The Indo-Pacific Aeromedical Evacuation Report: A Tool for Informing Strategic Mental Health and Substance Use Disorder Clinical & Operational Decisions

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Introduction

The Operational Context
U.S. Pacific Command (USPACOM) is one of the largest and most operationally complex theaters in the Military Health System (MHS), with an area of responsibility (AOR) covering more of the globe than any other geographic combatant command (USPACOM, n.d.). Approximately 375,000 U.S. military and civilian personnel are assigned to the AOR to protect U.S. territory, deter aggression, and promote regional security alongside allies and partners (USPACOM, n.d.; Nicastro, 2023). This theater features a distinct, stable footprint characterized by longer personnel dwell times and a high volume of accompanying family members (Pawlukiewicz et al., 2022).

The Mental Health Challenge
Although mental health (MH) screening is conducted at key touchpoints prior to a deployment or tour for Active-Duty Service Members (ADSMs), these screenings are not a complete safeguard (McConnon et al., 2025). When treatment needs for MH conditions exceed the capability at a given location, aeromedical evacuation (AE) becomes necessary to transport the patient to a setting that can provide a higher level of care (Peterson et al., 2019).

Background & Literature

Mental Health & AE Trends
Mental health is a primary driver of military AE across theaters (Cowsert et al., 2026; Peterson et al., 2019). Within USPACOM, MH conditions accounted for 20% of all adult transports between 2008 and 2018 (Pawlukiewicz et al., 2022). An analysis of 3,328 TRAC²ES MH encounters by Pawlukiewicz et al. (2022) revealed:

- **Demographics:** Predominantly male (66%), evenly split between Active-Duty Service Members (ADSMs) (48%) and U.S. civilians (51%).
- **Origins:** The highest volume originated from Japan (36%) and Guam (28%).
- **Destinations:** Patients were primarily transported via military aircraft to Hawaii (38%) or the continental United States.

Enhancing Regional Readiness
Because MH represented such a substantial portion of USPACOM theater transports, Pawlukiewicz et al. (2022) highlighted the critical need for understanding the specific root causes and mitigation strategies for these evacuations. This underscores the operational value of establishment of a dedicated, monthly AE report to track MH *and* Substance Use Disorder (SUD) trends in the region.

Objectives

1. Describe the methodology for creating a monthly MH and SUD AE report using TRAC²ES data to monitor possible trends in the USPACOM.
2. Evaluate how AE data can be stratified by diagnosis, demographics, and geography to have the potential to identify key MH and SUD patterns.
3. Evaluate how the report's findings may inform strategic resources allocation, including decisions on prevention programming, staffing, and clinical capabilities of overseas military medical treatment facilities (MTF).

Method

Participants & Data Scope
Study Population: Retrospective AE records within the USPACOM AOR executed between 1 JAN 2025 and 30 JUN 2026.
Data Source: Patient movement records extracted from the Transportation Command Regulating and Command & Control Evacuation System (TRAC²ES).

Inclusion & Exclusion Criteria
Inclusion:
Population: All TRAC²ES-recorded patients with eligible Department of War (DoW) benefits (Active-Duty Service Members [ADSMs], Active Reserve/National Guard, Active-Duty Family Members [ADFMs], and Retirees).
Clinical: Primary evacuation diagnosis of MH or SUD condition (ICD-10 codes: F01–F99).
Exclusion:
Civilian, contractor, or foreign national transport flights not unilaterally reported to TRAC²ES.

Key Variables Evaluated
Demographics: Branch of Service, Beneficiary Type.
Clinical: Primary ICD-10 MH/SUD diagnostic codes; Primary Clinical Service.

