

# ***Headquarters U.S. Air Force***

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*Integrity - Service - Excellence*

## ***Military Medical Informatics Shape the Future***



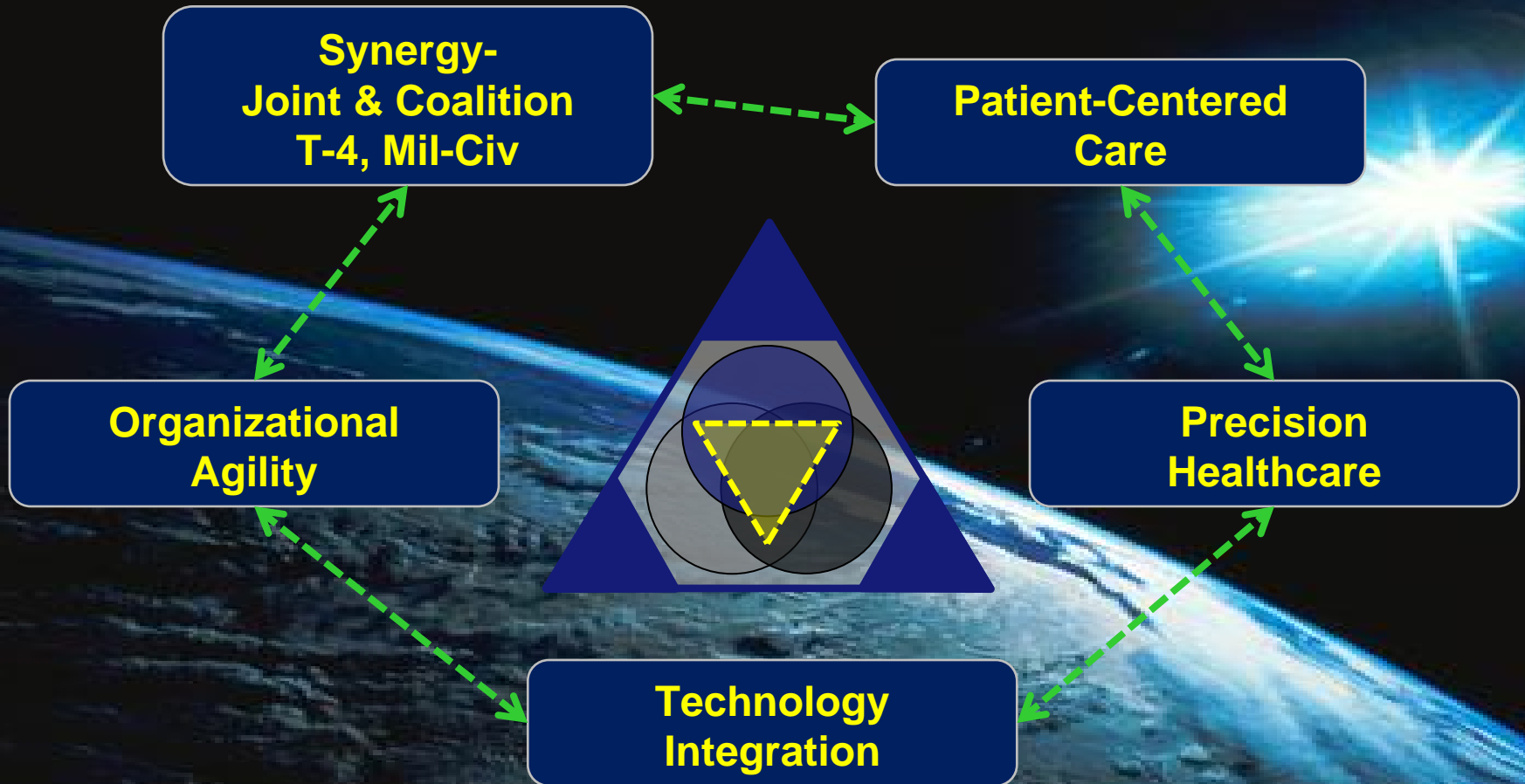
**Brig Gen Byron Hepburn  
HQ AF/SG2  
20 Sept 2010**

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# *Military Healthcare* *The World is Our Stage*



