

“No Result, is a Result”

Occupational and Environmental Health Surveillance in Africa

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A fairly common understanding among the scientific community is that when experimentation does not end with the result expected or otherwise desired, that in itself is important information, and the notion remains true when nothing at all happens. Picture a chemist working in a lab to synthesize a compound using novel precursors. Since it hasn't been tried or at least documented before, it's technically a new process. The chemist has done their homework; all the theories align and the math checks out. Adding A to B under conditions W, X, and Y for time Z, should result in compound C. The process is executed, and nothing happens. Months or years of work lost? Hardly so. At the very least, they would repeat it to confirm the process as planned resulted the same, and with that, conclude that A and B does not result in C, at least under those conditions. From there, the next logical route would be explored, but the lack of result, is in fact, a result.

With respect to public health and environmental insults affecting short and long term health, evidence or lack thereof of the presence of a given insult can either confirm risk for developing an adverse outcome, or can exclude that risk if not detected at all or it is below levels that are currently expected to cause harm. As the understanding of how environmental exposures impact our health continues to evolve, simply capturing data is important, for we may learn something in the next decade that we simply don't know about right now, and having the information or data captured as a “snapshot in

time” could help in understanding a future issue by making the information available for retrospective analysis.

Fortunately, the Department of Defense (DoD) has issued a myriad of Directives and Instructions¹⁻⁸ that charge the Services with protecting the health of the force. Army Regulation (AR) 11-35 (Occupational and Environmental Health Risk Management) accounts for said Directives and Instructions, and governs the Army’s efforts to elicit, document, and mitigate risk to Soldiers from the ‘things’ worn, used, or interacted with (including the natural and man-made environment), the vehicles, facilities or operational areas where personnel work, and the processes or procedures followed in order to do said work⁹. In short, where there are occupational or environmental threats or potential exposures to such that may manifest as an acute, chronic, or a delayed health effect, standard operating procedures are developed or adapted through risk management that mitigate those health risks to the lowest reasonable level while still allowing the mission to proceed¹⁰.

Currently, the near total lack of Operational Public Health (OPH)¹¹ and Veterinary Service Support (VSS) capabilities within the task organization of SETAF-AF has

¹ DODD 4715.01E, Environment, Safety, and Occupational Health (ESOH), 30 December 2019, including Change 2

² DODD 6200.04, Force Health Protection (FHP), 23 April 2007

³ DODD 6400.04E, DoD Veterinary Public and Animal Health Services, 29 August 2017, including Change 2

⁴ DODD 6490.02E, Comprehensive Health Surveillance, 28 August 2017, including Change 2

⁵ DODI 4150.07, DoD Pest Management Program, 26 December, 2019

⁶ DODI 6055.05, Occupational and Environmental Health (OEH), 31 August 2018, including Change 2

⁷ DODI 6055.2, Assessment of Significant Long-Term Health Risks from Past Environmental Exposures on Military Installations, 10 June 2019, including Change 2

⁸ DODI 6490.03, Deployment Health, 19 June 2019.

⁹ AR 11-35, Occupational and Environmental Health Risk Management (OEHRM), 11 May 2016; para 1-5.

¹⁰ AR 11-35, para 3-1a

¹¹ AR 40-5, Army Public Health Program, para 3-2. “Operational Public Health” is the term now used to describe efforts formerly known as Field Preventive Medicine

resulted in multiple challenges to keeping the mission moving forward while maintaining a healthy, ready force for the future. During the last several years, Preventive Medicine and Veterinary Medical Detachments were sourced for short-term exercises such as AFRICAN LION in order to execute OPH missions on Continental Africa when there is a higher “population at risk” through the Joint Training Information Management System (JTIMS). While this has worked to satisfy requirements brought about by the exercises themselves, once the exercise is complete, the capability redeploys leaving insufficient personnel and equipment to cover the ‘steady-state’ or ongoing operations. For operational reasons they cannot all be named, but in the DoD System of Record for Occupational and Environmental Health Surveillance data¹², no data whatsoever exists for the Cooperative Security Locations (CSLs) SETAF-AF maintains, nor is there anything for the UN missions where US Military Observer Group (USMOG) personnel are stationed on a recurring basis¹³. Additionally, 2nd Security Force Assistance Brigade (SFAB) conducts operations across the continent and those locations lack background Occupational and Environmental Health (OEH) risk data as well.

In Garrison or at fixed installations, the elements of the Army Public Health Program traditionally fall on the ‘Institutional Public Health¹⁴’ capabilities, namely, the supporting Medical Activity (MEDDAC) or clinic, the Regional Public Health Command (PHC), and the local Public Health Activity (PHA).¹⁵ These ‘fixed-facility’ organizations (Table of Distribution and Allowance (TDA)) are structured, manned, equipped and

¹² Defense Occupational and Environmental Health Readiness System (DOEHRM); directed by DODI 6055.05.

¹³ The relationship between the UN missions and USAFRICOM is a ‘grey area’ but SETAF-AF Operational Protection Directorate (OPD) does play an active role in supporting the personnel at these locations.

