State of the Warrior
- ISR/ RPA/ Cyber Ops

ANG RSV Conference
July 2015

James McEachen, Col, IA ANG, FS, MC
ANG Assistant to the 25th AF/SG
It's About Perspective

“The next war may be fought by airplanes with no men in them at all... Take everything you’ve learned about aviation in war, throw it out of the window, and let’s go to work on tomorrow’s aviation.”

Information in War ..... A Revolution

Evolution of technology, information, and culture enabled move from segregation of ops and intel to integration of ops and intel

AFDD 2-0: Global Integrated ISR Ops; June 2012
Total flexibility...Any Time, Any Target
NGA creates

By Paul Frommer

To help combat the unprecedented online threat, the NSA chief says Sony attacked was just the tip of the iceberg. "This has the potential to create a world of integrated cyber and humanitarian assistance," said NGA’s director. "We need to be prepared to respond to these threats and support the agency’s objectives in the 21st century."
“enhancing critical tactical and national relationships”

As of 1 October 2014

- 1 NAF
- 239 Total Activated Units
- 71 Worldwide Locations
25th Air Force

- 9th Recon Wing
  - Beale AFB, CA
- 55th Wing
  - Offutt AFB, NE
- 70th ISR Wing
  - Ft Meade, MD
- 480th ISR Wing
  - Langley AFB, VA
- 361st ISR Group
  - Hurlbert Field, FL
- AFTAC
  - Langley AFB, VA
- AFTAC
  - Patrick AFB, FL
- ACC
  - Agency
  - Langley AFB, TX
- HAF / A2
  - NASIC
  - Wright-Patt AFB, OH

Colors:
- Blue: Reassigned ACC Unit
- Yellow: Redesignated as a Wing
The “Disciplines” of ISR

**GEOINT**
- Imagery & geospatial analysis
- Imagery Intelligence (IMINT)
- Full motion video (FMV)

**SIGINT**
- Communications Intelligence (COMINT)
- Electronic Intelligence (ELINT)
- Foreign Instrumentation (FISINT)
- Cyberspace data

**MASINT**
- Monitors adversary technical developments & deployments
- Wavelength
- Particulate
- Hydromagnetic
- Effluent collection

**HUMINT**
- Uses people to reveal adversary intentions, strategy & capabilities
- Dedicated collectors
- Special Operations
- Defections
- Spies

**OSINT**
- Collected from overt, publicly open sources
- Web groups
- Media, Airshows, Academia
- Rapidly acquire data
- Protection of sensitive sources

**S & TI**
- Study of foreign technology
- Understand adversary capabilities
- Builds countermeasures
- Developing new weapons
Distributed Common Ground System (DCGS) Weapons System

• DCGS Operational Crew Size
  • 37 for RQ-4 missions
  • 7 for MQ-1/MQ-9/MC-12 missions

• Sample 480th ISRW Daily Ops Tempo:
  • ~70 ISR sorties supported
  • ~580 hours of motion imagery reviewed
  • ~2000 still images exploited
  • High volume report production
Putting the Pieces Together

Space Command
- Cyber Ops
- DCGS
- U2
- RQ-4
- EC-135

Air Combat Command
- Targeting
- MQ-9
- MQ-1
- F16
- F22
- B1
- A10
- E-3
- E-8
- F15
- F22

24th Air Force

Cyber Ops

DCGS

25th Air Force

MQ-9

MQ-1

DCGS
The New Front Line in a Cyber-Linked Battlefield

- ALL DIME-C Impact
- ALL in High Demand
- ALL Require TS/SCI
- ALL Shiftwork-centric
- ALL 24/7 ops
- ALL with Similar Medic Challenges
Expanding Nature of ISR

- Underpins every military mission the United States undertakes
  - Focused, integrated ISR enables mission execution
  - "Hunters rather than Gatherers"
  - Intelligence can no longer be passive

ISR demand continues to grow exponentially!
% of Personnel With High Levels of Exhaustion or Clinical Distress

Occupational health screenings from 2011-2014 by Dr. Wayne Chappelle et al, USAF School of Aerospace Medicine

