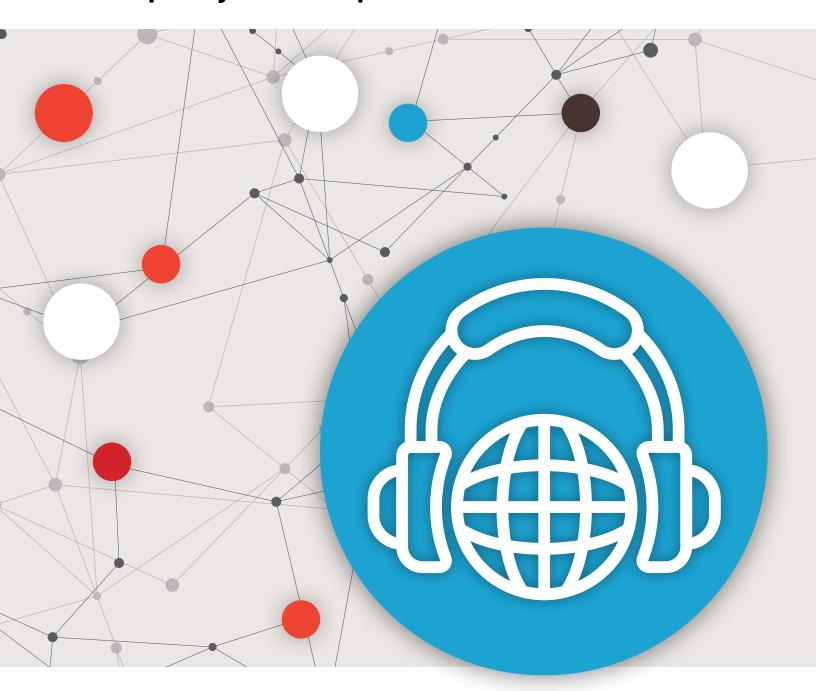# 2020

692 Intelligence, Surveillance and Reconnaissance Group: Human Performance Optimization (HPO) and Total Force Fitness (TFF) Capability-Based Blueprint (CBB)

PREPARED FOR: USAF 1N3 Cryptologic Language Analyst
692 ISRG, JBPHH, Hawaii
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Table of Contents

List of Tables and Figures

Figure 1. The CBB Workshop organized into its five sequential phases, methods and aims

Table 1. 1N3 Cryptologic Language Analyst Subject Matter Expert Profiles (Section 692d CBB Team)

Figure 2. 1N3 Mission Readiness Profile

Table 2. Summary of 1N3 PICT List Generation and TRIAGE Process

Table 3. 1N3 PICT List and Metrics

Figure 3. The 1N3 Cryptologic Language Analyst Targeting System

Table 4. Physical Demands/Resources

Table 5. Psychological Demands/Resources

Table 6. Social Demands

Table 7. Spiritual Demands/Resources

Table 8. Nutritional Demands/Resources

Table 9. 1N3 Conditions Specific to Performance of 1N3 PICT

Figure 4. Health Trends Related to Performance of 1N3 PICT

Table 10. 1N3 Physical Health Trends

Table 11. 1N3 Psychological Health Trends

Table 12. 1N3 Social Health Trends

Table 13. 1N3 Spiritual Health Trends

Table 14. 1N3 Nutritional Health Trends

Table 15. 1N3 Additional Considerations

1   Background

A Human Performance Optimization (HPO)/Total Force Fitness (TFF)–Capability–Based Blueprint (CBB) and Targeting System was requested by Col Eric Mack (692 ISRG Commander) and CMSgt Warren Triche (692 ISRG Superintendent) to assist their unit community in constructing a career field specific CBB that would serve to advance, align and operationally validate their embedded Airman Resiliency Team (ART) capabilities. The 692d ART is an embedded multidisciplinary team consisting of United States Air Force (USAF) active duty Social Worker and Mental Health Technician, Medical Provider and Medical Technician, and Chaplain and Chaplain's Assistant. The mission of the ART is to provide embedded subject matter expertise to preserve the mission capabilities and readiness of members assigned to the 692 ISRG.

2   *Methodology Overview*

The 1N3 career field community assigned to the 692 ISRG was identified as the focus of this CBB. The overall deliverables identified by the 692 ISRG Command leadership for this workshop included:

1. Constructing a holistic and integrative blueprint to identify performance and health priorities specific to the 1N3 to enhance the targeting of ART service delivery;

2. Advancing ART service delivery and capabilities to be more "performance oriented";

3. Developing metrics to validate ART service delivery and capture operational impact, and

4. Differentiating ART service delivery from MTF services.

The active 1N3 HPO/TFF–CBB workshop was conducted on 5–9 October 2020 in collaboration with 692 ISRG 1N3 Subject Matter Experts (SME) and cadre, embedded ART, community stakeholders, and CHAMP multidisciplinary consultants.

The purpose of this virtual workshop was to construct a CBB and targeting system that mapped 1N3 performance and health priorities, and accompanying metrics. The 1N3 CBB deliverables may be used to improve and validate the targeting of embedded ART and installation human performance and health sustainment resources aimed at preserving the unique talents and capabilities of the 1N3 Cryptologic Language Analysts that contribute to the 692 ISRG mission. In addition, the following 1N3 CBB can be used as a starting point to further explore in depth 1N3-specific Core Task performance requirements by domain, upstream career field training, resourcing, and research endeavors.

The 1N3 CBB was built through group consensus work, rapid qualitative inquiry and participant observation of Population Identified Critical Task (PICT) simulations and includes secondary data analysis on occupational, health, and disease trends identified through a 1N3-constructed group consensus survey.

The CBB operationalizes DoD Joint Requirements Oversight Council Memorandum 073–18 (11 July 18) Item 2.A. [...*for each operational community, in collaboration with SMEs, to conduct an analysis of their Mission Essential Task List and identify key areas of strengths and weaknesses. Identify opportunities to develop course of action COA for optimizing HPO and minimizing identified risks. Incorporate elements of the TFF framework for achieving service member's SM fitness and mission readiness.*]1

Workshop Design Considerations

The CBB workshop is the first step in a larger three step process of identifying career field health and performance needs, aligning resources to meet those needs, and evaluating service delivery to ensure that those needs are being met.

Due to COVID-19 restrictions for travel and safety, the intended workshop scheduled for 20-24 April 2020, was postponed and arrangements were made to move forward virtually. While all of the data collection components of the face-to-face workshop are contained in the virtual format, due to security considerations and the limitations of working in a virtual space, task simulations relied more heavily on career field SME self-reported performance demands, occupational exposures and additional factors that impact the performance of their critical tasks.

In its virtual and in person form, the CBB workshop is a community-based participatory approach to operationalizing HPO and TFF by mapping career field performance and health demands and occupational risks. Using a Rapid Qualitative Inquiry (RQI) frame-work, it draws on the collaborative expertise of TFF domain SMEs as well as senior career field members and a variety of data collection techniques summarized below. The CBB workshop is conducted in five phases consisting of workshop preparation before the onsite or virtual workshop (Phase I), followed by workshop data collection and validation (Phase II-IV) and debrief with key career field stakeholders (Phase V) (see Figure 1).

Phase I	Workshop Prep	→	Build CBB site team; data mining
Phase II	TRIAGE Part I	→	Identify and rank PICT
	TRIAGE Part II	→	Validate PICT list
	STETS	→	Develop PICT simulations and metrics
Phase III	Cultural Domain Exercises	→	Identify TFF factors that affect performance and health sustainment: Career field perspective
Phase IV	Simulations	→	Identify TFF factors that affect performance and health sustainment: TFF SME perspective
	Consensus Survey Build		
Phase V	Debrief, Validation, and Dissemination	→	Disseminate and validate results
		→	Review report with stakeholders
		→	Disseminate final report

Figure 1. The CBB Workshop organized into its five sequential phases, methods and aims.

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1N3 Focus Groups

The CBB workshop applied a focus group format over a five day period with volunteer senior 1N3s and TFF-domain SMEs. Focus group activities were divided into Phases II–IV. Phase II included two group consensus techniques with focus group participants —*Technique for Research of Information by Animation of a Group of Experts* (TRIAGE)2 to identify Population Identified Critical Tasks (PICT) and *Standard Establishment Through Scenarios* (SETS)3 to design PICT simulations. To identify performance demands and key factors that positively and/or negatively affect performance and health sustainment from the career field perspective, Phase III included several methods from cultural domain analysis with career field members free listing factors they considered either positively or negatively impactful to their health and performance and pile sorting factors into performance and health domains. These activities were incorporated into a focused discussion on which factors career field members viewed as the most impactful to their health and performance and priority areas to target to improve task performance and career field longevity. The final component of the focus group (Phase IV) was a review of the CBB draft with all of the data compiled from Phase I–IV, to elicit and incorporate career field feedback into the final CBB report and identify items for the 1N3 Health Consensus Survey.

Table 1. 1N3 Cryptologic Language Analyst Subject Matter Expert Profiles (Section 692d CBB Team)

SME #	Rank	Name	Current Position	Language
1	MSgt	Addison, Derek	Superintendent, Systems Integrations	Korean
2	MSgt	Clancy, Joseph	NCOIC, Plans & Exercises	Chinese Mandarin
3	MSgt	Dimmitt, Julie	Flight Chief, Senior Enlisted Leader	Chinese Mandarin
4	MSgt	Langford, Mary	Superintendent, Plans and Programs	Korean
5	MSgt	Machado, Bradford	Senior Enlisted Leader	Chinese Mandarin
6	MSgt	Schmidley, Kathryn	Superintendent, Cryptologic Operations	Chinese Mandarin
7	TSgt	Bates, Jonathan	Assistant Flight Chief	Chinese Mandarin
8	TSgt	Leachman, Michael	Command Language Program Manager	Chinese Mandarin
9	TSgt	Ochoa, Marion	Senior Enlisted Leader	Chinese Mandarin

1N3 Task Performance Narratives

To complement the identification of PICT performance demands and factors that positively or negatively affect performance of PICT from the TFF domain SME perspective, the CBB process included an analysis of PICT narratives. These narratives were constructed by participating 1N3 SMEs and were designed to provide TFF domain SMEs diverse accounts of executed PICTs. Narratives and follow-up interviews were conducted in place of observed PICT simulations, which could not be conducted due to COVID-19 and safety precautions (see Appendix 1).