¹⁴ AR 40-5, para 3-2.

¹⁵ *ibid*

resourced to execute the public health mission for units and organizations within the Installation or Garrison and across the local communities; they have extremely limited capability to deploy and support operations outside their area of responsibility.

On the other hand, once a Modified Table of Organization and Equipment (MTOE) unit is committed to training or execution of a specific mission, their organic support is all they have to sustain themselves forward from their Garrisons without additional capabilities provided by an external organization with an 'Area Support'¹⁶ mission. Within the 173rd Infantry Brigade Combat Team (Airborne), which SETAF-AF maintains Training and Readiness Authority (TRA) over, their organic OPH capability is limited to 'role 2'¹⁷ provided by the Environmental Science and Engineering Officer (ESEO) and Preventive Medicine NCO assigned to Charlie Company, 173rd Brigade Support Battalion (BSB), while any veterinary support required is entirely external to the Brigade. As such, the capability of the 173rd BSB team is limited to more or less inward focused efforts to protect Soldiers from current threats, with little ability to execute longer term efforts; they go where the Brigade goes, to support the Brigade.

Further complicating the challenge of obtaining OPH support lies in Medical Mission Command (MMC) of medical units tasked to provide support. While there are Theater Sustainment Commands (TSCs) and the 79th TSC is aligned in direct support of SETAF-AF with their Forward element performing duty at the SETAF-AF headquarters, unlike the 21st TSC in Germany, it has no organic medical units. As a result, if any additional medical units are brought into theater, a MMC capability would have to be

¹⁶ Depending on the mission and operational environment, an "Echelons above Brigade" (EAB) medical capability could also be tasked to provide Direct Support to a Brigade or lower unit.

¹⁷ ATP 4-02.8, Force Health Protection, para 2-66.

activated from the COMPO 2 or 3 to provide additional capabilities, or the requirement would have to be sourced from either a FORSCOM unit or adjacent Medical Brigade/Theater Sustainment Command such as the 30th MED BDE in Germany. At a minimum, depending on the duration, scope of the mission, and area of responsibility, a Multifunctional Medical Battalion (MMB) (TOE 08485K000) should be called forward to provide Command and Control (C2) and provide logistical support, unless the requirements are limited to a single detachment that could be attached directly to SETAF-AF for a limited duration. Odds are however, if the requirements dictate a Preventive Medicine Detachment, for example, there likely will also be requirements for Area Support Medical Companies, a Medical Logistics Company, a Combat and Operational Stress Control Detachment, Ground and/or Air Ambulance Companies, and the MMB would be appropriate. If the AOR is even greater and Field Hospitals are supporting, the Medical Brigade (TOE 08420K000) or Medical Command (TOE 08640K000) may be necessary to provide the appropriate level of C2 and ancillary support to medical units across the theater. The SETAF-AF Surgeon Directorate simply is not manned nor designed to execute MMC and C2 of anything more than a detachment/company or two, and only then for a very limited duration while the appropriate capability is brought into theater.

Since nearly every enduring location in Africa that SETAF-AF is responsible for lacks background OEH data, namely initial Occupational and Environmental Health Site Assessments (OEHSAs)¹⁸, there is no way to link potential exposures endured by

¹⁸ OEHSAs are directed in AR 11-35, and shall be executed at locations service members are present greater than 30 days outside the continental United States, or as directed by the Combatant Commander if less than 30 days in

service members while performing duty at a given location to their Individual Longitudinal Exposure Record (ILER)¹⁹. This is not to suggest that all, or perhaps even any locations have uncontrolled exposure pathways where personnel are being subjected to environmental contaminants above threshold levels outlined in the Military Exposure Guidelines (MEGs)²⁰. In fact, through the OEHSA, a Conceptual Site Model (CSM) is developed by identifying the ‘risks’ and their associated exposure pathways. Those pathways are analyzed, and based on the quality of the information gathered, a site specific plan is developed to capture environmental samples (air, water, soil, radiation surveys, entomological vectors, etc.) as needed²¹. What may come as a surprise though is that historically, most locations service members perform duty outside the continental United States have very few unmitigated exposures occurring where any residual risk is higher than “low” with exposure severities being no greater than ‘negligible.’ Without eliciting those risks, however, there is no way to know for sure whether that is true or not, and “no result is a result” is extremely applicable.

Initial workup of the locations SETAF-AF oversees remains ongoing with regular dialogue between the Surgeon Directorate Force Health Protection (FHP) section and the USAFRICOM FHP sections in order to prioritize efforts and secure funding.

duration IAW DODI 6490.03 (Deployment Health). An OEHSA is a comprehensive assessment of possible exposure pathways that define areas where personnel may be at risk of contact with an environmental health threat.

¹⁹ The ILER started in 1998 by Presidential Review Directive 5 and has evolved into a joint effort between the Department of Veterans Affairs and the Defense Health Agency. The ILER relies on information provided/elicited during Periodic Health Assessments and deployment related Health Assessments and links them with Defense Manpower Data Center “PERSTAT” information to data stored in DOEHRS and the Periodic Occupational and Environmental Monitoring Summaries (POEMS) maintained by the Army Public Health Center, thereby linking people, time/dates, and location specific OEH surveillance data.

