7.2	Perform hourly observation and document in the treatment record.
7.3	Observe for critical incident and take remedial action according to current Standing Orders and RRT Clinical Practice Guidelines
7.4	Record critical incident and action in Hemodialysis treatment record
8	**End of hemodialysis treatment.**
8.1	Perform hand hygiene
8.2	Completed 4 hours hemodialysis treatment
8.3	Ensure return blood via open method
8.4	Return blood with pump speed 200-250mls/ min
8.5	Cap the arterial and venous fistula needle
8.6	Remove arterial and venous fistula needle from patient safely
8.7	Apply sufficient pressure on vena puncture site until bleeding stop
8.8	Apply clean cotton dressing over the vena puncture site
8.9	Take post hemodialysis observation/vital sign and recorded
8.1	Allow home discharge if no complication

FORENSIC

Bil.	ITEM / COMPENANT
1	RECEIPT OF THE DECEASED (Registration of Death)
1.1	DATE AND TIME OF REGISTRATION IN FORENSIC (MAJOR)
1.2	**DEMOGRAPHIC INFORMATION OF THE DECEASED (MAJOR)**
1.2.1	NAME
1.2.2	ADDRESS
1.2.3	IDENTIFICATION / PASSPORT NUMBER
1.2.4	GENDER
1.2.5	AGE
1.2.6	ETHNICITY / NATIONALITY
1.2.7	RELIGION
1.3	**DEMOGRAPHIC INFORMATION OF DEATH (Minor)**
1.3.1	DATE AND TIME OF DEATH
1.3.2	CAUSE OF DEATH
1.3.3	PLACE/WARD OF DEATH
1.3.4	DATE AND TIME OF WARD ADMISSION
1.3.5	HOSPITAL REGISTRATION NUMBER
1.3.6	DEATH REGISTRATION FORM NUMBER AND BURIAL PERMIT (JPN LM02) / BORANG B-CAP. 123 (SABAH) / CAP. 10 (SARAWAK)
1.3.7	OFFICER CERTIFYING DEATH
1.3.8	NAME & SIGNATURE OF THE ASSISTANT MEDICAL OFFICER RECEIVING THE CASE
1.4	**DEMOGRAPHIC INFORMATION FOR POLICE CASES (Minor)**
1.4.1	AUTOPSY NUMBER (IF RECEIVING BORANG PERMINTAAN PEMERIKSAAN MAYAT (POL. 61) FOR BODY EXAMINATION
1.4.2	DATE & TIME OF RECEIVING BORANG PERMINTAAN PEMERIKSAAN MAYAT (POL.61)
1.4.3	POLICE REPORT NUMBER
1.4.4	INVESTIGATE POLICE OFFICER NAME AND RANK NUMBER
1.4.5	REGISTRATION FOR POLICE CASES RECORDED USING RED INK
2	STORAGE OF DECEASED (Major)
2.1	DEMOGRAPHIC INFORMATION FOR STORAGE OF THE DECEASED (Major)
2.1.1	ONE (1) COMPLETED IDENTIFICATION TAG AFFIXED TO THE BODY OR BODY BAG
2.1.2	BODY STORED IN THE MORTUARY REFRIGERATOR (AFTER 3 HOURS OF FORENSIC REGISTRATION) (DEPENDING ON HOSPITAL POLICY)
2.1.3	ONE (1) IDENTIFICATION TAG ON THE MORTUARY REFRIGERATOR DOOR