1N3 Performance and Health Data Mining

Career field-specific data sources can provide invaluable insight into the 1N3's performance enhancement demands and health and disease trends unique to their occupation. Trends in these data can illustrate the strengths and vulnerabilities that affect 1N3 performance as well as 1N3 health and career field longevity. In an effort to situate 1N3 specific trends captured in the CBB workshop within the larger context of a 1N3 career lifespan, the CBB team conducted a comprehensive data mining effort that spanned the 1N3 training pipeline (Defense Language Institute and Goodfellow AFB), Top Secret clearance program, and internal and external support agencies providing health and performance services. Unfortunately, due to the systems' architecture, as well as the requirements and priorities that govern key 1N3 touch points along the 1N3 career lifespan, the CBB team was unable to examine career field- and site-specific data for 1N3s. Career and site-specific health data were captured via a Health Consensus Survey (see section 2.5).

1N3 Health Consensus Survey

As noted in section 2.4., in order to identify key health sustainment areas for 1N3s, preparation for the workshop (Phase I) includes mining available career field- and site-specific health and disease data to capture relevant 1N3-specific health and disease trends. Due to the limited 1N3 and JBPHH-specific health and disease data that were available from support agencies, participating 1N3s, ART members and TFF domain SMEs collaboratively built a consensus survey. Consensus survey items were compiled from observed and/or reported occupational risk exposures and conditions. The survey was distributed via Survey Monkey to all 1N3s at the 692 ISRG (N=227) to capture 1N3 health and disease trends and priorities. After two weeks, the survey was closed out with a total of 110 participants (response rate 48%).

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3 1N3 Cryptologic Language Analyst HPO/TFF CBB Report

3.1 1N3 Cryptologic Language Analyst Core Task and Mission Capabilities

The United States Air Force Cryptologic Language Analyst (1N3) employs foreign language skills to collect, transcribe, translate, analyze, and report intelligence information. The 1N3 searches for, monitors, identifies and processes communications involving activities of interest. 1N3s summarize foreign language communications, incorporating and emphasizing essential elements of information to convey the meaning of an activity or a situation. They develop techniques to collect, identify, and exploit target communications and employ knowledge of global communication technologies and communication methods to locate and develop targets. 1N3s translate, analyze and report intelligence information consumed by customers within the Air Force, Intelligence Community, DoD, U.S. Government, and foreign partners. They provide indications and warnings of adversarial intentions against U.S. or allied interests and identify regional and cultural factors associated with activities of interest. 1N3s apply critical thinking and analytic methods to gather, evaluate, and synthesize data from multiple sources using language processing and analysis tools. They develop and maintain working aids and analytic references to ensure applicability and currency.

3.2 1N3 Mission Readiness Profile

The goal of the 1N3 CBB is to inform the embedded Airman Resiliency Team (ART) and installation health and performance services that support the operational capabilities and mission readiness of 1N3s. For the purpose of this blueprint, 1N3 mission readiness will be defined as a 1N3's ability to sustain an optimal level of performance for 692 ISRG mission
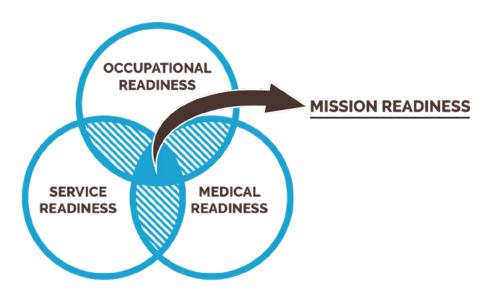

Figure 2. 1N3 Mission Readiness Profile

essential tasks. 1N3's mission capabilities comprise three distinct areas of readiness (Figure 2). Combined, these areas of readiness are essential to their overall mission readiness: 1) Service (Airman) Readiness; 2) Occupational Readiness (Language Proficiency, 1N3 AFSC Proficiency and Top Secret Clearance Health); and 3) Medical Readiness.

3.2.1   Service (Airman) Readiness

All 1N3s begin their career pathway at USAF Basic Military Training (BMT) on Lackland Air Force Base, San Antonio, TX. Over the course of eight weeks they undergo a transformation process including education and training on the Air Force's mission and organizational culture, its value-based system, and its lifestyle. The immersive format is key to this transformation process, which is also designed to prepare its members for their new lives in the Air Force and combat operations. These foundational Air Force requirements and cultural proficiencies are important contributors to a 1N3's mission readiness and resilience, and is foundational to their Airmen identity.

3.2.2   1N3 Occupational Readiness

Air Force Specialty (AFS)-related task performance within a Sensitive Compartmented Information Facility (SCIF) is critical to a 1N3's mission capabilities. 1N3s are pre-selected and screened, and undergo a variety of training in order to qualify to enter a SCIF and execute missions. These trainings and certifications are specific to language proficiency, AFS job skills proficiency, and acquiring and sustaining a Top Secret clearance.

Language Proficiency: Following BMT, Airmen designated for the 1N3 career field transition to the Defense Language Institute (DLI) in Monterey, CA to acquire their basic foreign language proficiency. Airmen assigned to the 692 ISRG undergo an immersive Chinese or Korean language program spanning approximately 320 days.

1N3 AFSC Proficiency: *The ability to perform optimally at their Core Tasks is essential to 1N3s' mission capabilities and readiness at the 692 ISRG. This ability also contributes to overall unit mission success.* Building on those foundational language skills at DLI, Airmen attend follow-on training at Goodfellow AFB, TX to become certified over the course of approximately 60 days in their cryptologic analysis skills.

Top Secret (TS) Clearance Health: The ability to obtain and maintain a TS clearance is a critical part of the 1N3 mission capabilities and readiness at the 692 ISRG. Without a TS clearance, 1N3s cannot perform their primary tasks and are not mission ready. The TS clearance process is initiated during BMT and on average takes 12–16 months to complete. Often when a 1N3 arrives to the 692 ISRG, they are assigned to the Airmen Development Flight (ADF) where they can possibly spend another 6-7 months until they are TS cleared and are fully qualified to perform missions.

3.2.3   Medical Readiness

Prior to service entry, 1N3s undergo medical pre-screening at the Military Entrance Processing Station (MEPS) to ensure they meet basic physical and psychological standards to enter into military service. After basic and technical training, their care is established

at the Military Treatment Facility (MTF) at their duty station to ensure basic medical, dental, and psychological standards are maintained in order to perform duties and/or deploy. Meeting medical readiness standards does not mean 1N3s are completely healthy or performing optimally at their assigned mission, but it is an important contributing factor to their mission capabilities and readiness.

In total, the unique mission capabilities of the 1N3 are cultivated over the course of approximately two to three years in training status at a cost of ~$174K for a Chinese linguist and ~$179K for a Korean linguist (this does not include basic pay and entitle-ments) prior to being qualified to perform a mission for the 692 ISRG.

3.3   *1N3 Population Identified Critical Tasks (PICTs)*

In collaboration with 1N3 SMEs, a recent job listing of core tasks was reviewed for the 1N3 occupation. From these listings, a combined total of 87 tasks were taken from the 1N3 Career Field Education and Training Plan as well as six Master Training Lists (MTL) from NSA–Hawaii mission elements to which 692 ISRG 1N3s are commonly assigned. A combined list of those tasks was reviewed with 1N3 SMEs at Joint Base Pearl Har-bor–Hickam (JBPHH). The consolidated task list was then processed with participating 1N3 SMEs to determine which tasks were critical by definition. Any tasks deemed critical were then discussed in the Technique for Research of Information by Animation of a Group of Experts (TRIAGE) process. This process refined the task list to nine population identified critical tasks (PICT). A summary of the task list generation and refinement process can be found in Table 2 and the list of those critical tasks that are essential to the 1N3 mission at the 692 ISRG is summarized in Table 3.

Table 2. Summary of 1N3 PICT List Generation and TRIAGE Process

Number of 1N3 Tasks	**87**
TRIAGE output	**9**
Final output	**9**

Table 3. 1N3 PICT List and Metrics

Task #	Task Name	Task Metric	Task Metric Scoring	
			Proficient	**Exceptional**
1	Navigate & query data-bases: create, execute, write justifications and load queries.	Effectively navigate & query databases	Navigate & query databases effectively without assistance	N/A
Description: Creating a search string, execute those search parameters, justifying and classifying that search based on IN3s' assigned mission and then loading the results. Two parts of a good query: 1) specific enough thus reducing excessive and unhelpful results 2) does not violate United States Signals Intelligence Directive 18—Legal Compliance and U.S. Persons Minimization Procedures.				
2	Scan traffic: identify Essential Elements of Information (EEI) within traffic of intel value	Percent of EEIs identified	65% accuracy for Tactical; 85% accuracy for Strategic	85% accuracy for Tactical; 95% accuracy for Strategic
Description: Looking through and filtering the query results and then determining what is important to the mission at hand				
3	Change view and/or encoding/file type for best viewing/listening	Effectively change view and/or encoding/file type for best viewing/listening	Effectively change view and/or encoding file type for best viewing	N/A
Description: Choosing the appropriate tool or tool-settings to make sure the collected data are displayed properly (right tool, right extension, right encoding format)				
4	Use audio/video playback tool	Effectively use audio/video playback tool	Effectively use audio/video playback tool	N/A
Description: Operate playback tool utilizing available features to best facilitate comprehension				
5	Create a transcript	Percent of transcript that's accurate	85% accuracy in allotted time	95% accuracy in allotted time
Description: Transcribing and translating verbatim graphic or auditory materials into English (according to certain formatting rules)				
6	Provide a gist	Percent of EEIs that are identified in allotted time	65% accuracy for Tactical	85% accuracy for Tactical
Description: Listening to real time audio and translating and writing overall summary of traffic and EEIs (essential elements of information)				

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Task #	Task Name	Task Metric	Task Metric Scoring	
			Proficient	Exceptional
7	Identify targets and networks	Identify target and network correctly and without issue	Identify target and network correctly and without issue	N/A
Description: Searching through databases and past reports in order to determine if the target and/or network is an individual that supports/provides valuable information to IN3s' assigned mission needs				
8	Traffic analysis/logic	Perform traffic analysis/logic appropriately	Perform traffic analysis/logic appropriately	N/A
Description: Searching in databases that determine location or selector registry (registered in UK, US, etc.) and understanding the logical flow of how conversations occur in the target or network. Traffic analysis or traffic logic is the basic understanding of what *should* be coming up next in traffic based on context. It limits the language the IN3 has to mentally parse and makes the new or interesting pop out. Also, knowing what it indicates when certain entities start talking to each other.				
9	Classified material handling	Handles classified material appropriately	Handles classified material appropriately	N/A
Description: Marking documents properly, having documents reviewed and approved before putting them on an unclassified system of different classification level. Ensuring people have the right clearance level and need to know before sharing classified info with them.				