²⁰ USAPHC Technical Guide 230, Environmental Health Risk Assessment and Chemical Exposure Guidelines for Deployed Military Personnel, 2013 Revision.

²¹ Some locations will require no environmental sampling based on the Conceptual Site Model and Sampling and Analysis Plan

Combatant Commander guidance, once confirmed by USAFRICOM FHP, is an essential element of the criteria needed for prioritization. Additionally, the Theater/Combatant Command ‘manager’ that coordinates efforts for USAFRICOM at the Army Public Health Center has offered assistance with consultation, sample analysis, and additional resource support as needed, but the way ahead to start capturing background OEH data requires identified, easily accessible OPH teams to execute the assessments.

Since the USAFRICOM theater entry and country specific travel requirements can be somewhat of a burden, the best course of action after the recent realignment of SETAF-AF under US Army Europe and Africa (USAREUR-AF) would be to develop a Memorandum of Agreement with the USAREUR-AF G3 that would facilitate Direct Liaison Authority (DIRLAUTH) between SETAF-AF and the 21st TSC to coordinate for “Africa aligned” teams from both the Preventive Medicine and Veterinary Service Support Detachments organic to 30th Medical Brigade. Command emphasis and visibility/action amongst Operations Officers from SETAF-AF up and back down to the 421st Multifunctional Medical Battalion is essential to driving the effort forward. Naturally, all coordination to employ those teams must occur through the Operations process as SETAF-AF would resource and fund these activities, not 21st TSC or the 30th MED BDE.

By having OPH teams ‘ready to go’ with theater entry requirements complete, official passports on hand²², and familiar with the unique challenges of operating in

²² Official Passports can be hard to obtain while assigned to USAREUR-AF, as most countries within the European theater allow unhindered travel with NATO orders and military ID card; most countries in Africa REQUIRE Official Passports for DoD service members travelling on official business.

Africa, execution of OEHSAs and other OPH missions to include veterinary Class I inspections and Food and Water Risk Assessments (FWRAs) would occur in a timely manner. On top of that, they would be primed to respond in the event of a short-notice requirement or an emergent health threat ‘pops up’ that requires additional field analysis through a “One Health²³” approach. Since the Basis of Allocation for both the Preventive Medicine and Veterinary Detachments equates to one per Corps, and the steady-state missions in Africa are not in the 17,000+ personnel on ground at any given time level, it would be inappropriate to request support on a recurring basis from other FORSCOM or COMPO 2 units. By only aligning a team of both Preventive Medicine and Veterinary Detachment personnel, those organizations would remain free to execute support across Europe and could continue to shoulder the burdensome workload generated by ATLANTIC RESOLVE and NATO Enhanced Forward Presence with zero interruption, as SETAF-AF efforts in Africa could be scheduled around ongoing support to those missions.

The first step in Risk Management is to identify risks; to assume they are all low without further developing and seeking confirmation is among the most reckless games of chance that can be played. OEHSAs are critical to eliciting and understanding true risks presented in the operational environment, and SETAF-AF is behind the curve in capturing this information. Establishing DIRLAUTH with 21st TSC/30th MED BDE to coordinate for “Africa aligned” OPH teams would facilitate the execution of the long-term

²³ DA PAM 40-11, Army Public Health Program, para 9-5; the “One Health” approach synchronizes efforts across veterinary, preventive medicine, and other public health disciplines to improve health and quality of life. One area of focus in particular is prevention of foodborne illness, linking food protection efforts to sanitary controls in facilities that prepare foods for consumption.

OPH mission in Africa, and as a result, simplify the coordination process for inspections and assessments that must require prior to exercises, particularly in the veterinary food protection arena. Getting 'results,' even if they are negligible, is essential to protecting the long term health of the force.

References

- 1) DODD 4715.01E, Environment, Safety, and Occupational Health (ESOH), 30 December 2019, including Change 2.
- 2) DODD 6200.04, Force Health Protection (FHP), 23 April 2007.
- 3) DODD 6400.04E, DoD Veterinary Public and Animal Health Services, 29 August 2017, including Change 2.
- 4) DODD 6490.02E, Comprehensive Health Surveillance, 28 August 2017, including Change 2.
- 5) DODI 4150.07, DoD Pest Management Program, 26 December 2019.
- 6) DODI 6055.05, Occupational and Environmental Health (OEH), 31 August 2018, including Change 2.
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- 8) DODI 6490.03, Deployment Health, 19 June 2019.
- 9) AR 11-35, Occupational and Environmental Health Risk Management (OEHRM), 11 May 2016.
- 10) AR 40-5, Army Public Health Program, 12 May 2020.
- 11) ATP 4-02.8, Force Health Protection, 14 August 2020, including Change 1.
- 12) DA PAM 40-11, Army Public Health Program, 18 May 2020.
- 13) USAPHC Technical Guide 230, Environmental Health Risk Assessment and Chemical Exposure Guidelines for Deployed Military Personnel, 2013 Revision

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