2.1.4	DETAILS AND LOCATION OF THE BODY RECORDED IN THE MORTUARY STATEMENT BOARD / EXISTING STORAGE RECORD SYSTEM
2.1.5	BODY FREEZER TEMPERATURE WITHIN (2°C - 6°C)
2.1.6	BODY FREEZER TEMPERATURE RECORDED TWICE (2) DAILY
2.1.7	TEMPERATURE CHART DISPLAYED IN THE STORAGE AREA
2.1.8	IF MALFUNCTIONING - REPORT TO HOSPITAL SUPPORT SERVICES (LABEL AS FAULTY WITH DATE OF COMPLAINT)
3	**RELEASING OF BODY(MAJOR)**
3.1.1	NAME
3.1,2	ADDRESS
3.1.3	IDENTIFICATION/PASSPORT NUMBER
3.1.4	RELATIONSHIP
3.1.5	PHONE NUMBER
3.1.6	SIGNATURE/THUMBPRINT OF THE CLAIMANT
3.1.7	FACE OR CLOTHING/JEWELLERY IDENTIFICATION
3.1.8	OTHER IDENTIFICATION METHODS (IF 3.2.1 IS NOT APPLICABLE) (PHYSICAL MARKS/FINGERPRINTS/ODONTOLOGY/DNA)
3.1.9	NAME AND SIGNATURE/THUMBPRINT OF THE PERSON MAKING IDENTIFICATION
3.1.10	DEATH REGISTRATION FORM NUMBER AND BURIAL PERMIT (JPN LM02) / BORANG B-CAP. 123 (SABAH) / CAP. 10 (SARAWAK)
3.1.11	MEDICAL OFFICER'S CERTIFICATE OF CAUSE OF DEATH (JPN LM09) - IF APPLICABLE
3.1.12	MEDICAL OFFICER'S CERTIFICATE OF CAUSE OF DEATH (JPN LM10) (FOR POST MORTEM CASES) - IF APPLICABLE
3.1.13	CLAIMANT'S INFORMATION (REFER TO 3.1)
3.1.14	SIGNATURE/THUMBPRINT OF THE CLAIMANT
3.3.15	HANDOVER OF FOREIGN DECEASED (ATTACH COPY OF EMBASSY LETTER) - IF APPLICABLE
3.3.16	DATE AND TIME OF DECEASED HANDOVER TO CLAIMANT
3.3.17	NAME AND SIGNATURE OF THE ASSISTANT MEDICAL OFFICER HANDOVER THE DECEASED AND DOCUMENTS
4	**REFERENCE DOCUMENTS (Minor)**
4.1	STANDARD OPERATING PROCEDURES OF FORENSIC MEDICINE SERVICES MINISTRY OF HEALTH FEBRUARY 2012

INFECTION CONTROL

Environmental

BIL	ITEM
1.1	Hand wash solution at all sinks
1.2	Paper towels at all sinks
1.3	Hand Soap – clean and functional
1.4	Sink bowls are clean
1.5	Use of elbow taps at all sinks
1.6	Free from used equipment (e.g., urine bottles, etc.)
1.7	Hand washing technique posters displayed at all sinks
1.8	ABHR available at every counter, medication trolley, rounding trolley, blood collection trolley, observation trolley, and patient bedside
2	**PERSONAL PROTECTIVE EQUIPMENT (PPE) FACILITIES**
2.1	Goggle, Face Shield
2.2	Mask
2.3	Gloves
2.4	Apron
3	**ENVIRONMENT (HOUSEKEEPING)**
3.1	Counters are clean; no specimens, food, etc.
3.2	Patient environment is clean & tidy
3.3	Toilets are clean, tidy, odorless, and dry
3.4	Sluice room is clean and tidy
3.5	Treatment room is clean, tidy, and dust-free
3.6	Treatment/procedure room is clean, tidy, and dust-free
3.7	Environment appears clean, tidy, and free from dust
3.8	Mops are correctly color-coded and clean
3.9	Disinfectant products are stored correctly
3.10	Cleaning dilution charts are displayed
4	**PATIENT EQUIPMENT CARE**
4.1	Disinfectant – date and suitability
	Soaking of equipment is not recommended
4.2	**IF SOAKING IS PERFORMED:**
4.2.1	Soaking containers must be covered