- For the Primary Clinical Service, the four categories correspond to the Military Health System clinical-service codes in the extract (MPPG, MPPI, MPSA, MPSD) are aligned with the following descriptions:
  - **(General Care) [MPPG]** — Inpatient mental health care on a general psychiatric ward for patients who require hospital-level treatment but not continuous intensive observation (Department of the Air Force [DAF], 2020b; Department of Defense [DoD], 2013).
  - **Psychiatric (Intensive Care) [MPPI]** — The highest-acuity inpatient psychiatric level, providing medically managed care with the full resources of a general or psychiatric hospital for patients who pose an acute danger or require close monitoring. In transport terms, this aligns with the Severe (1A) and Intermediate (1B) psychiatric transport classifications (DAF, 2020b).
  - **Alcohol Rehabilitation [MPSA]** — Rehabilitative treatment for alcohol use disorder (ICD-10 F10.x) under DoW substance-use policy, with levels of care defined by ASAM criteria (DAF, 2020a; DoD, 2019; Department of Veterans Affairs & Department of Defense [VA/DoD], 2021).
  - **Drug Rehabilitation [MPSD]** — Rehabilitative treatment for non-alcohol substance use disorders (ICD-10 F11–F19) within the same policy framework, distinguished by substance class (DAF, 2020a; DoD, 2019; Department of Veterans Affairs & Department of Defense [VA/DoD], 2021).

Logistical: Originating Country, Destination Theater.

Ethics & Privacy Posture: This initiative involves retrospective review of de-identified administrative data. This project was reviewed and designated as an operational program evaluation and determined to not be research by a Tripler Army Medical Center (TAMC) determination official. Personally Identifiable Information (PII) or Protected Health Information (PHI) was not collected or analyzed. Data was evaluated as aggregate data.

Materials: TRAC²ES Database Infrastructure
1. System Definition & Authority

- **The System:** TRAC²ES is the DoW's sole web-based system of record for coordinating, validating, and tracking global military patient movement.
- **Operational Mandate:** Managed by United States Transportation Command (USTRANSCOM) under the authority of DoD Instruction 6000.11 (DoD, 2018). to provide global joint-service command and control of AE.

2. Clinical Workflow & Data Generation

- **Initiation:** The originating MTF attending physician generates the Patient Movement Request (PMR) within TRAC²ES utilizing AF Form 3899 (Aeromedical Evacuation Patient Record) as the primary in-patient AE record.
- **Validation:** Joint-Service Patient Movement Requirements Centers—specifically TPMRC-West (Joint Base Pearl Harbor Hickam, HI) for the USPACOM theater—clinically and logistically validate the PMR within TRAC²ES for clinical safety and airframe compatibility.
- **Execution & Tracking:** TRAC²ES tracks the in-transit physical movement of the patient from Outside the Contiguous United States nodes to destination receiving MTF or U.S. Department of Veterans Affairs facilities.

Procedure
1. Data Extraction & Classification
De-identified, retrospective patient movement records were systematically extracted monthly from TRAC²ES and structured into two key analytical domains:

- **Administrative Markers:** Service Branch, and Geographic Origin/Destination
- **Clinical Identifiers:** Primary ICD-10 codes, and Primary Clinical Service.

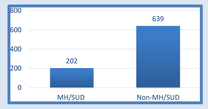
2. Dashboard Integration

- Extracted and cleaned datasets were integrated into Microsoft Power BI to engineer an interactive, clinical decision-support dashboard for tracking regional MH and SUD patient movement.

Results — Descriptive Statistics

Between January 1, 2025, and June 30, 2026, there were 841 total aeromedical evacuations in the USPACOM theater. Of these, 24% (n=202) were related to MH or SUD diagnoses as indicated in **Figure 1**, aligning closely with historical theater averages (Pawlukiewicz et al., 2022)

Figure 1. Total Patient Movement by Category in the USPACOM Theater



The demographic distribution, outlined in **Table 1**, shows that the cohort predominantly consisted of ADSMs. The U.S. Army (35.14%), Navy (28.71%), and Marine Corps (27.72%) represented the highest volume of MH/SUD evacuations.