UNCLASSIFIED
<table>
<thead>
<tr>
<th>USAF RPA/ISR/Cyber Ops Warriors</th>
<th>Control Group (Support/Logistics) Group</th>
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<tbody>
<tr>
<td><strong>RPA Operators</strong></td>
<td><strong>DCGS Operators</strong></td>
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</table>
| Long hours/Low Manning  
e.g., working 50+ hours per week to sustain time suspense missions | Long hours/Low Manning  
e.g., working 50+ hours per week to sustain time suspense missions | Long hours/Low Manning  
“There’s no substitute for sufficient manning” 
“Constant 50+ hour work week” | Financial Concerns  
e.g., economic concern over fiscal cut backs on resources for active duty |
| Rotating Shift Work  
e.g., rotating every 30 days between days, swing, and night shifts to sustain 24/7 operations | Rotating Shift Work  
e.g., frequent shift rotations to sustain 24/7 operations with time suspense missions | Leadership/Organizational Issues  
“Multiple conflicting suspenses”  
“Leaders not communicating requirements”  
“Frequent short-notice, line-of-sight taskings” | Career progression  
e.g., access to training and organizational activities leading to on-time promotion |
| Deployed in-Garrison Status  
e.g., daily balance of war fighter role with domestic life, access to base resources, juggling family/personal relationships | Deployed in-Garrison Status  
e.g., daily balance of intelligence role with domestic life, access to base resources, juggling family/personal relationships | Rotating and Longer Shift Work  
“Effects of shift work on familial obligations”  
“Rotating shifts stresses me out” | Fitness  
e.g., sustaining regular exercise program; meeting fitness standards; access to fitness resources |
Medical/ Behavioral Concerns

• DCGS (and RPA) operators have
  • High caffeinated beverage use
  • Increased alcohol use
  • Increased musculoskeletal injury/pain
  • Increased sleep problems, and emotional distress created or made worse by their occupational environment
  • Increased mental healthcare utilization and OTC medication usage

Occupational Health Screenings of the Virtual Warrior: Distributed Common Ground System Intelligence Operators Compared with Non-Combatant Support Personnel
Wayne Chappelle, Psy.D., ABPP; Lillian Prince, M.S.1; Tamya Goodman, M.S.2; William Thompson, M.A.3; Sara Cowper, M.A.3; Bobbie Ray-Sannerud, Psy.D.3
1U.S. Air Force School of Aerospace Medicine, Neuropsychiatry Branch, Wright-Patterson AFB, OH; 2Prince-Research Solutions, AL; 3Neurostat Analytical Solutions, San Antonio, TX February 2014
Medical/ Behavioral Concerns

• Chronic Shift work
  • Increased risk of CVD, diabetes, depression

• Sequela of chronic fatigue

• Ergonomic concerns

• Less access to health care due to shift hours
Care for the
ISR/RPA/Cyber Ops Warrior
25th AF - Who We Are

Enlisted: 20,325
Officer: 3,185
Civilian: 2,813
Total: 26,323

Active Force: 26,323
Guard: 3,829
Reserve: 2,000
Total: 32,000+

77% Enlisted
12% Officer
11% Civilian
9% Guard
3% Reserve
88% Active Force
AFDD 2-0: Global ISR Presence

- SBIRS
- EC-130E Senior Scout
- MC-12W Project Liberty
- MQ-9 Reaper
- AF DCGS
- RQ-4 Global Hawk
- MQ-1 Predator
- RC-135U Combat Sent
- HUMINT
- RC-135V/W Rivet Joint
- Cyber
- NASIC
- U-2 Dragon Lady
Isolating Barriers

• Chronic Shift Work & Long Work Hours

54% reported difficulties commuting to/from work due to sleepiness
4.5.3. Maximum Mission Duty Period (MDP). Maximum MDP is 12 hours for mission crewmembers. If official post-mission duties are anticipated to exceed 2 hours, commanders should consider reducing the MDP to ensure the safe completion of those duties.

