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14. ABSTRACT

The Defense Health Agency (DHA), oversight agency for the Defense Health Networks (DHNs) of military Medical Treatment Facilities (MTFs), tasked the Information Analysis Center Multiple Award Contract (IAC MAC) to develop a DHN staffing dashboard for assessing and reporting DHN functional capabilities. The objective was to perform a gap analysis of DHA's support capabilities to ensure all responsibilities were fulfilled or identified for appropriate action. IAC MAC developed the DHN staffing dashboard based on initial analyses of DHN leadership feedback about their current-state staffing status. IAC MAC consolidated feedback and used it to populate the staffing dashboard, then conducted additional analysis to develop an automated dashboard that would prioritize efficiency and accuracy, consolidate the staffing reporting process, optimize capabilities uniquely tailored to each DHN's specific needs, and maintain standardization.

The final dashboard eliminated most manual entry from the process and shortened the assessment and reporting time, allowing leadership to quickly analyze the staffing status at the DHNs, view trends, and gain insights into staffing challenges. Leaders can also apply the methodology for developing the dashboard to future DHN analysis needs as they arise, in support of DHA's overarching commitment to standardization and centralized MTF management to improve health and readiness.

Other DoD organizations can apply IAC MAC's staffing analysis tool and development methodology to stand up new regional structures, find efficiencies, and staff up quickly. The automation process outlined in this report can also enhance methods for analyzing and measuring other critical organizational metrics to reduce level of effort, inaccuracies, lead times, and more.

15. SUBJECT TERMS
IAC MAC, Defense Health Agency, DHA, Defense Health Network, gap analysis, staffing analysis, dashboard, automation

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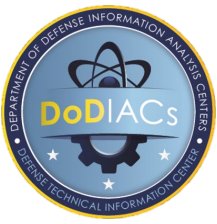
Development of Defense Health Network (DHN) Dashboard for the Tracking and Reporting of DHN Functional Capabilities

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INTRODUCTION

The Defense Health Agency (DHA) is a joint, integrated combat support agency that enables the Army, Navy, and Air Force medical services to improve health and build readiness of combatant commands in both peacetime and wartime. DHA supports the delivery of integrated, affordable, and high-quality health services to Military Health System (MHS) beneficiaries and is responsible for driving greater integration of clinical and business processes across the MHS.

The National Defense Authorization Act (NDAA) of Fiscal Year 2017 mandated the MHS to transfer the authority, direction, and control (ADC) of all military medical treatment facilities (MTFs) and dental treatment facilities (DTFs) from the Military Departments (MILDEPs) to the DHA, creating a globally integrated system of readiness and health care. The purpose was to support force readiness, create a more adaptive and unified system to manage MTFs and DTFs, and provide continuous care delivery improvements. Since 2018, DHA has successfully executed the transition of all MTFs and DTFs to the DHA, meeting the intent of Section 702 of the NDAA 2017.

To support the MTFs, the DHA developed a market structure of direct reporting organizations (DROs), which included 19 direct reporting markets (DRMs), the Small Market and Stand-Alone MTF Organization (SSO), and 2 Defense Health Agency Regions (DHARs) that each provided oversight and support to their aligned MTFs. The 19 DRMs were composed of larger markets of continental United States (CONUS) MTFs aligned based on locality. The SSO comprised the remaining 17 small markets and 40 standalone CONUS MTFs. The DHARs operated similarly to a large market, with two regional offices supporting MTFs outside the continental United States (OCONUS).

In April 2023, DHA began a large-scale organizational advancement to reduce the number of DROs and eliminate duplicative and overlapping organizations to optimize its management of healthcare delivery, combat support, and enterprise support. This effort, referred to as DHA Advancement, reduced the number of DROs from 22 to 9 Defense Health Networks (DHNs). At initial operational capability (IOC), each MTF became aligned to one of nine DHNs with flag officers/general officers dual hatted as the DHN directors.

