

Command Sponsor Perspective of the JMO-T ACTD



Major Dean E. Doering, USAF, MSC, CHE
JMO-T ACTD Operational Manager

Office of the Command Surgeon, J07
Headquarters, United States Pacific Command
DSN: 312-477-7895 Comm: (808) 477-7895
Email: ddoerin0@hq.pacom.mil



Overview



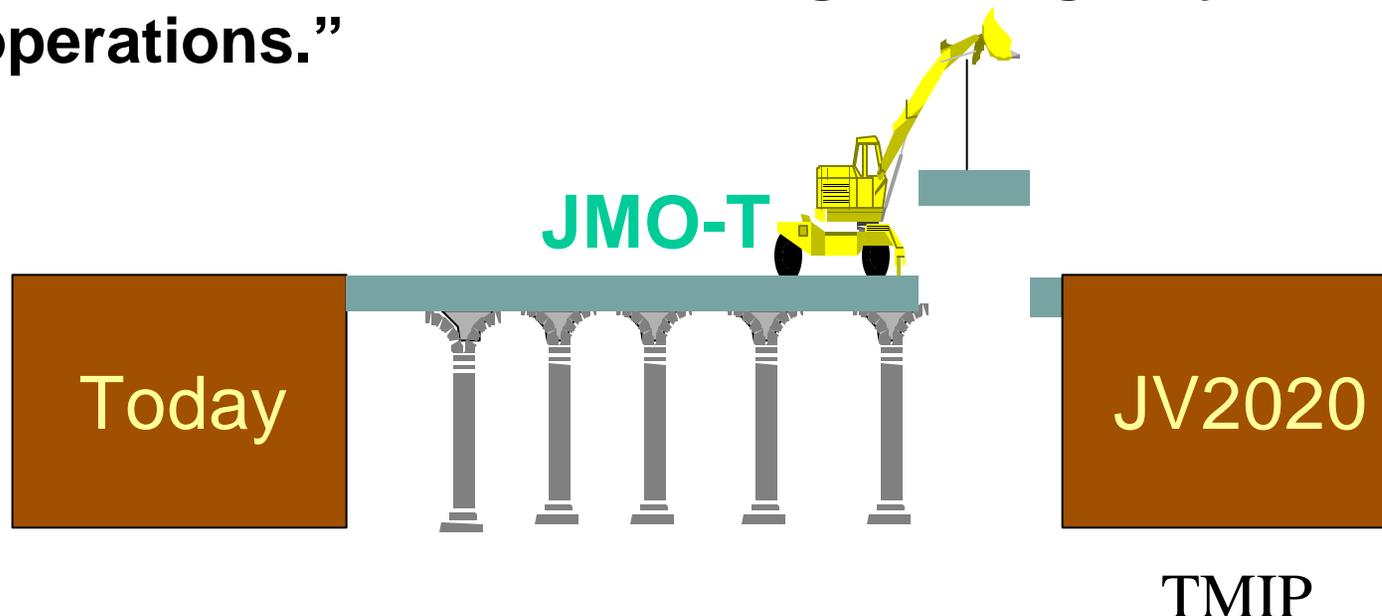
- Current Operational Capabilities
 - JMO-T ACTD Objective
 - Critical Operational Issues
 - Theater Telemedicine Team Concept
 - Suite of Products
 - Benefits to Operational Forces
- Evaluation/Demonstration Efforts
 - Cobra Gold 02 (MEDCAP)
- Final Military Utility Assessment
 - Lessons Learned



