

Headquarters U.S. Air Force

Integrity - Service - Excellence

Military Medicine Beyond the Horizon Strategic Implications For Health IT



2015 Defense Health Information Technology
Symposium

Lt Gen Mark A. Ediger
Air Force Surgeon General

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Air Force Medicine

Vision:

Our supported population is the healthiest & highest performing segment of the U.S. by 2025

Motto:

Trusted Care Anywhere



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Learning Objectives

- **Consider indicators of evolving advances in medical practice**
- **Consider the potential capabilities and how they may be applied in support of military missions, service members and families**
- **Consider how application of these capabilities may alter the daily practice of military medical teams**
- **Consider the implications for information technology support**



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Agenda

- Evolving medical mission set
- Today's challenges in a Tri-Service clinic
- Population health and readiness
- IT demands in a clinical setting
- Evolving scientific advances of potential relevance
- Enhancing reliability in health care
- Patients as full partners in their health



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Support to a Dynamic Mission

Operational drivers

- Complex threats
- New military capabilities
- New tactics
- Varied environments



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Support to a Dynamic Mission

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Imperatives for medical support

- Enhance service member's performance
- Continue to apply clinical innovations in operational space
- Tighten continuum of care
- Capture data
 - Clinical
 - Operational



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Today's Tri-Service Clinic

USAF	USA	USN & USMC
AHLTA Armed Forces Health Longitudinal Technology Application		
ASMIMS Aeromedical Services Info Management System	MEDPROS Medical Protection System	MRRS Medical Readiness Reporting System
PEPP Physical Exam Processing Program	MODS Medical Operational Data System	EDHA Electronic Deployment Health Assessment
AIMWTS Aeromedical Information Mgmt Waiver Tracking System	AERO Aeromedical Electronic Resource Office	

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Population Health & Readiness

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- A common process for assuring individual medical readiness and enhanced human performance will require:
 - Alignment of service processes
 - Integrated clinical and operational systems across all domains



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Health IT As We Know It

- Documentation of care
- Presentation of diagnostic results
- Tracking of information relevant to readiness and fitness for duty



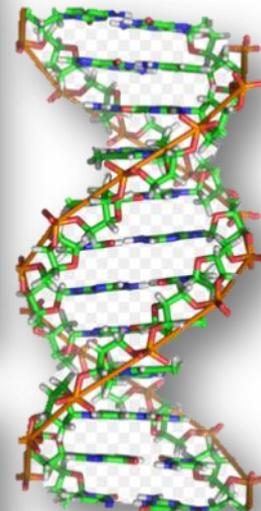
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Evolving Knowledge--Genomics

- Disease as expression of genetic code
- Precision oncology—the next frontier?
 - Genomic profiling
 - Targeted therapy—pharmacologic and molecular
- Growing pool of genotyped people



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Evolving Knowledge--Biomarkers

- Identification of biomarkers for disease growing rapidly
 - Increasingly important to treatment
 - Some use to assess health risk
- Micro-RNA research
 - Potential low-cost screening for early diagnosis of disease and injury
 - TED Talk—Dr. Jorge Soto





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Evolving Knowledge Factors Influencing Disease

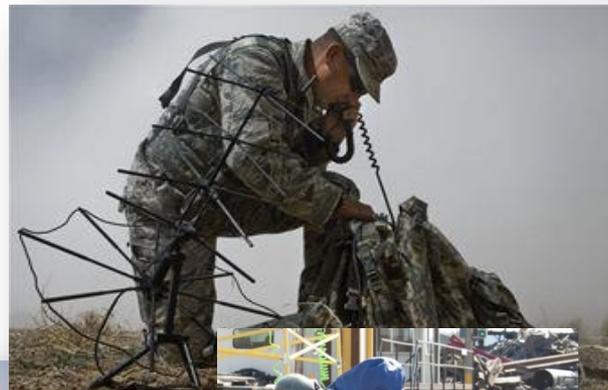
- Growing evidence that multiple factors influence disease expression
 - Knowledge and patient engagement
 - Nutrition
 - Social interactions
 - Physical activity
 - Microbiome?
- Integrated care growing in importance
 - The future standard?



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Environmental & Family History

- Growing evidence of linkages to gene expression of disease
 - Environmental exposures
 - Nutrition
 - Physical activity
 - Medication
 - Co-morbid conditions
- Family history



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Precision Medicine—Relevant When?

“A seamless, interoperable national EMR system is, at best, decades away for the United States and unlikely to include informative phenotypic data such as waist circumference, musculoskeletal fitness, and exercise capacity.”

Joyner and Paneth

JAMA 22 June 2015



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Precision Medicine—Relevant Now

“A seamless, interoperable national EMR system is, at best, decades away for the United States and unlikely to include informative phenotypic data such as waist circumference, musculoskeletal fitness, and exercise capacity.”

Joyner and Paneth

JAMA 22 June 2015

- **Continuity and longevity of care in DoD coupled with population health and readiness data pose a unique preventive opportunity**



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Implications for Clinical Teams

- **Transformative opportunities on the horizon**
 - **Early recognition of health risk**
 - **Early detection of disease/injury**
 - **More precise/effective prevention and care**



Implications for Clinical Teams

- Transformative opportunities on the horizon
 - Early recognition of health risk
 - Early detection of disease/injury
 - More precise/effective prevention and care
- **Significant growth in need for:**
 - **Data management/exchange**
 - **Clinical decision support tools**
 - **Education/training for teams**
 - **Tools for service members and patients**



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Expanded Interaction with Patients

- Patient portal features:
 - Secure communication
 - Health coaching/medical mgmt
 - Access to records
 - Access to diagnostic results
 - Manage medications
 - Manage appointments
 - Education
 - Home health device interface
 - Mobile device enabled
 - Personal health trackers



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Data Management for Reliability

■ Features

- Integrated across operational and clinical domains
- Interoperable
- Enable performance management
 - Leverage biometric data for measuring outcomes
- Scalable for significant expansion in capacity
- Sustainable
- Reliable



Conclusions

- **Evolving knowledge of genetic expression of disease and means for detection and control will disruptively innovate the provision of health services**
- **This will be highly relevant in medical support to military operations**
- **Effective medical support to the U.S. military will require a comprehensive health information technology strategy**



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Evaluations

- Please complete your evaluations



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Questions?



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