Leading up to IOC, the DHNs began staffing their office personnel to adequately execute their functional capabilities in support of their MTFs. The DHNs received funding, Fourth Estate Manpower Tracking System (FMTS) numbers, and position descriptions (PDs) for each of the 11 IOC positions, followed by the same for 15 additional positions to reach full operational capability (FOC). To assess and report on these efforts, IAC MAC developed an automated DHN staffing dashboard tool for the Indo Pacific, Pacific Rim, West, Atlantic, Central, East, and Continental DHNs, as the remaining three were not given additional funding for positions. This tool enabled a streamlined process that increased accuracy and efficiency to allow for more effective reporting and decision-making processes.

ISSUE STATEMENT

DHA tasked IAC MAC to develop a DHN staffing dashboard for assessing and reporting DHN functional capabilities. The objective was to enable a gap analysis of DHA's support capabilities to ensure all responsibilities were fulfilled or identified for appropriate action. IAC MAC developed the DHN staffing dashboard based on initial analyses of DHN leadership feedback about their current state staffing status. The team consolidated this feedback and used it to populate the staffing dashboard, but needed additional analysis to develop an automated dashboard that would prioritize efficiency and accuracy, consolidate the staffing reporting process, optimize capabilities uniquely tailored to each DHN's specific needs, and maintain standardization.

IAC MAC's approach to developing the DHN staffing dashboard can assist other Department of Defense (DoD) organizations aiming to automate and streamline assessment and reporting processes, not only for staffing metrics but also for other critical metrics when establishing new organizational elements.

APPROACH

The DHN staffing dashboard evolved through several stages of development in response to the nine DHNs' needs.

Staffing Tracker. The first activity was to consolidate the DHN staffing information into the DHN staffing tracker (figure 1). IAC MAC developed the staffing tracker utilizing Microsoft Excel to track and analyze DHN staffing information. Once the staffing tracker was built, it was tasked periodically to the DHNs via Enterprise Task Management Software System (ETMS2) to provide their input and updates on their individual DHN tabs.

DHN Name	Duty Title	Current Staffing	Staffing Type	Staffing Details	Current Grade
Pacific Rim	Chief of Staff		Permanent	incumbent	GS-0301-15
Pacific Rim	Legal		Permanent	incumbent	GS-0905-15
Pacific Rim	Communications & Public Affairs		Permanent	incumbent	GS-14 detail from NavMedForPac for 120d
Pacific Rim	AD Medical Affairs		Detail (Temp)	covering	O-5
Pacific Rim	AD Healthcare Operations		Permanent	incumbent	GS-0671-14
Pacific Rim	AD Support Operations		Detail (Temp)	covering	AD/NavMedForPac to assist
Pacific Rim	AD Resource Operations		Detail (Temp)	covering	GS-15
Pacific Rim	Personnel		Detail (Temp)	covering	GS-0201-14
Pacific Rim	Operations Lead		Detail (Temp)	covering	GS-12
Pacific Rim	Operations Support #1		Detail (Temp)	covering	AD, GS-12, GS-14
Pacific Rim	Operations Support #2		Detail (Temp)	covering	GS-12, GS-11
Pacific Rim	Chief Nursing Officer		Detail (Temp)	covering	
Pacific Rim	Chief Health Informatics Officer		Vacant		O-4, GS-13, GS-13
Pacific Rim	Manpower		Permanent	incumbent	
Pacific Rim	Clinical Quality Management		Vacant		
Pacific Rim	Analytics & Evaluation		Vacant		
Pacific Rim	Chief Dental Officer		Vacant	Detail	O-6
Pacific Rim	Chief Executive Support Specialist		Vacant		
Pacific Rim	GENESIS Issue Resolution Lead		Vacant		
Pacific Rim	Healthcare Optimization		Vacant		
Pacific Rim	GENESIS Training Lead		Vacant		
Pacific Rim	Public Health		Vacant		
Pacific Rim	Emergency Management		Vacant		
Pacific Rim	Patient Safety		Vacant		
Pacific Rim	Clinical Quality Improvement		Vacant		
Pacific Rim	PAD/HIPAA Lead		Vacant	Detail	O-4