Note: *The performance parameters and metrics captured above, serves as a starting point for identifying operational metrics unique to the 1N3 missions at the 692d ISRG. Since construction of these metrics occurred with a select group of 1N3 SMEs during the CBB workshop, they may not reflect the opinions of all 1N3s.*

3.4   1N3 Performance Enhancement and Health Sustainment Targeting System

The following serves as a holistic and integrative targeting system that directly supports 1N3 PICT identified in Table 3 and mission capabilities listed above:

Figure 3. The 1N3 Cryptologic Language Analyst Targeting System graph (above) represents the number of identified performance enhancement priorities (blue), and health sustainment priorities (orange) identified by participating 1N3s at JBPHH according to various TFF domains. Each line in the graph represents a specific number of priorities that were identified (e.g., five [5] performance enhancement priorities were identified in the psychological domain).

3.5   Performance Demand/Resources Related to 1N3 PICTs

PICTs were those tasks identified by participating 1N3 SMEs as critical to the success of the 1N3 mission at the 692 ISRG in comparison to other 1N3 mission essential tasks. This section includes the physical, psychological, social, nutritional, and spiritual demands and resources related to 1N3 performance of those PICTs. The task demands and resources that are included in this section are those that exceed the everyday activities for the average healthy individual. Some degree of strength for example is required to do most any physical activity. The degree of strength necessary, however, is determined by the task. Task demands and resources are therefore descriptions of the dimensions of performance of the task.

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3.5.1 Physical Demands/Resources

The following section provides an overview of the Physical Demands/Resources associated with 1N3 performance of PICTs. Table 4 presents the physical demands and resources mapped onto PICTs. Check marks indicate the specific physical demand/ resource is important for successfully completing the specific PICT.

Table 4. Physical Demands/Resources

Physical Demands/Resources	1	2	3	4	5	6	7	8	9
Visual Acuity	✓	✓	✓	✓	✓	✓	✓	✓	✓
Auditory Acuity		✓	✓	✓	✓	✓	✓	✓	
Dexterity/Fine Motor Control (Hand/Wrist/Finger)	✓	✓	✓	✓	✓	✓	✓	✓	✓

Visual Acuity: a 1N3's sharpness of vision. The ability to discern letters or numbers at a given distance.

Auditory Acuity: Keenness or acuteness of hearing. The ability for a 1N3 to perceive sounds of low intensity; the ability to detect differences between two sounds on a characteristic such as frequency or intensity; or the ability to recognize the direction from which a sound proceeds.

Dexterity/Fine Motor Control (Hand/Wrist/Finger): A 1N3's ability to perform precise movements such as typing. Controlling an object with precision such as manipulating computer and headset equipment.

3.5.2 Psychological Demands/Resources

The following section provides an overview of the **Psychological Demands/Resources** associated with 1N3 performance of PICTs. Psychological demands/resources include mental processes such as attention, memory, decision making, and state of mind, as they affect interactions among humans and other elements of a system. Table 5 presents psychological demands/resources mapped onto IN3 PICTs. Check marks indicate the specific psychological demand/resource is important for successfully completing the specific PICT.

Table 5. Psychological Demands/Resources

Psychological Demands/Resources	1	2	3	4	5	6	7	8	9
Attention Control		✓		✓	✓	✓	✓	✓	
Memory Recall	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fluid Intelligence		✓					✓	✓	
Self-Regulation		✓			✓	✓	✓	✓	
Strategic Sleep	✓	✓			✓	✓	✓	✓	✓

Many of the cognitive demands for 1N3 center on executive function capabilities. 1N3s apply a set of psychological resources that include working memory, flexible thinking, and self-control in addition to applications of strategic sleep.

Attention Control/Cognitive Inhibition: The mental capacity for a 1N3 to be able to choose what to attend to versus what to ignore, to be able to filter in mission-relevant stimuli from non-mission relevant stimuli.

Memory Recall: The capacity to recall or retrieve information from the past from a cognitive system with a limited capacity. The capacity for 1N3s to retrieve information from knowledge or experience based resources to make decisions effectively.

Fluid Intelligence: The capacity for a 1N3 to think logically and solve problems in novel situations, independent of acquired knowledge. Fluid intelligence involves the ability to identify patterns and relationships that underpin novel problems and to extrapolate these findings using logic.

Self-Regulation: A factor that helps a 1N3 manage thoughts, behaviors, and emotions that impact performance. Also includes the capacity to step back and without an immediate response, survey the environment, and reflect on the course of action instead of being dominated by immediate stimulation.

Strategic Sleep: More than just a focus on restorative sleep. It is the strategic application of sleep needed to ensure a 1N3's psychological resources are restored and deployed to optimally perform at their PICTs.

3.5.3   Social Demands/Resources

The following section provides an overview of the **Social Demands/Resources** associated with 1N3 performance of PICTs. Social demands/resources include those specific interactions between humans (e.g., communicating with team members, providing customer service, supervising and mentoring members, presenting, etc.) in the performance of 1N3 PICTs. Social demands/resources include non-verbal and verbal communication via

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face-to-face and/or through various systems. Table 6 presents social demands/resources mapped onto PICTs. Check marks indicate the specific social demand/resource is import-ant for successfully completing the specific PICT.

Table 6. Social Demands/Resources

Social Resources/ Demands	1	2	3	4	5	6	7	8	9
Communication	✓	✓	✓	✓	✓	✓	✓	✓	✓
Leadership	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mentorship	✓	✓	✓	✓	✓	✓	✓	✓	✓
Interpersonal Skills		✓			✓	✓	✓	✓	

Communication: How a 1N3 articulates information to others. This can be providing the proper information to the proper person, or communicating tactfully with a customer. A 1N3's communication skills determine how effectively mission-related information is relayed from one team member to another.

Leadership: A social force that can set a direction, build vision, and influence motivation for task completion and execution by a 1N3. Leadership is also key to ensuring 1N3s feel connected to the mission and have a sense of purpose in the tasks they perform or to which they contribute.

Mentorship: Enables individuals or groups to flatten the learning curve, enables more effective knowledge and skill transfer from senior to junior 1N3 members, and provides vital social support necessary for 1N3 mission success.

Interpersonal Skills: Behaviors and tactics a 1N3 uses to interact with others effectively. Interpersonal skills involve understanding how people need to be communicated to or how they best accept communication.

3.5.4 Spiritual Demands/Resources

The following section provides an overview of those Spiritual Demands/Resources associated with 1N3 performance of PICTs. Along with successfully completing the specific PICTs, spiritual demands/resources were identified as important overall for the 1N3 occupation. Table 7 presents identified spiritual demands that are associated with all the identified 1N3 critical tasks:

Table 7. Spiritual Demands/Resources

Spiritual Demands/Resources
Individual Connection to Mission
Team Cohesion
Value Alignment

Individual Connection to Mission: Characterized by 1N3s feeling that the mission they participate in, and their contributions as a Cryptologic Language Analyst to that mission, has value.

Team Cohesion: The sense of connectedness between a 1N3 and members of a team when working on a common mission.

Value Alignment: A common language of values and clarity about how a 1N3's personal values, vision/mission, and goals align with the desired values, mission/vision, and goals of their organization.

3.5.5 Nutritional Demands/Resources

The following section provides an overview of those Nutritional Demands/Resources associated with 1N3 performance of PICTs. Along with successfully completing the specific PICTs, nutritional demands/resources were identified as important overall for the 1N3 occupation. Table 8 presents identified nutritional demands/resources that are associated with all the identified 1N3 critical tasks:

Table 8. Nutritional Demands/Resources

Nutritional Demands/Resources
Performance Fueling
Caffeine (Strategic Use)
Hydration
Dietary Supplements

Performance Fueling: A 1N3's appropriate selection and timing of high-quality nutrient-dense foods and beverages to support and maintain energy, alertness, focus, and concentration during shifts.

Caffeine (Strategic Use): A 1N3's use of a central nervous system stimulant that in proper doses optimizes alertness, energy, focus, and concentration. Up to 400 mg of caffeine is considered safe for daily use. No more than 600 mg per day is recommended when performance is critical.

Hydration: A 1N3's ability to provide an adequate amount of water to their body's tissues.

Dietary Supplements: A 1N3's use of products intended to supplement their diet. A dietary supplement typically contains one or more dietary ingredients or their components and is intended to be taken by mouth. The front label of the product will indicate it is a dietary supplement. Examples could include vitamins, minerals, botanicals, energy drinks, or other stimulants.

3.6 Conditions Specific to Performance of 1N3 PICT

The following section includes 1N3 SME identified conditions in which PICTs are performed at JBPHH. Each of these conditions could have a positive and/or negative effect on the performance and health sustainment of the 1N3 Cryptologic Language Analyst. For the purposes of this workshop, elements from the Total Force Fitness (TFF) framework and the DoD Human Factors Analysis and Classification System (DOD HFACS) 7.0 were used to organize 1N3 SMEs responses. Task conditions were identified during the workshop and responses from the Health Consensus Survey are included below to provide additional context.