JMO-T ACTD Objective

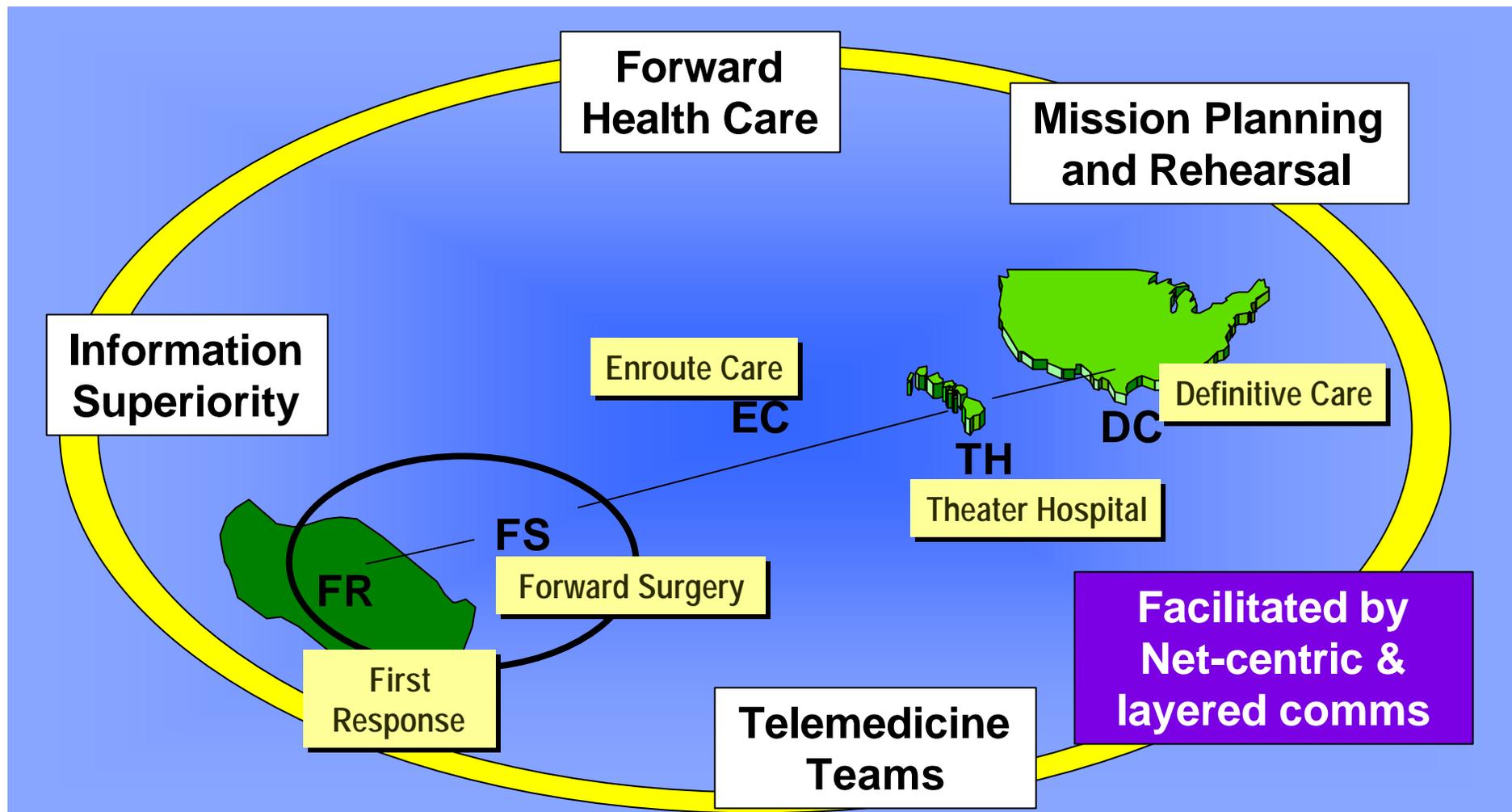


“Provide the USPACOM and joint task force commanders a capability to defeat time, distance, and organizational obstacles to high-quality, cost-effective joint health support in austere environments during contingency operations.”





Four Critical Operational Issues





Critical Operational Issues (continued)



Forward Health Care

COI 1.: Can JMO-T technologies improve deployed medical support, reduce force attrition, and improve patient movement?

Information Superiority

COI 2.: Can enhancement of the common operational view of the medical battle space improve medical C2 for the combatant commander, JTF surgeon, and deployed medical units?



Critical Operational Issues (continued)



Telemedicine Teams

COI 3.: Can a new telemedicine organization meet deployability, interoperability, and supportability requirements of JTF medical support in austere and nonlinear operations?

Mission Planning and Rehearsal

COI 4.: Can JMO-T modeling and simulation tools enhance medical planning and mission rehearsal?