Figure 1: DHN Staffing Tracker

As IAC MAC received staffing updates, the team observed that the staffing tracker format was not as efficient as possible due to human error and inaccurate updates. To reduce inaccuracies,

IAC MAC worked to continuously improve the tracker based on feedback from the DHNs and internal process reviews. IAC MAC gradually refined the tracker by adding data validation features to reduce the possibility of inaccurate data entry and to shorten update time.

Staffing Dashboard Framework. After optimizing the staffing tracker, IAC MAC began planning the process for building the staffing dashboard using client feedback and best practices learned from prior tasks. The goal was to develop a staffing dashboard in Microsoft Power BI to allow DHA and DHN leadership to quickly analyze staffing progress. Through a series of development sessions and working meetings, IAC MAC determined that a chiclet chart, a red/ yellow/green stoplight chart, was most conducive to displaying the staffing gap information.

Initial Staffing Dashboard. After finalizing the staffing dashboard framework, IAC MAC began to develop the initial staffing dashboard in Power BI as a stoplight chiclet chart that allowed quick identification and analysis of staffing gaps (figure 2). First, the IAC MAC transferred the data from the staffing tracker into a separate Microsoft Excel spreadsheet. Using formulas, they converted the staffing status tab into numbers one through four. Then, IAC MAC imported the data into Power BI and populated a matrix with the staffing data. Finally, IAC MAC applied conditional formatting to the numbers to create the color-coded chiclet chart that corresponded to each position's status. A legend provided context for each color displayed, indicating the position's status: filled with a permanent hire, filled with a temporary detail, had hiring actions in progress, or vacant.
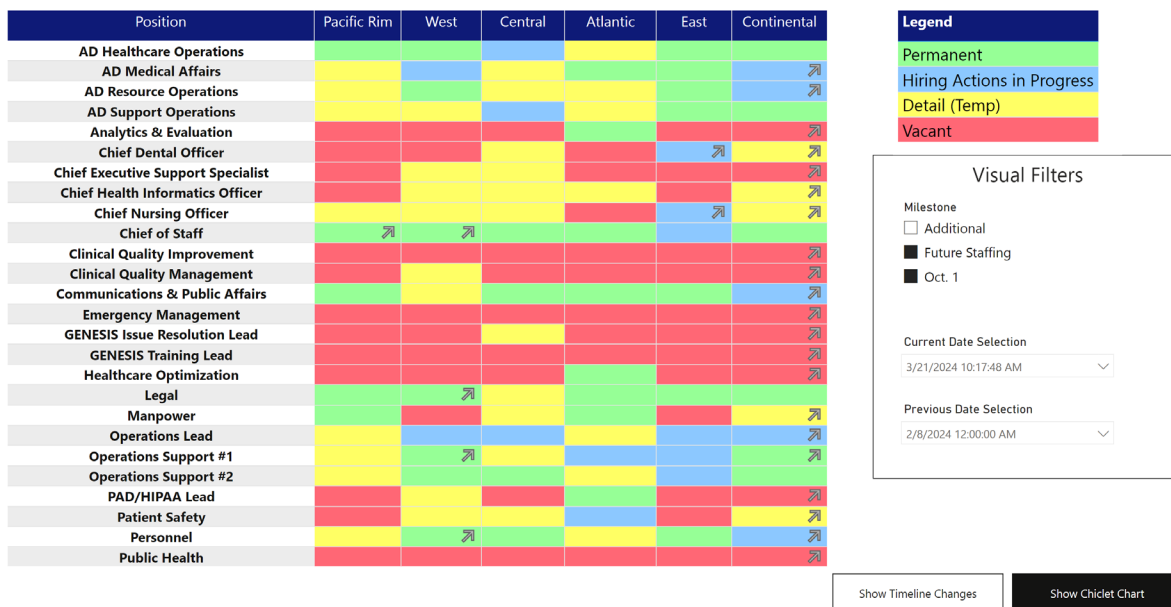

Figure 2: Initial Staffing Dashboard

While the staffing dashboard served as a helpful tool for displaying data, it was cumbersome and required multiple hours of work each time the DHNs reported staffing updates. As a result, IAC MAC determined that automating the staffing dashboard would be the most efficient and accurate method to provide data to the DHA and DHN leadership.