Table 9. 1N3 Conditions Specific to Performance of 1N3 PICT

Conditions		
Prolonged Sitting	Workstation Ergonomics	Top Secret Clearance "Life"
Installation Resources	Remote Combat Operations	Rotating Shift Work
Open Architecture Workspace	Optempo	Variety of 1N3 Job Set
Mission Creep	Task Saturation	Task Intensity
Assignment Conditions	Other	

Prolonged Sitting: Identified as a physical health consideration since the prolonged sitting required of 1N3s can lead to other health consequences such as back pain. Although 1N3s are able to take breaks, the nature of the job (e.g., varying mission pace, inconsistencies in the availability of someone to relieve the 1N3) can make structured breaks for walking/stretching unrealistic.

❝ Sitting in front of a computer all day, a lot of the time with headphones on, is extremely taxing physically and I know my eyesight and hearing is worsening, and there is major discomfort if I forget to get up and stretch or walk around often, even though I'm in pretty above-average shape.❞

Workstation Ergonomics: Workstation design should reduce exposure to work related musculoskeletal disorder risk factors such as prolonged static postures, non-neutral postures, and repetitive motions, and should not restrict 1N3s, all while promoting communication and collaboration. 1N3s report long durations spent at workstations that provide limited adjustability, and experience variability in the quality and adjustability of workstation components between workstations. Due to the mission requirements, 1N3s are not typically at the same workstation from shift to shift; therefore, they are unable to "set" a workstation for their own anthropometric and comfort preferences. 1N3s report the quality and adjustability of workstation components as contributing factors to various physical health concerns. See Appendix 2 for a full ergonomics report.

❝ Most of my work-related problems could be fixed by getting better office equipment: sit/stand desks, ergonomic keyboards, hand rests, etc. Staring at a screen for hours on end probably can't be helped, but ergonomics related issues certainly could be.❞

❝ ...Despite taking posture classes and being very cognizant, some of our chairs or desks prohibit me from sitting properly, so I just do what I can. It's progressing to the point that I will be separated because I cannot keep up with the damage to my body, ears, eyes, etc.❞

Top Secret (TS) Clearance "Life": Maintaining a TS clearance poses specific requirements and challenges to the 1N3 not experienced by many of the other communities in the Air Force. 1N3s holding a TS clearance are not able to discuss their PICT experiences outside their secured work spaces, to include the processing of traumatic events. This limits their communication with friends and family, and opportunities to decompress.

Installation Resources: Challenges accessing installation services/resources were identified as impacting overall job performance and health of the 1N3. Most of this is due to the unique requirements of their job (e.g., Optempo, location, top secret security clearance, etc.), 24-hour operations and shift work. This included access to childcare, education, and commissary.

Remote Combat Operations: Remote operations pose unique challenges for 1N3 such as little to no dwell time, difficulties compartmentalizing experiences, high Optempo, and traumatic exposures. Benefits that are also afforded to traditional deployers are not accessible by 1N3s and their families due to their non-deployed status.

Rotating Shift Work: Rotating shift work was highlighted as one of the most negatively impactful aspects of 1N3 working conditions. Changing shift hours, with little time to adjust to new schedules, had degrading effects on sleep and mental health and significantly contributed to burnout.

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Open Architecture Workspace: Having multiple people co-located on the same floor with limited physical and structural barriers created noisy and distracting environments that make focusing difficult and performing 1N3 tasks more challenging.

Optempo: In a task saturated environment, high Optempo and being a "one deep profession" made finding time to take (extended) leave challenging and contributed to burnout and mental fatigue.

The Variety of 1N3 Job Set: 1N3s reported being encouraged to pick up additional tasks to "set themselves apart," which for some, added welcome variety to their work, and for others contributed to mission creep and less time to maintain language proficiency and apply their language specific skills. Reduced time to maintain language skills also contributed to significant annual/biannual stress for analysts preparing for the Defense Language Proficiency Test (DLPT), which measures their language proficiency and determines whether and at what level they qualify for language proficiency pay.

Mission Creep: 1N3s experience significant mission creep affecting their overall performance. This was linked to organizational issues, mission requirements, and/or individual drift. 1N3s have been required to fulfill a language analyst role in addition to multi-disciplined language analyst (MDLA) roles. These roles not only include the significant 1N3 mission critical tasks, but they also include tasks such as Target Analyst Reporter (TAR) roles and Target Development Network Analyst (TDNA) roles. Although performing TAR and TDNA roles expands a 1N3's expertise, the responsibility can become an added burden/pressure to an already task-saturated position.

> ❝ *Lack of clarity regarding priorities and vision. I have two full-time jobs and at least 6 differing opinions about what my priorities should be.*❞

Task Saturation: Having to divide attention between service requirements and both administrative and multiple (and often simultaneous) operational duties detracted from time and attention for essential tasks and contributed to stress and limited attention span.

Task Intensity: Task intensity refers to the extent to which the demands of the PICT itself taxes a 1N3's available human performance resources are increased and constant throughout each work shift and during each task. An example would be the demand on 1N3 psychological resources such as focus and attention throughout the listening, translating and transcription process

Assignment Conditions: The assignments for 692 ISRG IN3s 1N3 are generally confined to Fort Meade, MD, JBPHH, and Korea depending on the analysts' language. The lack of variety in assignments, the pace of moving back and forth between these locations and being far from loved ones contributes to feelings of a loss of connectedness, stress and career burnout.

Other: There were a number of interrelated factors that impacted 1N3s sustainability and desire to remain or exit the career field. Conflicting priorities of Air Force and NSA customers/organizations, opportunities to work in the civilian sector, reaching a career "plateau" as a 1N3 and difficulties cross training out of the 1N3 career field negatively

impacted sustainment and contributed to attrition, while incentives such as job security and additional language pay reportedly contributed to sustainment and retention within the Air Force.

> 66 *The tempo of personnel rotation (usually service-driven) for agency missions is concerning, and conflicts with mission goals of continuity of expertise and tradecraft.* 99

> 66 *The limited opportunities for NCOs to retrain out of the 1N3 career field is depressing. 1N3 retention, especially 1N3Gs, seems to be a struggle.[...] In general I love the Air Force and would like to stay in, but this career field is not for me so it feels like my options are to struggle mentally, spiritually, emotionally for my remaining 10 years or get out.* 99

> 66 *I have reached the apex position in my current shop and can go no further. My experience and knowledge is valued so much that I am not able to move to a different job. I have spent 3 years getting better and better at my current position and I have no opportunity to move on or change direction at this time.* 99

Note: 1N3s at JBPHH work a variety of missions in a variety of shops that all come with their own requirements, customers, emphasis on certain tasks rather than others and different working environments. The task conditions highlighted above are those that participating 1N3s identified as particularly impactful on their performance and health across this variety of working conditions but should not be considered an exhaustive list of relevant task conditions.

3.7 Health Trends Related to Performance of 1N3 PICT

The following section provides an overview of the occupational health and career field factors relevant to the 1N3 analyst based on their PICTs and the conditions in which these PICTs are performed in. Occupational exposures can contribute to health risks and/or negatively impact the health and longevity of the 1N3 to optimally perform their PICTs. For the purposes of this workshop, elements from the Total Force Fitness (TFF) framework and the DoD Human Factors Analysis and Classification System (DOD HFACS) 7.0 were used to organize 1N3 SMEs responses.

Due to limited 1N3- and JBPHH-specific health data that were available from 1N3 initial training sites and installation support agencies, a survey was developed in collaboration with participating 1N3 SMEs (Table 1) and their ART to address this gap. As such, the information provided by 1N3 SMEs participating in the focus group was used to populate a consensus survey, which they distributed to their fellow 1N3s assigned to the 692 ISRG. These 1N3-specific health trends are summarized in Figure 4 in order of highest incidence over the past 12 months. Three additional concerns, which were assessed via survey, are reported at the bottom of the figure as the percentage of respondents who reported experiencing the concern.

Health Concern	Experienced in Past 12 Months	1N3 Job-Related	Affects Ability to Perform Job	1N3 Job-Related and Affects Ability to Perform Job	
Eye strain	61.8%	85.3%	38.2%	35.3%	PHYSICAL
Back pain	61.8%	55.9%	27.9%	25.0%	
Headaches	53.6%	52.5%	39.0%	32.2%	
Tinnitus	46.4%	78.4%	37.3%	35.3%	
Wrist pain	46.4%	70.6%	39.2%	35.3%	
Neck pain	43.6%	58.3%	25.0%	25.0%	
Shoulder pain	39.1%	55.8%	37.2%	30.2%	
Hearing degradation	33.6%	83.8%	45.9%	45.9%	
Hand pain	23.6%	73.1%	46.2%	42.3%	
Mental fatigue	67.3%	77.0%	56.8%	45.9%	PSYCHOLOGICAL
Sleep challenges	53.6%	55.9%	49.2%	39.0%	
Inability to turn off 'work brain'	40.9%	86.7%	31.1%	31.1%	
Difficulties compartmentalizing personal and work life	30.0%	78.8%	60.6%	48.5%	
Negative effects from sensory exposure	17.3%	84.2%	57.9%	52.6%	
Social isolation	48.2%	30.2%	28.3%	20.8%	SOCIAL
Difficulty with relationships outside of work	26.4%	41.4%	20.7%	10.3%	
Difficulty trusting others	25.5%	50.0%	35.7%	25.0%	
Difficulty with intimate relationships	22.7%	44.0%	32.0%	16.0%	
Difficulty with working relationships	17.3%	57.9%	36.8%	31.6%	
Difficulties with parenting	10.9%	25.0%	41.7%	16.7%	
Difficulties managing finances	7.3%	25.0%	37.5%	12.5%	
Uncertainty regarding career	52.7%	75.9%	39.7%	34.5%	SPIRITUAL
Unsure of contribution to current mission	43.6%	87.5%	39.6%	39.6%	
Loss of sense of purpose	31.8%	68.6%	45.7%	42.9%	
Conflict between duties and personal values	16.4%	72.2%	38.9%	33.3%	
Change in personal core beliefs and values	9.1%	50.0%	30.0%	30.0%	