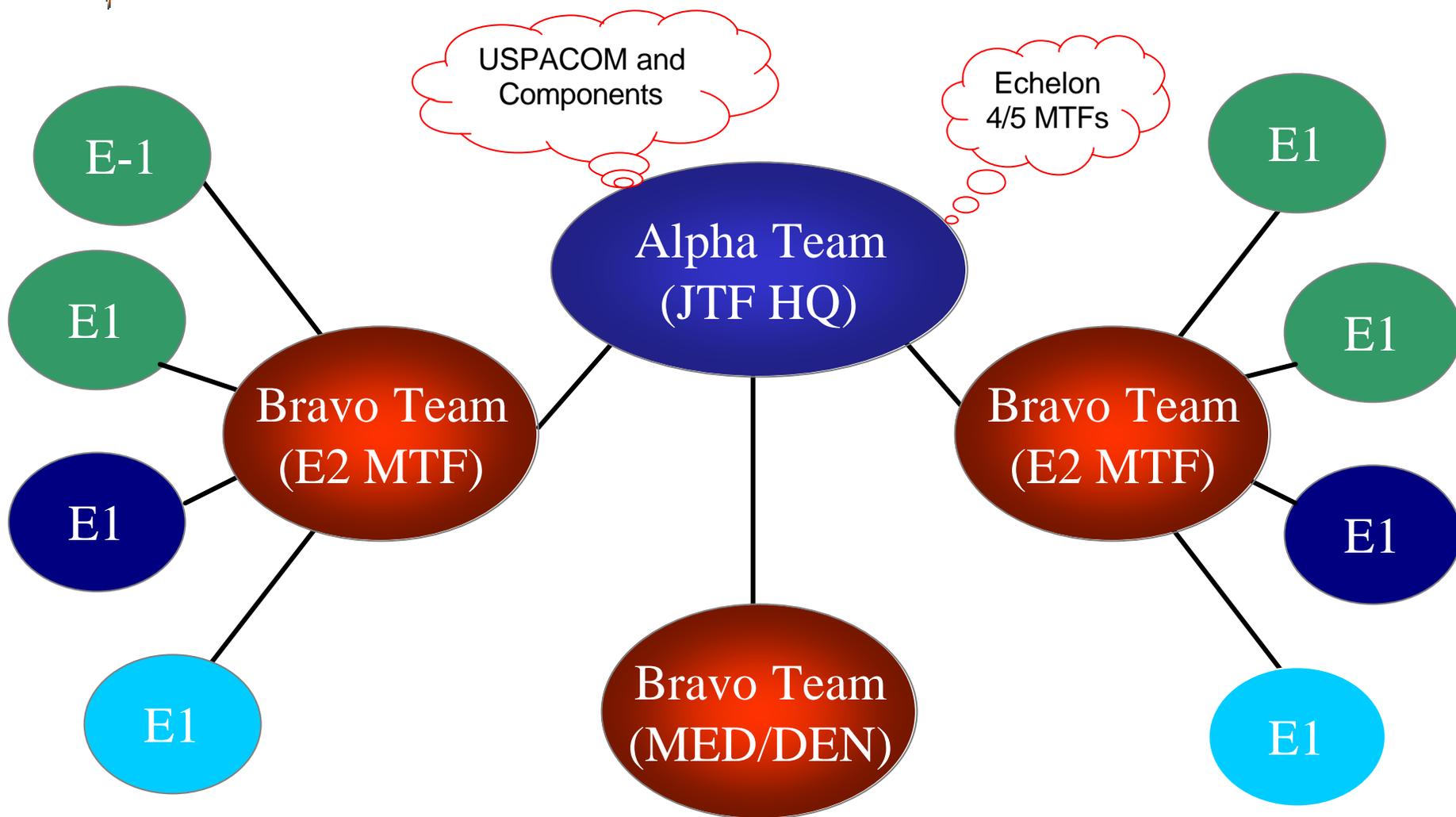
Theater Telemedicine Team (TTT)