Table 1. Demographic Distribution of MH and SUD AE by Service Branch and Beneficiary Type (N=202)

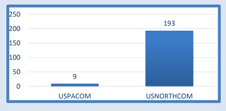
Beneficiary Type and Branch	n	% of N
Army ADSM	71	35.14%
Navy ADSM	58	28.71%
Marine Corps ADSM	56	27.72%
Air Force ADSM	9	4.45%
Space Force ADSM	1	.5%
Army ADFM	1	.5%
Navy ADFM	1	.5%
Marine Corps ADFM	4	1.98%
Navy Retired	1	.5%
Total	202	100%

Geographically, the highest volume of MH/SUD patient movement originated from Japan (52.0%) and Korea (33.6%), as detailed in **Table 2**. Patients were primarily transported to USNORTHCOM residential facilities for care as indicated in **Figure 2.**

Table 2. Originating Country of MH and SUD Patient AEs

Originating Country of Mental Health Patient Movement	n	% of N
Japan	105	52.00%
Korea	68	33.60%
Guam	19	9.40%
United Kingdom (territory)	6	3.00%
New Zealand	1	.50%
USA	2	1.00%
Unknown	1	.50%
Total	202	100%

Figure 2. Destination Theater for MH and SUD Patient AEs



Clinical Findings
Mental health conditions accounted for 67.3% of all medical transports within the MH/SUD cohort, predominantly classified under General Psychiatry care as indicated in **Table 3**. The primary specific diagnostic drivers prompting evacuation were:

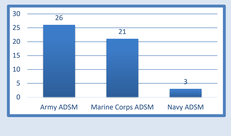
- Post-traumatic stress disorder (PTSD): 13.2%
- Unspecified Psychosis: 9.6%
- Suicidal Ideation: 6.6%
- Adjustment Disorder with mixed disturbance of emotions & conduct: 5.9%
- Adjustment Disorder with mixed anxiety and depressed mood: 5.1%
- Depressive Disorder, Unspecified: 5.1%
- Major Depressive Disorder, Single Episode, Unspecified: 5.1%

Alongside primary MH diagnoses, a sizable subset of ADSMs (24.8%) were evacuated specifically for Alcohol Use Disorder (AUD) treatment (Alcohol Rehabilitation [MPSA]) as indicated in **Table 3**. These AUD-related transports were heavily concentrated within the Army and Marine Corps as indicated in **Figure 3.**

Table 3. Frequency of Primary Clinical Service and Associated Diagnoses (N=202)

Primary clinical service /Primary diagnosis (ICD-10)	n	% of N	% of cat.
Psychiatry (General Care) [MPPG]	136	67.3%	
F43.10 — Post-traumatic stress disorder, unspecified	18		13.2%
F29 — Unspecified psychosis, not due to substance/known physiological condition	13		9.6%
RA5.851 — Suicidal ideation	9		6.6%
F43.25 — Adjustment disorder w/ mixed disturbance of emotions & conduct	8		5.9%
F43.23 — Adjustment disorder w/ mixed anxiety & depressed mood	7		5.1%
F32.A — Depression, unspecified	7		5.1%
F32.9 — Major depressive disorder, single episode, unspecified	7		5.1%
Other psychiatry diagnoses (31 distinct)	*67*		*49.3%*
Alcohol Rehabilitation [MPSA]	50	24.8%	
F10.20 — Alcohol dependence, uncomplicated	46		92.0%
F10.10 — Alcohol abuse, uncomplicated	1		2.0%
F10.120 — Alcohol abuse with intoxication, uncomplicated	1		2.0%
F10.14 — Alcohol abuse with alcohol-induced mood disorder	1		2.0%
F10.980 — Alcohol use, unspecified w/ alcohol-induced anxiety disorder	1		2.0%
Psychiatry (Intensive Care) [MPPI]	12	5.9%	
F33.2 — MDD, recurrent, severe without psychotic features	4		33.3%
F31.2 — Bipolar, current episode manic severe with psychotic features	3		25.0%
F32.2 — MDD, single episode, severe without psychotic features	2		16.7%
F32.3 — MDD, single episode, severe with psychotic features	2		16.7%
F33.3 — MDD, recurrent, severe with psychotic symptoms	1		8.3%
Drug Rehabilitation [MPSD]	4	2.0%	
F43.89 — Other reactions to severe stress	2		50.0%
F16.980 — Hallucinogen use, unspecified w/ hallucinogen-induced anxiety	1		25.0%
F19.10 — Other psychoactive substance abuse, uncomplicated	1		25.0%
Total (all MH/SUD ACs)	202	100.0%	