Health Concern	Experienced in Past 12 Months	1N3 Job-Related	Affects Ability to Perform Job	1N3 Job-Related and Affects Ability to Perform Job	
Increased caffeine/stimulant use	53.6%	69.5%	27.1%	22.0%	NUTRITIONAL
Undesired weight gain	43.6%	39.6%	16.7%	16.7%	
Poor nutrition	37.3%	36.6%	24.2%	17.1%	
Dehydration	27.3%	33.3%	26.7%	16.7%	
Use of sleep aids	22.7%	48.0%	28.0%	28.0%	
Increased alcohol use	12.7%	42.9%	28.6%	21.4%	
Nicotine use	9.1%	70.0%	10.0%	10.0%	
Undesired weight loss	5.5%	16.7%	16.7%	16.7%	
	Yes		No		ADDITIONAL CONCERNS
Seen by medical professional for hearing degradation	19.8%		80.2%		
Desire to separate from the USAF	46.9%		53.1%		
Desire to leave 1N3 career field but stay in the USAF	37.5%		62.5%		

Figure 4. Health Trends Related to Performance of 1N3 PICTs are displayed in a heat map, broken out by TFF domain and ordered by highest incidence over the past 12 months. Darker shades of blue correspond with higher percentages. The percentage of 1N3s who experienced a particular health concern is based on the total number of survey respondents. All other percentages are based on the number of 1N3s who reported experiencing the particular health concern in the past 12 months (e.g., Among 1N3s who reported experiencing eye strain in the past 12 months, 85.3% reported that it was due to their job as a 1N3). Three additional concerns that were assessed via survey are reported at the bottom of the heat map as the percentage of respondents who reported experiencing the concern.

3.7.1   *Physical Health Trends*

Physical health trends due to occupational exposures listed in Section 3.6, may impact the ability to optimally perform 1N3 PICTs and impact the longevity of the 1N3s over a career lifespan. Physical health trends identified as common in working groups were cross-referenced via a health consensus survey with 1N3 SMEs. Below are health trends identified in working groups and confirmed via survey, with select quotes (gathered from the consensus survey) for illustrative purposes:

Eye strain: Reported due to task intensity. Eye strain and visual degradation may occur over time due to the visual strain that occurs as a result of 1N3 job demands.

Back pain (lower, middle, upper): Identified as a common physical health complaint due to the prolonged period of sitting that is often required. Although 1N3s are able to take periodic breaks, the nature of the job (e.g., varying mission pace, inconsistencies in the availability of someone to relieve the 1N3) can make structured breaks for walking/stretching unrealistic.

Headaches: Headaches may occur due to prolonged noise exposure and prolonged periods of time in which 1N3s are required to look at computer screens.

❝ *Migraines are more frequent and cause loss of time at work, even with glasses with blue light filters and eating right and exercise.* ❞

Tinnitus: Tinnitus ("ringing in the ears") may occur due to prolonged noise exposure.

❝ *I've been having tinnitus for at least a year now but it goes away and comes back every so often. It's more of a frustrating distraction than completely affecting my work.* ❞

Wrist pain: Identified as a common physical health complaint due to the prolonged period of time 1N3s spend performing common computer tasks such as typing.

Neck pain: Identified as a common physical health complaint due to the prolonged period of sitting and looking at a screen that is required. Although 1N3s are able to take periodic breaks, the nature of the job (e.g., varying mission pace, inconsistencies in the availability of someone to relieve the 1N3) can make structured breaks for walking/stretching unrealistic.

Undesired weight gain: Weight gain may occur due to the prolonged period of time spent sitting, reduced physical activity levels, and improper nutrition.

Shoulder pain: Identified as a physical health complaint, possibly due to poor posture developing over time from prolonged sitting. Although 1N3s are able to take periodic breaks, the nature of the job (e.g., varying mission pace, inconsistencies in the availability of someone to relieve the 1N3) can make structured breaks for walking/stretching unrealistic.

Hearing degradation: Reported due to task intensity. May occur over time due to prolonged noise exposure that occurs as a result of 1N3 job demands.

❝ *Definite hearing degradation that is noticed and pointed out by my friends and family.* ❞

Hand pain: Identified as a common physical health complaint due to the prolonged period of time 1N3s spend performing common computer tasks such as typing.

1N3 Health Consensus Survey Results: Below are percentages of 1N3s who responded "yes" to questions about various physical health concerns identified by their 1N3 SME colleagues as common within their career field and 692 ISRG missions. These physical health concerns are listed in order from most commonly experienced in the past 12 months to least commonly experienced in the past 12 months. The percentage of 1N3s who experienced a particular health concern is based on the total number of survey respondents. All other percentages are based on the number of 1N3s who reported experiencing the particular health concern in the past 12 months. For example, 61.8% of 1N3s who responded to the survey reported experiencing back pain in the past 12 months, and among them, 55.9% believed it was a result of their job as a 1N3.

Table 10. 1N3 Physical Health Trends

	Experienced in Past 12 Months (% based on number of all 1N3 respondents)	Experienced in Past 12 Months as a Result of Job (% based on number of 1N3s who reported the health concern)	Affected Ability to Do Job to Level of Expectations (% based on number of 1N3s who reported the health concern)	As a Result of Job and Affected Ability to Do Job to Level of Expectations (% based on number of 1N3s who reported the health concern)
Eye strain	61.8%	85.3%	38.2%	35.3%
Back pain (low, middle, upper)	61.8%	55.9%	27.9%	25.0%
Headaches	53.6%	52.5%	39.0%	32.2%
Tinnitus	46.4%	78.4%	37.3%	35.3%
Wrist pain	46.4%	70.6%	39.2%	35.3%
Neck pain	43.6%	58.3%	25.0%	25.0%
Undesired weight gain	43.6%	39.6%	16.7%	16.7%
Shoulder pain	39.1%	55.8%	37.2%	30.2%
Hearing degradation	33.6%	83.8%	45.9%	45.9%
Hand pain	23.6%	73.1%	46.2%	42.3%

3.7.2 Psychological Health Trends

Psychological health concerns due to occupational exposures listed in Section 3.6, may impact the ability to optimally perform 1N3 PICT and impact the longevity of the 1N3 over a career lifespan. Psychological health trends identified as common in working groups were cross-referenced via a health consensus survey with 1N3 SMEs. Below are health

trends identified in working groups and confirmed via survey, with select quotes (gathered from the consensus survey) for illustrative purposes:

Mental fatigue: Core task execution for 1N3 operators requires high demand on cognitive capabilities. The demands include jugging multiple sensory inputs throughout the workday and frequent task switching. Several operators also mentioned having to reconcile competing demands placed on them from different agencies.

Sleep challenges: While schedules vary from site to site, shift work is a common feature of the 1N3 career field. Shift work is a common cause of sleep disturbances and irregularities. Some operators may experience sleep disturbances related to workplace exposures.

Inability to "turn off" work-related cognitive capacities: 1N3 engage in many hours of intensive processing of auditory and/or visual stimuli, and may find themselves involuntarily engaging these capacities outside of the workplace.

❝ *While the inability to "turn off" work related capacities doesn't affect my job much, it does impact my personal life where I am now subjected to inadvertently eavesdropping when I am outside work. The unintended focus on outside sounds in conjunction with my tinnitus makes me wish I were deaf at times.* ❞

Difficulties compartmentalizing personal and work life: Stressors related to home life can be transferred to the work context, and vice versa. Work difficulties can bleed into home life challenges, but 1N3 must cope with the inability to discuss work related issues with friends and family.

Negative effects from exposure to images, sounds, and/or content: The information that 1N3s are exposed to can at times be sensitive in content, and can be disturbing. These exposures can also cause physical symptoms and discomfort.

❝ *Constantly listening to audio that has low quality gives me migraines. While I used to be able to focus on one sound or …sound pattern within many, I can't do that anymore even in my native language. In fact, I'm overly sensitive to sounds altogether now, and it exacerbates my anxiety.* ❞

1N3 Health Consensus Survey Results: Below are percentages of 1N3s who responded "yes" to questions about various psychological health concerns identified by their 1N3 SME colleagues as common within their career field and 692 ISRG missions. Psychological health concerns are listed in order from most commonly experienced in the past 12 months to least commonly experienced in the past 12 months. The percentage of 1N3s who experienced a particular health concern is based on the total number of survey respondents. All other percentages are based on the number of 1N3s who reported experiencing the particular health concern in the past 12 months. For example, 67.3% of 1N3s who responded to the survey reported experiencing mental fatigue in the past 12 months, and among them, 77.0% believed it was a result of their job as a 1N3.

Table 11. 1N3 Psychological Health Trends

	Experienced in Past 12 Months (% based on number of all 1N3 respondents)	Experienced in Past 12 Months as a Result of Job (% based on number of 1N3s who reported the health concern)	Affected Ability to Do Job to Level of Expectations (% based on number of 1N3s who reported the health concern)	As a Result of Job and Affected Ability to Do Job to Level of Expectations (% based on number of 1N3s who reported the health concern)
Mental fatigue	67.3%	77.0%	56.8%	45.9%
Sleep challenges	53.6%	55.9%	49.2%	39.0%
Inability to "turn off" work related cognitive capacities (i.e., constantly listening to conversations)	40.9%	86.7%	31.1%	31.1%
Difficulties compartmentalizing personal and work life	30.0%	78.8%	60.6%	48.5%
Negative effects from exposure to images, sounds, and/or content	17.3%	84.2%	57.9%	52.6%

Note: This survey was not meant to be used as a screening tool for psychiatric conditions, however, it may be helpful to note that some 1N3s reported experiencing low mood and anxiety. It was not determined if these concerns were related to their job related tasks or working environment.