4.5.3.1. Crew Rest. Mission crew require at least 12 continuous hours of restful activities (including an opportunity for at least 8 hours of uninterrupted rest) during the 12 hours immediately prior to the MDP. To ensure individual accountability and mission reliability, crewmembers should be officially notified prior to entering a crew rest period. A crew rest period cannot begin until after the completion of official duties. Exceptions to the 12-Hour Minimum Crew Rest Period for continuous operations when basic mission crews MDPs are greater than 12 but less than 14 hours, subsequent crew rest may be reduced proportionally to a minimum of 10 hours in order to maintain a 24-hour work/rest schedule, allowing opportunity for a minimum of eight (8) hours uninterrupted rest.
Isolating Barriers

• Geographic & Temporal Proximity to Support Services/Resources
  • Commute Time
  • Social
  • Medical
  • Spiritual
  • Food
  • Exercise
Isolating Barriers

• High-level Security Clearance
Medical/ Behavioral Concerns

• Bad people do bad things
  • Often bear witness to difficult/challenging/horrific events but may be powerless to intervene

• The juxtaposition of life at war and life home can be difficult
Forging a Resilient Warrior
Support of the Non-Aviator Operator

Address Manpower & Shiftwork Optimization

ISR OME & Resiliency Team Direct Engagement

25th SG Initiatives & Interventions
- Operator & Medic training
Fatigue Countermeasures

(17,214). Thus, educational programs should communicate the central points conveyed in this position paper:

1) fatigue is a physiological problem that cannot be overcome by motivation, training, or willpower;
2) people cannot reliably self-judge their own level of fatigue-related impairment;
3) there are wide individual differences in fatigue susceptibility that must be taken into account but which presently cannot be reliably predicted;
4) there is no one-size-fits-all “magic bullet” (other than adequate sleep) that can counter fatigue for every person in every situation; but
5) there are valid counter-fatigue strategies that will enhance safety and productivity, but only when they are correctly applied.
RPA/ISR Shiftwork Optimization Strategies

- Predictability
- Control
- Choice
- Length of Shift

- Environmental Quality/ Ergonomics
- Physical movement/ conditioning
- Other Considerations
  - Energy Supplements
  - Alcohol Usage
An Embedded Solution

• We have known since 1918 when the first Flight Surgeons were embedded into flying units that an embedded approach is effective.
The 25th AF/SG Active Duty Model

**Embedded Operational Medical Element (OME) with Human Performance Optimization (HPO) Team** being established at multiple AD bases across the 25th AF

- 53 LINE-funded positions for medics
- Converted positions include TS/SCI clearances
- Expected full program roll out in 2016

**Embedded OME/HPO team provides:**

- Proactive response
- Structured link to “population at risk”
- Operator advocates
- Direct action network (e.g. helping expedite process for RTD)
- ISR/CC advisory service
REMOTE WARRIOR STRESS RESULTS
(Vs. IN-GARRISON USAF CONTROL GROUPS)

Predator/Reaper Operators

DCGS Operators

Exhaustion: 10 - 11%
Clinical Distress: 8 - 10%

Enhancing Resiliency in a Setting of Chronic Fatigue
The 25th AF/SG Active Duty Model

"The stress is there, the work is there, the Airmen are there, and now we have the SG there...and the team is much stronger and more combat effective”

– Col Jeff Kruse, 48o ISRW/CC
TFF/CAF Transition to Operational ISR Mission Support
(Health/Human Performance Optimization)

CJCS Initiative

Social
- Behavioral
  - Substance abuse
  - Task cohesion
  - Social cohesion
- Physical
  - Strength
  - Endurance
  - Flexibility
  - Mobility
- Environmental
  - Heat/Cold
  - Altitude
  - Noise
  - Air quality
- Psychological
  - Coping
  - Awareness
  - Beliefs/Appraisals
  - Decision making
  - Engagement
- Nutritional
  - Food quality
  - Nutrient requirements
  - Supplement use
  - KCal choices
  - Service values
  - Positive beliefs
  - Meaning making
  - Ethical leadership
  - Accommodate diversity
- Medical
  - Access
  - Immunizations
  - Screening
  - Prophylaxis
- Spiritual
  - Mindset
  - Diet/Nourishment
  - Healthy Eating
  - Lifestyle
  - Hydration