Staffing Dashboard Automation. The final key activity was to automate the process of updating the staffing dashboard. The intent was for the DHNs to edit the staffing tracker

independently, then have the dashboard owner facilitate a quick refresh of the staffing dashboard. This would remove the need for an ETMS2 tasker which required at least two to three weeks of lead time to receive responses. IAC MAC developed the staffing dashboard to facilitate an efficient, automated process by modifying and enhancing the products and processes originally in place, such as staffing data collection from the DHNs, data processing, and data visualization within Power BI. IAC MAC transformed the structure of the six DHN-specific data collection workbook spreadsheets into formal tables rather than a range of cells. This provided specific table and column names for reference.

End-to-End Process. Automating the DHN staffing dashboard (figure 3) led to the following end-to-end process. First, the DHN chiefs of staff (CoS) submit their edits – such as updates to a position's staffing status and/or personnel name – to a constantly accessible data collection workbook. Then, the staffing dashboard owner performs a direct data query between the two workbooks, which automatically copies the changes recorded in the data collection workbook into a data analysis workbook. The data analysis workbook aggregates the responses from the six DHNs, found in the data collection workbook, and performs a change analysis in seconds at the click of a button.

If a staffing status and/or personnel name change is observed, a new entry is recorded in the "Tracked Changes" table within the data analysis workbook. The table notes the change made along with the observed date and time of the change. Following the change analysis, the staffing dashboard owner opens the Power BI dashboard file, and the data tables refresh with the latest content from the "Tracked Changes" table. The data takes only seconds to load, and the visualizations automatically update to reflect the changes. The last step in the process is for the owner to publish the results to the Power BI Service to allow stakeholders to view and use the data via their web browser.


Figure 3: Automated Staffing Dashboard

SUMMARY OF ANALYSIS

The final automated staffing dashboard represented a seismic shift from the previous staffing reporting system. By eliminating most manual labor from the process, IAC MAC vastly shortened the reporting time and reduced the possibility for human error (figure 4). While there were challenges encountered along the way, these obstacles created opportunities for expanding the staffing dashboard's functionality and improving its usability and performance.

IAC MAC incorporated new functionalities in the staffing dashboard to include tooltips, visual filters, and tracked changes. Tooltips provided further flexibility to drill down into the data, enabling the end users to quickly analyze the staffing status at the DHNs and note when the CoS made most recent updates. Visual filters created opportunities to see staffing changes over time and provided a deeper look into the distinct staffing position categories. Tracked changes allowed the user to understand the total change counts by date and DHN. These enhancements transformed the staffing dashboard from a single-use visualization to a multifaceted analytic tool that provides more detail along with a quick snapshot of staffing gaps.
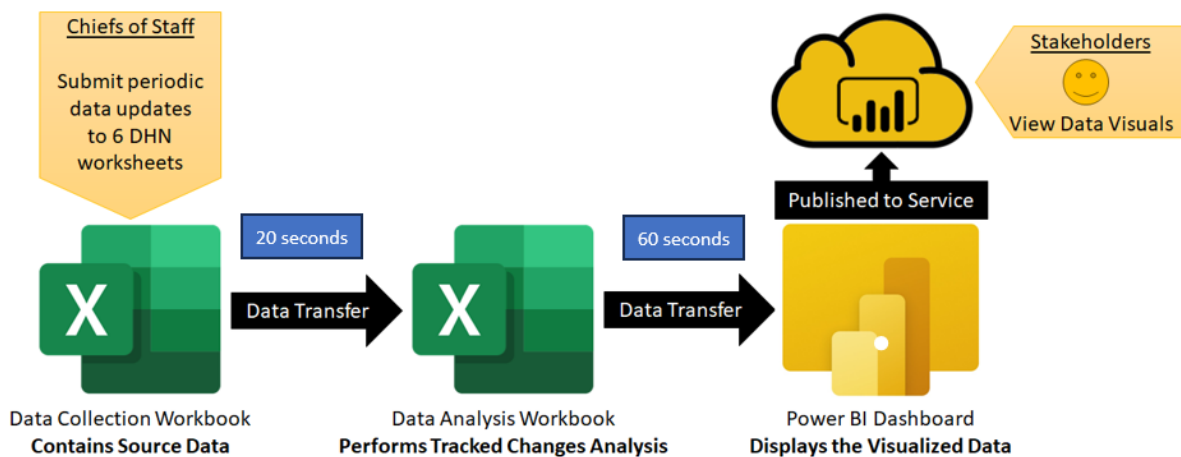
Figure 4: Staffing Analysis and Reporting Process