**Strategic Imperatives Provide Our Future Framework**



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# *Synergy*

- **Consortium**
  - **DOD, EHR Way Ahead**
  - **VA, VistA 2.0**
  - **VLER**
- **National Health Information Network (NHIN)**
- **Interagency, Government and Industry**
- **Collaboration on a national level to improve quality of care, cost and access**
  - **Natural Language Processing.....**





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# *Shape the Future*

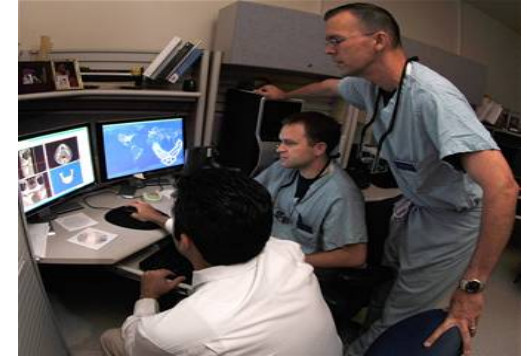
- **Future of medicine = transformational use of information**
- **Robust Health Information Technology (HIT)**
  - **Rapid advances in medical field and evidence based medicine**
    - **New mechanism for rapid dissemination of new information**
  - **Health information transparency in prevention, care and outcomes**
    - **Streamline delivery of care**
      - **Reduce waste, delayed and ineffective treatments**
    - **Reduce variation across system**
    - **Allows learning from system for process improvement**



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# ***Personalized Medicine***

- **Patient Centered-Precision Care (PC2)**
  - **Application of personalized medicine**
  - **Right care, right time, right person**
    - **Evidence-based prevention and therapy**
    - **Objective consideration of individual patient differences**
    - **Patient specific targeted and precise prevention and therapy**
  - **Requires integrated approach to bring all patient information together into meaningful, holistic view**
  - **Correlations between genomic, medical, environmental and demographic patient information**
    - **Operational Exposures + location = bioenvironmental health**





# Technology Integration

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Notification Delivery: Months → Minutes

FDA  
Drug  
Alert

9.5M Patients

MHS Patient  
Database

19  
Patients  
Identified  
as  
"At Risk"

Applied Clinical Epidemiology (ACE)

Yokota AB, Japan  
Offutt AFB, NE  
Ramstein AB, Germany  
AFMS Email Notification  
-----  
Dr. Xavier,  
FDA Alert...Mrs. Suzanne is  
currently taking a combination  
of...

Health Informatics

- CPGs, alerts, data integration = patient safety
- Genomics, bioinformatics, decision support = evidence-based patient care
- Consolidated data warehouse with data marts
- Partnerships with academia on research, pharma and medical devices

**Transforming Health Through Precision & Personalized Medicine**

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# *Technology Integration*

- Empowerment of patients through personalized health records and secure messaging
- Communication can be initiated by any one party on the care team
- Secure messaging + decision support + telehealth = personalized care

**Health Informatics**



**Personal Health Record (PHR)  
& Secure Messaging**

**Health Informatics**

***Transforming Health Through Precision & Personalized Medicine***

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# *Summary*

- **Improved outcomes and safety**
- **Reduced waste**
- **Increased provider and patient satisfaction**
- **Rapid dissemination of new evidence and care standards**
- **Genome informed personalized medicine in action with detailed, integrated clinical decision support**
- **Enhanced patient provider relationships**
  - **Active, participatory healthcare**
  - **Targeted patient education through PHR/SM**



***TRUSTED CARE ANYWHERE™***





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# **BACK UP SLIDES**



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# ***Technology Integration***

- Decision support for 9.5M patients by COHORT
- Single portal access to myriad of tools = Care Point Portal
- Patient population management
- Interactive Health Portal with risk adjusted predictive modeling tools



**Evidence-Based Initiative...  
Transforming Data into Actionable Info**

**Health Informatics**

***Transforming Health Through Precision & Personalized Medicine***

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# Seize the Future: Targeting Prevention to your Genetic Code

**GOAL:** Optimize treatment outcomes through prediction and prevention

**PROCESS:** Evaluate emerging genetic variants associated with disease



+



=

**Personalized  
Disease Management  
& Prevention Strategy**



## Preventing Future Heart Attacks & Strokes

~ 30% of the population taking Plavix (clopidogrel) have decreased ability to process the drug due to their genetic code

**Bottom Line:** These patients may have reduced prophylactic benefit from Plavix; thus have an increased risk for heart attack / stroke

***Harnessing Technology to Deliver Precision Guided Medicine***