Total Force Fitness

Human Performance Optimization
Foundational Development And Sustainment
Resiliency

Medical and Dental
- Chronic Pain
- Conscious Sedation/Medication Use
- Occupational Medicine
- Operational Medical Element Support

Spiritual
- Intervention
- Purpose/Meaning
- Mindfulness
- Motivation

Nutritional
- Perceptions/Beliefs And Values
- Kinetic/Non-Kinetic Engagement

Psychological
- Mental Health Care
- DE-stigmatize
- Present Moment Awareness

Behavioral
- Coping Skills
- Risk Management
- Reduce Suicide Ideation

Physical
- Work/Rest Cycle Stress
- General Public Health Assessment

Social
- Help Seeking
- Family Influences
- Conflicts of interest

Environmental
- Exhaustion
- Retention
- Job satisfaction
- Workplace Environment

OME Engagements w/AM or FM for future incorporation into the AFMH
We have begun either embedding or dedicating medics to directly support missions such as special operations, remotely piloted aircraft, intel, or other high stress career fields, which have had a clearly positive impact on those Airmen, their mission effectiveness, and their families. The Human Performance Concept of Operations, which we published last year, is the foundation of Air Force Medical Home, and sets a course to make this a sustained effort.

Thomas W. Travis
Lieutenant General, USAF, MC, CFS
Surgeon General
April 2015
ANG Support Initiatives for Total Force Missions

• Total Force Resiliency Support Team with Direct Operator Access
  • CORE - Medic/ DPH/ Chaplain
  • Exploring provisions for Full-time Provider
  • Seeking TS clearance approval/funding

• Same AD Operational Support Focus:
  • Proactive response
  • Structured link to “population at risk”
  • Operator advocates
  • Direct action network (e.g. helping expedite process for RTD)
  • ISR/CC advisory service
Scalable Resource Support Initiatives for ANG Total Force Missions

**Local (GMU) Initiatives**
- AD Agreements (TFI/TFE)
- Local Line-funded medic support
- Alternate Provider Schedules

**Reach-Back Support**

**Total Force Resiliency Support**
- Providers
- DPH
- Chaplain
- Family Advocacy
- Safety

**ANG/SG Future Initiatives**
- FT Mid-Level support
- Increased TS Access
- Training
# 25th AF/SG Actions & Involvement

## MTF Leadership Staff Briefings:
- Langley
- Wright Patterson
- Ft Meade (Kimbrough)
- Patrick
- Beale
- WHASC
- Ramstein
- Lakenheath
- Randolph (w/WHASC)
- Maxwell
- Nellis
- Ft Gordon (Eisenhower)
- Shaw
- Data-Masked x 2 w/Sister Services
- Hickam & Elmendorf
- Osan & Follow-ups (TBD)

## FOAs/MAJCOM engagements:
- NATO STO & RAMS
- NASIC Town Halls
- Pre-POM WG – DHHQ
- MAJCOM/SGPs (FOMCB)
- AMWG – International
- DHHQ/SG3P – Staff, DHA
- AFMOA
- AMP 101 Course
- USAFSAM
- USAFSAM RAMs
- USAFSAM SGP Courses
- Air Univ.-AWC medics
- AFPC (TBD)
- AETC
- ISR Agency HQ
- MTF SLW (75 MDG CCs)
Training Initiatives

• DCGS Operator Resiliency Training
  • Focused on new DCGS Airmen
  • Total Force effort being developed as a 25th AF/SG initiative for inclusion in basic intel curriculum

• ISR Medic Training
  • AMP-linked introductory efforts
  • 25th AF/SG seasoning courses

• Total Force RPA/ISR/Cyber ‘Best Practices’ forum
  • DPH and Medics supporting Total Force Missions
  • Initiative focused on ‘best practices’ and available resources to mentor/support crews
Summary

• Addressing Manpower & Shiftwork concerns will pay dividends in operator health
• Embedded Resiliency Teams are showing positive results in improving operator resiliency
  • TS access with direct interaction
  • Holistic team approach
• Operator-focused training initiatives being forged
Questions?

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