3.7.3   Social Health Trends

Social health concerns due to occupational exposures listed in Section 3.6, may impact the ability to optimally perform 1N3 PICTs and impact the longevity of the 1N3 over a career lifespan. Social health trends identified as common in working groups were cross-referenced via a health consensus survey with 1N3 SMEs. Below are health trends identified in working groups and confirmed via survey, with select quotes (gathered from the consensus survey) for illustrative purposes:

Social isolation: Because of frequent PCS moves and relocation, 1N3 are often far away from the vital social networks of friends and extended families. Further, 1N3 shift work schedules and team compositions can limit interactions with others.

❝ *We work panama/shiftwork with other linguists and analysts. We work with the same team of 20 or so people every single day. Our schedules are outside*

normal working hours, therefore we have little opportunity to socialize outside the group of 20 or so people that we work with. Recently we have been further limited in our interactions with other humans in that our particular shift (mids, bravos, or deltas) is now a permanent team. So we went from rotating into each shift individually and getting the opportunity to work with a more diverse group of people, to only working with the same people every day. This severely limits our social interactions during work and outside of work. 🗩

Difficulties establishing and maintaining healthy relationships (family and friends outside of work): In addition to the physical distance from family and friends outside of work, 1N3s may have concerns about disclosing information to others that may put their security clearance status in jeopardy. This may lead to walls and barriers that hinder intimacy and connection.

Difficulty trusting others: For some 1N3s, it can be difficult to shift out of threat detection mode when fostering social relationships with others.

"This gets back to the new AF promotion and rating system. I no longer feel like I can trust and work with my fellow...because now I have to wonder what their motives are. We are all competing against each other now, and the only control we have over our promotion is how we are perceived as better than our peers."

Challenges with maintaining a healthy intimate relationship (partner/spouse): Due to security clearance requirements, 1N3s are unable to discuss work-related issues with their partners and spouses. (See also concerns about top secret clearance "life" in Section 3.6.). In addition, relationship problems were attributed to shift work, work life balance, and poor relationship choices.

Difficulties establishing and maintaining healthy working relationships with coworkers: The structure of the 1N3 career field management and promotional system, and the need for 1N3 career advancement, reportedly creates friction between 1N3s, impacting their team's cohesion and working relationships. In addition, the compartmentalized business model and working environment makes it challenging to build relationships with coworkers.

🗩 *Nobody in my shop talks to me, as a friend or as a coworker. I don't even know what my job is and I've been here for months.* 🗩

Difficulties with parenting: Shift work schedules can create challenges to being a regular, active presence with children in their lives. Isolation from the support systems of friends and families can also create childcare challenges.

Difficulties managing finances: Challenges with 1N3s' finances were reportedly due to cost of living expenses and limited opportunities for dual income as a result of 1N3s' unpredictable work schedules and family responsibilities.

1N3 Health Consensus Survey Results: Below are percentages of 1N3s who responded "yes" to questions about various social health concerns identified by their 1N3 SME colleagues

as common within their career field and 692 ISRG missions. These social health concerns are listed in order from most commonly experienced in the past 12 months to least commonly experienced in the past 12 months. The percentage of 1N3s who experienced a particular health concern is based on the total number of survey respondents. All other percentages are based on the number of 1N3s who reported experiencing the particular health concern in the past 12 months. For example, 48.2% of 1N3s who responded to the survey reported experiencing social isolation in the past 12 months, and among them, 30.2% believed it was a result of their job as a 1N3.

Table 12. 1N3 Social Health Trends

	Experienced in Past 12 Months (% based on number of all 1N3 respondents)	Experienced in Past 12 Months as a Result of Job (% based on number of 1N3s who reported the health concern)	Affected Ability to Do Job to Level of Expectations (% based on number of 1N3s who reported the health concern)	As a Result of Job and Affected Ability to Do Job to Level of Expectations (% based on number of 1N3s who reported the health concern)
Social isolation	48.2%	30.2%	28.3%	20.8%
Difficulties establishing and maintaining healthy relationships (family and friends outside of work)	26.4%	41.4%	20.7%	10.3%
Difficulty trusting others	25.5%	50.0%	35.7%	25.0%
Challenges with maintaining a healthy, intimate relationship (partner/spouse)	22.7%	44.0%	32.0%	16.0%
Difficulties establishing and maintaining healthy working relation–ships with coworkers	17.3%	57.9%	36.8%	31.6%
Difficulties with parenting	10.9%	25.0%	41.7%	16.7%
Difficulties managing finances	7.3%	25.0%	37.5%	12.5%

Spiritual Health Trends

Spiritual health concerns due to occupational exposures, listed in Section 3.6, may impact the ability to optimally perform 1N3 PICTs and impact the longevity of the 1N3 over a career lifespan. Spiritual health trends identified as common in working groups were cross-referenced via a health consensus survey with 1N3 SMEs. Below are health trends identified in working groups and confirmed via survey, with select quotes (gathered from the consensus survey) for illustrative purposes:

Feeling uncertainty regarding your career: Uncertainty stemmed from limited career progression options, few opportunities to consistently utilize assigned language on the job combined with linguist and analyst mission creep, as well as frequently PCSing between the same locations, and navigating Air Force and Agency demands.

❝ *There is definitely a conflict between what the Air Force values and what the NSA values. NSA wants us to work as linguists, but after a certain rank, the Air Force wants us to be leaders instead of doing the mission ourselves. Continuing to perform the mission can actually hurt our promotion potential in the Air Force. The Air Force looks for breadth of experience, including experience outside our career field, but we rarely are approved for any jobs outside of our career field...Lack of opportunity to do something else directly impacts our ability to get promoted, which, in turn, can affect our desire to stay in this career field.* **❞**

Feeling unsure of your contribution to your current mission: Reported as a concern due to lack of feedback on work, not knowing the result of one's efforts or impact of one's products, and navigating the wide range of demands found across assignments—strategic, tactical, linguist, etc.

Loss of sense of purpose: Professionally for the 1N3, this occurs when there is a loss of a sense of professional direction in life, and consequently the motivation to drive forward. Challenges experienced by the 1N3 that may contribute to this include feeling disconnected from the missions they participated in and a mismanagement of 1N3 talent within the organization.

❝ *The loss of purpose makes it difficult to find motivation to do my job. It bleeds into my time off work where that feeling of low self-worth carries into my own hobbies or when I am talking to my family.* **❞**

A conflict between duties and personal values: When a 1N3's personal beliefs and value-based system is not aligned with those of their USAF 1N3 profession and/or mission due to a change in their beliefs and values, misconceptions about their career field duties and mission requirements, and/or changing demands placed on them.

Change in personal core beliefs: When a 1N3 experiences a change in beliefs that are central to their overall identity.

1N3 Health Consensus Survey Results: Below are percentages of 1N3s who responded "yes" to questions about various spiritual health concerns identified by their 1N3 SME colleagues as common within their career field and 692 ISRG missions. These spiritual health concerns are listed in order from most commonly experienced in the past 12 months to least commonly experienced in the past 12 months. The percentage of 1N3s who experienced a particular health concern is based on the total number of survey respondents. All other percentages are based on the number of 1N3s who reported experiencing the particular health concern in the past 12 months. For example, 52.7% of 1N3s who responded to the survey reported feeling uncertainty regarding their career in the past 12 months, and among them, 75.9% believed it was a result of their job as a 1N3.

Table 13. 1N3 Spiritual Health Trends

	Experienced in Past 12 Months (% based on number of all 1N3 respondents)	Experienced in Past 12 Months as a Result of Job (% based on number of 1N3s who reported the health concern)	Affected Ability to Do Job to Level of Expectations (% based on number of 1N3s who reported the health concern)	As a Result of Job and Affected Ability to Do Job to Level of Expectationsx (% based on number of 1N3s who reported the health concern)
Feeling uncertainty regarding your career	52.7%	75.9%	39.7%	34.5%
Feeling unsure of your contribution to your current mission	43.6%	87.5%	39.6%	39.6%
Loss of sense of purpose	31.8%	68.6%	45.7%	42.9%
A conflict between duties and personal value system	16.4%	72.2%	38.9%	33.3%
Change in personal core beliefs and values	9.1%	50.0%	30.0%	30.0%

3.7.5   *Nutritional Health Trends*

Nutritional health concerns due to occupational exposures listed in Section 3.6, may impact the ability to optimally perform 1N3 PICTs and impact the longevity of the 1N3 over a career lifespan. Nutritional health trends identified as common in working groups were cross-referenced via a health consensus survey with 1N3 SMEs. Below are health trends identified in working groups and confirmed via survey, with select quotes (gathered from the consensus survey) for illustrative purposes:

Increased caffeine/stimulant use: Excessive caffeine use identified as a method to maintain alertness due to poor sleep, shift work, and multiple hours of screen time. Sources of caffeine include energy drinks, coffee, caffeine tablets, tea, soft drinks, caffeinated flavored water, and pre-workout supplements.

> ❝ *The job of translating is pretty boring, and requires long hours staring at a monitor in a distracting open office environment. To compensate I drink lots of caffeine, which leads to dehydration.* ❞

Undesired weight gain: Identified as a concern due to the poor food choices available on base and in snack bars, in addition to the sedentary nature of the job.

> ❝ *Not enough time for the gym.* ❞

> ❝ *It is always a bit of a challenge to stay trim.* ❞

Poor nutrition: Poor nutrition identified as a common complaint due to limited healthy options on base, as well as shift work. Aside from the DFAC, most food options are fast food or quick, nutrient-poor selections from snack bars. Having to remain at the workstation for extended periods without a break (up to 6 hours) contributes to hunger and fatigue during shifts. Junior Airmen living in the dorms have limited ability to meal prep and are frequently visiting fast food establishments and/or the Shoppette for meals.

> ❝ *Not many healthy options available after-hours.* ❞

Dehydration: While new water stations at the worksite have made it easier to access water, dehydration is still a nutritional concern due to the heavy use of other liquids such as coffee and energy drinks. Some 1N3s report deliberately restricting their fluid intake when stuck in their seat for extended periods so they do not have to use the restroom. They may not even have a chance to get up and refill their water bottle due to the nature of their specific mission.