Figure 3. Frequency of AUD AEs by Service Branch



Discussion & Limitations

While this dataset provides valuable theater-wide visibility into patient movement, there are two notable limitations articulated below:
1. Patient Movement Tracking Anomalies

- **Disproportionate Impact on Non-Active-Duty Cohorts:** This tracking gap most profoundly impacts the evaluation of ADFMs and retirees. Because these non-active-duty populations frequently transition to civilian medical networks, their medical transports are heavily routed through commercial and civilian platforms rather than military assets.
  - **Resulting Database Underrepresentation**: Because these non-military platforms do not universally report transit records to TRAC²ES, this dataset inherently underrepresents the total volume of regional patient movements for non-active-duty cohorts. Consequently, this tracking gap limits fully comprehensive, theater-level trend analyses.
- **Branch-Specific Anomalies:** The comparatively low volume of Air Force AEs may represent an unrecognized reporting gap; however, this is less likely as the DoW regulates active-duty movement through TRAC²ES regardless of service branch.

- **Recommended Action:** Future studies must validate these findings against TRICARE/International SOS (ISOS) billing records to capture missing civilian-transported cohorts and validate the capture of ADSMs.

2. Substance Use Classification & Diagnostic Mis-mapping

- A secondary limitation involves the tracking of rehabilitative treatment for non-alcohol substance use disorders (ICD-10 codes F11–F19) under the same policy framework:
  - **Data-Quality Caveat**: Two of these four records contain a non-SUD diagnosis.
  - **Impact on Findings:** This suggests a potential administrative database mis-mapping warranting caution when interpreting non-alcohol substance use trends.

Implications & Future Directions

1. Strategic Theater Recommendations & Resource Optimization

- **TAMC/VA PTSD Program Resourcing:** Optimal resourcing of the TAMC/U.S. Department of Veterans Affairs Pacific Islands Healthcare System PTSD Residential Recovery Program, which was re-opened in 2025 is vital. Treating USPACOM patients within this theater can reduce AE-related costs.

- **Right of First Refusal (ROFR) & Market Utilization:** A comparative evaluation of private-sector versus military-sector inpatient SUD care usage by service branch, aligned with ROFR guidance (DHA, 2024), is recommended. The data also support exploring the potential benefit of expansion of MTF SUD Residential Treatment Facility capacity in USPACOM and the U.S. West Coast/Pacific Northwest corridor.

- **Fortify PACOM Outpatient Infrastructure:** The SUD evacuation volume warrants consideration of expanding USPACOM MTF Intensive Outpatient Program (IOP) capabilities, backed by dedicated lodging and oversight.

- **Establish a Monthly Tracking Baseline:** Establishment of the DHN-IP AE Report as a recurring monthly tool will enable leadership to monitor MH/SUD trends, anticipate logistics, and measure intervention ROI.

2. Implications for Large-Scale Combat Operations (LSCO)

- **Unify Joint & Civilian Transit Visibility:** Establishing secondary data-sharing protocols with TRICARE/ISOS to merge TRICARE Overseas claims with TRAC²ES can support calculation of the theater's true patient-movement capacity.

- **Preserve Critical En Route Care Assets:** In a contested LSCO environment, where evacuation assets are restricted (Hoyt, 2025), optimizing local USPACOM mental health capacity preserves scarce transport and critical care teams for combat casualties.

3. Areas for Future Epidemiological Study

- **Demographic Deep Dives:** Conducting further evaluation of active-duty demographics (e.g., gender, rank) to identify vulnerable cohorts and tailor targeted MH and SUD early-intervention campaigns is merited.

- **Administrative Force Impact:** To evaluate the impact on force readiness, it will be of value to quantify MH/SUD AEs that result in MEBs or administrative separations.

- **Expansion to Non-MH/SUD Patterns:** Expanding the TRAC²ES/Power BI pipeline to incorporate all major AE categories (e.g., injuries) for a comprehensive view of theater medical trends is a meaningful next step.

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