4.2.2	Equipment must be fully submerged
4.2.3	Date & time must be recorded
5	**LINEN MANAGEMENT**
5.1	Clean linen is neatly arranged in the cupboard
5.2	Closed cupboards
	Soiled Linen –
5.3	Linen placed in the correct receptacle
5.4	Alginate bags are provided
5.5	Linen bags are covered
6	**GENERAL & CLINICAL WASTE MANAGEMENT**
6.1	Correct waste disposal
6.2	Not overfilled and covered
6.3	Foot-operated and functional
6.4	Clean and tidy
7	**SPILLAGE MANAGEMENT**
7.1	Floors are clean and free from spills
7.2	Spill kits are available in the unit's inventory
8	**SHARP MANAGEMENT**
8.1	Sharps are disposed of correctly into sharps bins
8.2	Not exceeding ¾ full
8.3	Sharps bins are secure and placed in strategic locations
9	**MEDCAL EQUIPMENT**
9.1	All medical equipment is clean and dust-free
9.2	**Suction Machine:** Suction bottle/ Suction outlet - Ensure clean, not soaked, stored dry, and dust-free
9.3	Reuse of suction on the same patient- Ensure suction tubing is clean, covered, and does not touch the floor.
	Oxygen Equipment:
9.4	***Humidifier*** **-** If used, wash daily. If not used, change water daily. Ensure date and time labeling.
9.5	***Oxygen Flowmeter Outlet –*** Ensure clean, stored dry, and dust-free. Must be covered when not in use.
9.6	**Thermometer:** Ensure clean, not soaked, stored dry, and dust-free.
9.7	**Medication Trolley:** Clean and tidy

9.8	Medication cups are clean and dry
9.9	**Emergency Trolley:** Clean, tidy, and dust-free.
9.10	**Emergency Trolley:** Laryngoscope is clean with no visible stains
10	**MEDICAL REFRIGERATOR**
10.1	Clean inside and out and dust-free
10.2	No food, drinks, or unrelated specimens
10.3	No expired medications
10.4	Opened medications must be labeled
10.5	Temperature monitoring is performed
11	**PATIENT OBSERVATION**
	URINARY CATHETER
11.1	Urine bag hung below the bladder level
11.2	Urine bag does not touch the floor
11.3	Label with catheter insertion date
	IV LINE
11.4	Clean & Dry
11.5	Date and time labeled
11.6	No backflow
11.7	Filtered IV Tubing for blood transfusion is not used for IV fluids
12	**PROCEDURE EXECUTION BY PERSONNEL**
12.1	An Assistant Medical Officer (AMO) must demonstrate hand hygiene.
12.2	The AMO uses Personal Protective Equipment correctly and appropriate to the task.
12.3	An AMO demonstrates the donning of Mask, Apron & Gloves.
12.4	An AMO must explain the SOP for sharps injuries.
12.5	An AMO must explain the SOP for spillages.
12.6	A cleaner must explain the SOP for spillages.
13	**POLICY & GUIDELINE**
13.1	Policy & Procedure of Infection Control 2019
13.2	Latest Flow Chart for Needle Stick Injury
13.3	Disinfectant Guidelines 2019

Hand Hygiene

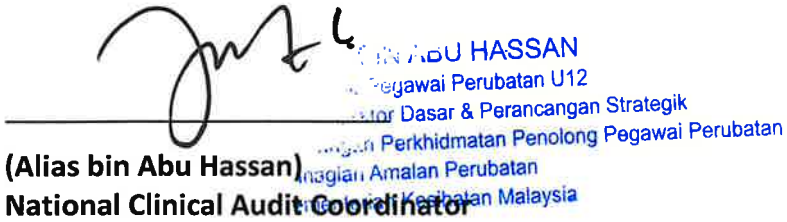
HOSPITAL	
UNIT	
1	**Compliance by Indication**
1.1	Before touching a patient
1.2	Before clean/ aseptic procedure
1.3	After body fluid exposure risk
1.4	After touching a patient
1.5	After touching patient surroundings

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