Use of sleep aids (or other over-the-counter products) to improve sleep: Poor sleep has been identified as one of the most common complaints of 1N3s. They also report excessive use of caffeine and other stimulants, in addition to alcohol, which could further worsen their ability to fall asleep and stay asleep.

Increased alcohol use: 1N3s report within their population use of alcohol to wind down after shifts.

Nicotine use (to include increased use): Nicotine has been identified as a potential concern because of its stimulant and appetite-suppressing qualities.

Undesired weight loss: Some 1N3s report weight loss as a result of not being able to eat regular meals or snacks during shifts. Hunger is a complaint.

1N3 Health Consensus Survey Results: Below are percentages of 1N3s who responded "yes" to questions about various nutritional health concerns identified by their 1N3

SME colleagues as common within their career field and 692 ISRG missions. These nutritional health concerns are listed in order from most commonly experienced in the past 12 months to least commonly experienced in the past 12 months. The percentage of 1N3s who experienced a particular health concern is based on the total number of survey respondents. All other percentages are based on the number of 1N3s who reported experiencing the particular health concern in the past 12 months. For example, 53.6% of 1N3s who responded to the survey reported increased caffeine/stimulant use in the past 12 months, and among them, 69.5% believed it was a result of their job as a 1N3.

Table 14. 1N3 Nutritional Health Trends

	Experienced in Past 12 Months (% based on number of all 1N3 respondents)	Experienced in Past 12 Months as a Result of Job (% based on number of 1N3s who reported the health concern)	Affected Ability to Do Job to Level of Expectations (% based on number of 1N3s who reported the health concern)	As a Result of Job and Affected Ability to Do Job to Level of Expectations (% based on number of 1N3s who reported the health concern)
Increased caffeine/ stimulant use	53.6%	69.5%	27.1%	22%
Undesired weight gain	43.6%	39.6%	16.7%	16.7%
Poor nutrition	37.3%	36.6%	24.2%	17.1%
Dehydration	27.3%	33.3%	26.7%	16.7%
Use of sleep aids (or other over–the–counter products) to improve sleep	22.7%	48%	28%	28%
Increased alcohol use	12.7%	42.9%	28.6%	21.4%
Nicotine use (to include increased use)	9.1%	70%	10%	10%
Undesired weight loss	5.5%	16.7%	16.7%	16.7%

3.8   *1N3 Additional 1N3 Considerations Related to 1N3 Mission Capabilities*

Table 15 presents data regarding various additional 1N3 considerations not captured in the other health concerns tables. The first section presents the percentage of 1N3s who reported various scores on their most recent Air Force (AF) Physical Fitness Test (PFT). The second and third sections present the percentage of 1N3s who failed an AF PFT since

joining the 692 ISRG and, among them, the percentage of specific components that they failed. The fourth and fifth sections present the percentage of 1N3s who received an exemption (not related to pregnancy or COVID-19) on an AF PFT since joining the 692 ISRG and, among them, the percentage of specific components for which an exemption was received. The sixth section presents percentages of 1N3s who responded "yes" to various questions about additional 1N3 concerns.

Table 15. 1N3 Additional Considerations

	Pass/Exempt	< 75	75 - 89	90+
Most recent PFT score	20.8%	3.1%	16.7%	59.4%
	0	**1**	**2 or 3**	**4+**
Number of PFTs failed since joining the 692 ISRG	90.6%	5.2%	4.2%	0.0%
	AC	**PU**	**SU**	**Run**
PFT component failed since joining the 692 ISRG	11.1%	11.1%	22.2%	66.7%
	0	**1**	**2 or 3**	**4+**
Number of PFT exemptions since joining the 692 ISRG (not related to pregnancy or COVID delays)	63.5%	24.0%	7.3%	5.2%
	AC	**PU**	**SU**	**Run**
PFT component exemption since joining the 692 ISRG (% may add up to more than 100% due to receiving exemptions for multiple components)	6.3%	65.6%	50.0%	90.6%
	Yes		**No**	
Seen by a medical professional for hearing degradation	19.8%		80.2%	
Desire to separate from the USAF	46.9%		53.1%	
Desire to leave the 1N3 career field but stay in the USAF	37.5%		62.5%	

3.9   Recommendations

The following recommendations are based on the 1N3 HPO/TFF–CBB Workshop Step 1 Process (Identify Needs), and are intended to be used to inform Step 2 (Realignment) and Step 3 (Operational Validation) of the CBB process:

a. **Targeting of 1N3 Performance Enhancement Service Delivery/Resources:** It is recom-mended that the 692 ISRG ART performance enhancement efforts target 1N3 PICT list

(Section 3.3, Table 3, Tasks 1–9), leveraging those performance resources identified in Section 3.5 (3.5.1–3.5.5).

Note: It is recommended that the ART continue to work with 1N3 SMEs to further identify 1N3 PICT performance parameters and metrics.

Operational Return on Investment Metrics for Performance Enhancement: It is recommended that the ART use Task Metrics and Task Metrics Scoring (Section 3.3, Table 3) to target and measure 1N3 specific impact of service delivery/resources.

Note: A more in-depth examination into how much of a specific domain resource is needed to perform the PICT is beyond the scope of Step 1 of the CBB process and is therefore recommended as part of Steps 2 and 3.

b. **Targeting of 1N3 Health Sustainment Service Delivery/Resources:** It is recommended that the ART prioritize health and resiliency service delivery efforts to address 1N3 occupational exposures (Section 3.6, Table 9), and their impact on 1N3 health and wellness (Section 3.7, Figure 3). Also, it is recommended that the Medical Treatment Facility (MTF) providing restorative and rehabilitation efforts/services to 1N3s assigned to the 692 ISRG, and utilize Section 3.7 to inform outreach, prevention, and treatment efforts.

Operational/Return on Investment Metrics for Health Sustainment: It is recommended that the ART utilize Section 3.7, Figure 3 to capture the impact of ART service delivery. In collaboration with MTF and installation support agencies, align the 1N3 Health Trend Related to Performance of 1N3 PICTs list (Section 3.7, Figure 4) with agency service utilization trends.

c. **1N3 Population Health Data:** It is recommended that the ART use Sections 3.6 and 3.7 of this report to represent 1N3 occupational exposures and population-based health data trends. Data can also be used to inform prioritizing and targeting of installation health-based service delivery, resources, training, education, and research.

Note: Due to challenges gathering data specific to 1N3 health and performance trends from various resources such as initial language and AFSC training sites, as well as installation support agencies, information was limited to the active workshop phase and CBB constructed consensus survey. For example, the inability for the MTF to assist with identifying physical health concerns of greatest frequency in 1N3s assigned to the 692 ISRG led to the need to identify these concerns via working groups and surveys. In collaboration with installation support agencies, recommend using this report to compare findings with 1N3 service-utilization trends from ART and installation support agencies.

d. **1N3 Top Secret Health:** Sustaining an active Top Secret Clearance is a critical part of a 1N3s mission readiness (Section 3.2.2). As such, it is recommended that the ART, in collaboration with 1N3s and 692 ISRG Security Office, align service delivery to track and mitigate health factors (Section 3.7) key to longevity of 1N3 clearance status.

e. **692 ISRG ART Knowledge, Skills, and Abilities:** It is recommended that the ART use this CBB (Sections 3.5 and 3.7) to inform ART composition, competencies, selection,

and training. For instance, based on the performance enhancement and health sustainment priorities outlined above, ART may benefit by including a cognitive performance specialist on the team or advanced training. Finally, it is recommended that the ART review these areas and needed competencies with installation service providers to determine coverage, reduce redundancies, and improve handoff/collaboration.

f. **Limitations of 1N3 HPO/TFF–CBB:** The CBB workshop covered by this report reflects a snapshot of the performance enhancement and health sustainment priorities of those 1N3s assigned to the 692 ISRG. The following three limitations are important to note: 1) This CBB is specific to the 1N3s at the 692 ISRG due to their unique capabilities as 1N3s, their mission at the 692 ISRG, and their geographical location; 2) One of the goals of this report was to identify 1N3 Performance Resources/Demands (Section 3.5) key to the performance of their PICTs (Section 3.3), not to identify the exact amount of Performance Resources needed in each domain; for example, a CBB in a career field that requires lifting heavy objects would identify upper body strength as a performance demand but would not identify exactly how much weight an Airman in that career field needs to be able to lift to do the job well; 3) Travel restrictions due to COVID–19 required working group meetings with 1N3 SMEs to be held virtually and task simulations were not performed. However, it is not anticipated that travel restrictions seriously impacted the quality of the CBB report as working group meetings were well attended and task simulations would have been challenging even in person; many of the tasks are difficult to observe given their nature (e.g., translating audio content).

g. **Flexibility of 1N3 HPO/TFF–CBB:** The 1N3 HPO/TFF–CBB is a living and breathing document that was meant to keep pace with the shifting needs of the 1N3 community assigned to the 692 ISRG at JBPHH. It is recommended that the 1N3 community work collaboratively with their ART to revise and update health and performance priorities that support identified PICTs as needed.

   Note: As operational requirements change, so will 1N3 PICTs. As noted by the USAF Occupational Analysis Division, CFETP refresh for USAF career fields occurs every 2–3 years. As PICTs shift there will be a need for a CBB process to ensure that new performance enhancement and health sustainment demands are realigned appropriately.

h. **Transition to CBB Step 2 and 3:** This report will serve as the completion of Step 1 (Blueprint/Targeting System) and transition to Step 2 (Realignment) and Step 3 (Validation) of the CBB process. It is recommended that the 692 ISRG 1N3 community, ART, and leadership collaboratively select areas from Sections 3.4 –3.8 to target during Step 2 and Step 3 of the CBB process.

i. **Distribution:** A copy of this report has been disseminated to the 1N3s assigned to the 692 ISRG and relevant stakeholders at JBPHH for internal distribution and use. A copy of this report will also be retained at CHAMP for demonstration and training purposes.