MISSION IMPACTS

The staffing dashboard is a valuable analytic tool to help the DHNs identify areas for improvement and provide guidance for resolving staffing challenges. IAC MAC's data visualization capabilities of the dashboard enable DHN leadership to quickly filter data, analyze, and address gapped staffing, and report to DHA senior leaders and key stakeholders. The products developed for this task provide all DHNs with a standardized, actionable way forward to staff their offices through a quick, one-button refresh and allow DHNs to focus on their daily operations rather than on mitigating risks caused by critical staffing gaps.

DHNs and DHA leaders can also apply the methodology for developing this staffing dashboard to future DHN analysis needs as they arise, in support of DHA's overarching focus on standardization and centralized MTF management to improve health and readiness.

RECOMMENDATIONS AND CONCLUSIONS

DHN leadership accepted IAC MAC's automated staffing dashboard, which proved successful in streamlining and standardizing staffing analysis and reporting across the DHNs to improve decision making. This enhanced the capabilities and operations of the DHN offices while reducing the administrative burden on DHA headquarters. Key stakeholders, specifically DHN leaders, will continue to use it as their organizations mature.

Additionally, other DoD organizations can apply IAC MAC's staffing dashboard tool and development methodology to stand up new regional structures, find efficiencies, and staff up quickly. The automation processes outlined in this report can also enhance methods for analyzing and measuring other critical organizational metrics to reduce level of effort, inaccuracies, and lead times.

IAC MAC identified the following recommendations to improve development and implementation of dashboards for consideration.

1. Establish frequent communication with stakeholders to develop requirements, improve processes, and refine products.
2. Leverage automation to reduce lead time and level of effort.
3. Use data visualization tools such as Microsoft Excel and Power BI to provide insight into large quantities of data, standardize reporting, and enhance decision-making.

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ACRONYMS

ACRONYM	MEANINGS
ADC	authority, direction, and control
CONUS	continental United States
DHA	Defense Health Agency
DHA HQ	Defense Health Agency Headquarters
DHARs	Defense Health Agency Regions
DHN	Defense Health Network
DHSA	Defense Health Support Activity
DoD	Department of Defense
DRO	direct reporting organization
DRM	direct reporting market
DTF	dental treatment facility
ETMS2	Enterprise Task Management Software System
FMTS	Fourth Estate Manpower Tracking System
FOC	full operational capability
IAC MAC	Information Analysis Center Multiple Awards Contract
IOC	initial operational capability
MHS	Military Health System
MILDEP	Military Department
MTF	military medical treatment facility
NDAA	The National Defense Authorization Act
OCONUS	outside Continental United States
PD	position description
SME	subject matter expert
SSO	Small Market and Stand-Alone MTF Organization