4   *Appendix*

4.1   *Appendix 1: References*

1. JROCM 073-18. VCJCS Memorandum on Total Force Fitness DOTmLPF-P Change
    Recommendation. 2018.

2. Mattie, P., Spivock, M., Théoret, D. (2013).Essential task identification for military
    occupations using the TRIAGE technique. In: A.B. Aiken & A.H. Bélander(Eds.) Beyond
    the Line: Military and Veteran Health Research. McGill-Queen's University Press.

3. Blacklock, R. E., Reilly, T. J., Spivock, M., Newton, P. S., & Olinek, S. M. (2015).
    Standard Establishment Through Scenarios (SETS): A new technique for occupational
    fitness standards. Work (Reading, Mass.), 52(2), 375–383. https://doi.org/10.3233/
    WOR-152128

4.2   *Appendix 2: Sample Task Narrative*

1N3 Workday – all technical data are for explanation purposes only and does not reflect
any real-world data; communications are fictional and do not represent actual commu-
nications collected.

- As I am listening to 6 channels of audio, I am scanning primarily for common phrases
  to ensure I have a sense of what is going on in all of the conversations. As multiple
  users use similar frequencies, some days, there are up to 20 conversations on-going
  spread across the 6 channels, with as many as 60 during high traffic time periods.
  Scanning audio, I usually bring up a playback window and listen to previously heard
  audio so that any pauses in speeches or unnecessarily erratic speech patterns can be
  analyzed to determine if transcription of activity is warranted. I gist in a Freetext
  window with hotkeys set to the freqs of each channel so that when I hit "F5" my fre-
  quency and notations get pasted on the next line and I can add any gisted comments
  in the window. As information starts to build into coherency, I send my "Activity
  Lines" for common situations that are routine and I send my "Alert Lines" for any
  traffic that is of specific note that needs to be addressed. Normally, specific criteria
  is given prior to the mission that denotes anything of importance that we should be
  listening out for or there is usually a good sense of what needs to be an Alert Line after
  even a few missions in the target area. These gists look something along the lines of
  this:

  - CHANNEL 1: 123.45—DLT021 747 DULS APT TX24 TKOF; INBND AMA4432 322 CLR
    LD TX6 PRCD 2 LX4 GT 34B

  - CHANNEL 2: 234.56—JA1-4 TAG TX

  - CHANNEL 3: 145.21—MAYDAY—CES B2124 VFR ONLY PIL STORM NO VIS, ROLLING,
    SCREAMING, MAYDAY, HELP, LOC: 211912N 1575662W, DOWN, SEND HELP

- The actual audio or text would read like this:

  ◎ CHANNEL 1: 123.45—DELTA AIRLINES FLT 021, BOEING 747, ARRIVING AT DULLES AIRPORT WILL TAKE OFF FROM TAXIWAY 24; INBOUND AMERICAN AIRLINES FLT 4432, AIRBUS 322 CLEARED TO LAND ON TAXIWAY 6, PROCEED TO LANDING STRIP 4, GATE 34B

  ◎ CHANNEL 2: 234.56—JA VEK KU 1, JA VEK KU 2, JA VEK KU 3, JA VEK KU 4, PER-FORMING TOUCH AND GO TRAINING

  ◎ CHANNEL 3: 145.21—DISTRESS CALL: MAYDAY, CESSNA TAIL B2124, VISUAL FLIGHT READOUT CERTIFIED PILOT FLEW INTO A STORM, LOST ALL VISIBILITY, EXPERIENCING ROLLING AND TERRIFIED, NEEDS HELP AT LOCATION: 211912N BY 1575662 (this location wouldn't make sense because there aren't 62 seconds in a minute, so I would relisten to the last 5 seconds of the cut and find out he said 52 vice 62)

- With a DISTRESS call, I would either ask for a transcript from another linguist, or if needed, I would begin to do the transcript. With a transcript, the format (dependent on customer/mission/guidance) would look something like this:

  ◎ FREQ:145.21/CS:./OP:DSA

  ◎ SPKR1: MAYDAY MAYDAY MAYDAY, THIS IS CESSNA (NU GRBLD), TAIL NUMBER BRAVO 2124, I AM VFR (VISUAL FLIGHT READOUT) ONLY AND HAVE FLOWN INTO A STORM PRD/I HAVE ZERO VISIBILITY AND NEED HELP PRD/OH GOD, I'M ROLLING, HELP, I'M ROLLING EXP/OH GOD, OH GOD EXP/SEND HELP IMMEDI-ATELY EXP/MY CURRENT LOCATION IS 211912N BY 1575652W PRD/OH GOD, PLEASE SEND HELP EXP/

    • NU GRBLD = Not Understand, Garbled speech
    • PRD = Period
    • EXP = Exclamation Point
    • (text) = Operator Comments that are used for clarifications

- During the gisting of Channel 2 with JA VEK KU 1-4, I noted that the Air Traffic Controller's callsign was Chicken Dragon Mountain 42, denoting that this was the Silla Airfield Senior Watch Officer. He was directing Tiger 1-4 to perform touch and go training exercises, which tells me that due to the Senior Watch Officer directing the training (which is highly unusual), more than likely a high-ranking official will be visiting the Silla Airfield in the coming days/weeks so make sure that I am on the lookout for transport flights into the Silla Airfield from either the capital region or the Koryo Regional Airfield as they have direct control over the Silla Airfield.

- All of my traffic, transcripts and notes are tagged appropriately with the classification markings on top and bottom with a derivative classification annotation on the bottom left so that all operators and reporters know what level of classification this informa-tion can be released at. I used the Security Classification Guide: NMP/SCG 1-12 Dated 19 June 2017.

4.3. Appendix 3: Ergonomics Report

4.3.1   Ergonomics and Work Related Musculoskeletal Disorders

Survey results, written responses, and discussion through focus groups with 1N3s provided descriptions of their workstations resulting in identification of multiple risk factors for work related musculoskeletal disorders (WMSD), including prolonged static, non-neutral postures of the back and neck, repetitive motions, long-duration activities, and mechanical compression to the upper extremities. They reported the potential to be seated at stationary desks while wearing headphones for up to 12 hours at a time. A number of concerns about the workstation arrangement of 1N3 workspaces are discussed here to provide context for the assessment findings.

4.3.2   Working Group Findings

1N3s reported that workstations lacked the adjustability features that are essential for long-duration computer work. Specifically, the static nature of the desk surface and monitors did not allow personnel the ability to adjust their workstations from seated to standing configurations. Personnel reported that some of the workstations are not desks but rather standard rectangular tables, not easily or feasibly height adjustable. These tables can be deeper than a typical desk surface and have monitors attached to arms on the back of the table. The monitors are stacked in a 2x2 box and the monitor arms have limited forward adjustability making the distance from the users' eyes to the screen farther than the recommended arms-length. Users reported that they have to lean back in their chair to see all four screens. Other workstations were described as 4-in-a-pod configurations, where each workstation fits into a corner of the pod. This desk surface is also not easily height adjustable however the arms holding these monitors are reportedly adjustable enough to achieve proper ergonomic alignment. A few height adjustable work-stations are reportedly available however these are not common. Additionally, due to the nature of the hot-desk workstations, there is not one desk that consistently belongs to one person. This makes the overall adjustability of the workstations even more import-ant. Finally, users reported no adjustment for light levels in the work area or ability to control external noise because of the open architecture layout of the workspace.

The 1N3s reported a variety of brands and styles of chairs rather than a standardized option. Chairs for long-duration, sedentary workstations should have the adjustability features needed to accommodate approximately 90% of personnel. Personnel reported that many chairs had an attached headrest that was not adjustable. Anecdotally, a member reported that people complained about headaches, neck, back, and shoulder pain. One anecdote noted women wearing hair buns experienced neck pain because the headrest met the hair bun and pushed the head and neck forward. An additional piece of equipment that may not be found in a standard computer workstation but is a primary and essential com-ponent of a 1N3 workstation are headphones. A user reported difficulty with the interaction of wearing the headphones while wearing glasses. As the use of blue light glasses becomes more common this interaction concern may be more widely experienced.

4.3.3   *Consensus Survey Findings*

The impacts of these workstation designs which limit the ability of the users to change position throughout their shift were reflected in the survey results. A majority of respondents reported they had experienced back pain (62.8%) in the previous 12 months and nearly half of respondents experienced wrist pain (46.4%) and neck pain (43.6%) in the same time period. Additionally, of those experiencing back pain more than half (55.9%) believed the back pain was a result of their job as a 1N3. Similarly, of those reporting wrist and neck pain, a majority, 70.6% and 58.3% respectively, described the pain as a result of their job as a 1N3.

When asked to provide additional comments about their work environment, participants expressed the desire for availability of ergonomic equipment. However, they also shared the administrative challenges they have experienced in acquiring such items. In addition, there were varying reports of what was required to qualify for a sit-stand desk. Some reported sit-stand workstations were standard issue in some work areas, while other areas required a documented medical condition and had to be requested through the 692ISRG ART in other work areas. This lack of a standardized process related to provision of workstation equipment and addressing related discomfort was also reflected in accounts of outcomes after reporting discomfort. For example, some members reported prescription of over-the-counter pain medication for lower back, neck, and wrist pain and another member reported that a colleague had been prescribed a foam seat pad and lumbar support accessory to be added to their existing chair.

4.3.4. Additional Considerations

1N3 focus group and survey participants identified these concerns regarding ergonomics, mentioning that equipment improvements such as new chairs and standing desks would be helpful. Participants recognized this as an area of priority and suggested that addressing uncomfortable workstations could alleviate chronic pain and discomfort issues. There is value to better understanding the experience related to musculoskeletal physical health trends of the 1N3s in order to better assess what recommendations can be made to minimize and eliminate the exposure to WMSD risk factors. Additional resources regarding ergonomics can be found in AF-MAN 48-146, attachment 5.

Signatures: The parties below have acknowledged receipt and review of the 1N3 HPO/TFF-CBB report and concur with its findings:

HPO/TFF-CBB Project Team

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