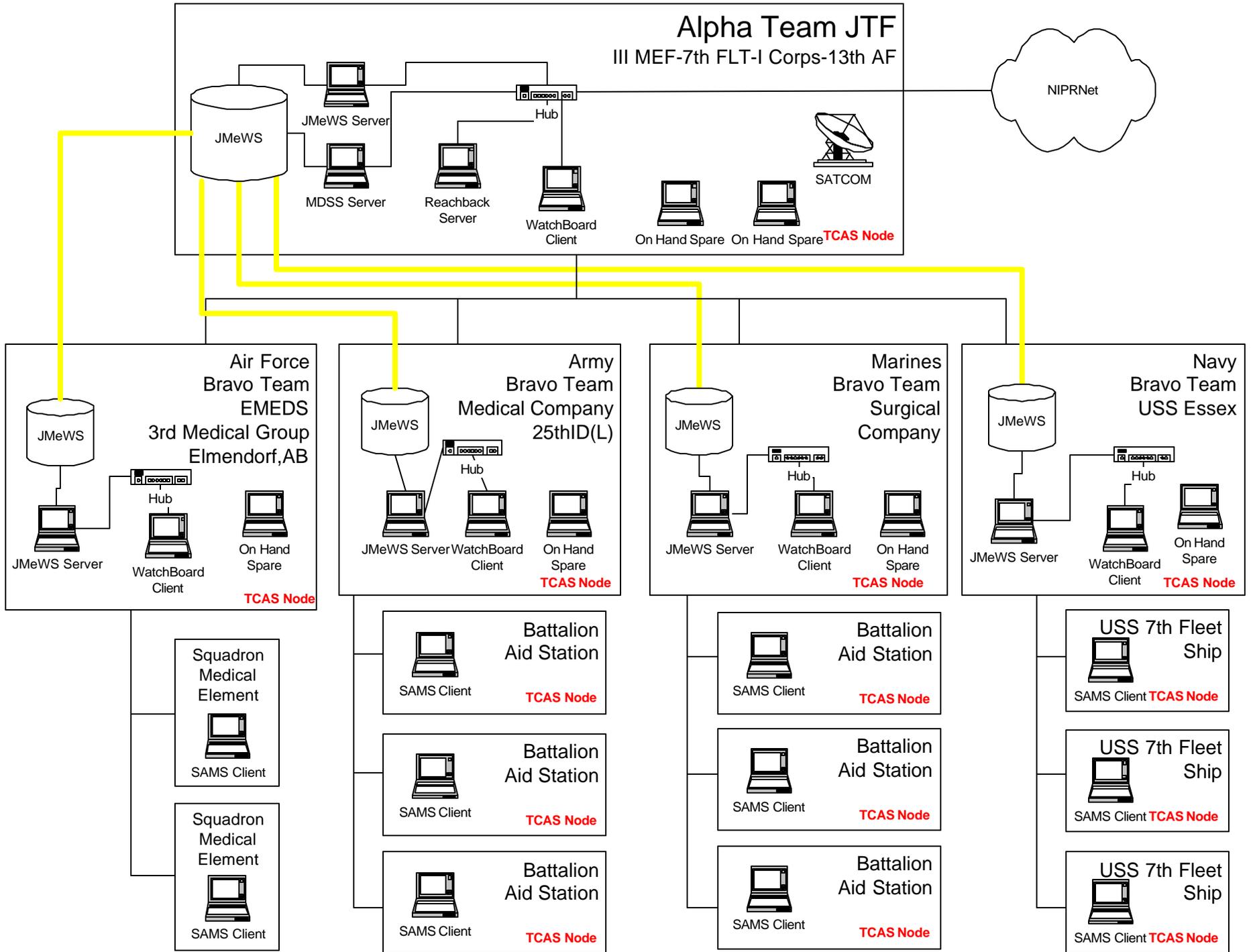


- Active Duty / Civilian Hybrid
- Staged at USPACOM (J07), Camp Smith, HI
- Connects to and augments communication infrastructure
- Trains all users
- Alpha Team (5 FTEs)
 - JTF Surgeon Support
 - Theater Help Desk
 - Reachback and Clinical Consultation Managers
- Bravo Teams (2 FTEs each)
 - MTF Support



TTT Employment Concept





Echelon 1 Equipment Package (small, portable, light-weight).



Echelon 2 equipment set (easily transportable).





Who were the principal customers?



- JTF commanders, surgeons, and medical units
- Individual military medical providers
- The USPACOM surgeon and staff
- USPACOM component surgeons and staffs
- Coalition partners
- DOD and services that funded the ACTD
- Others

USPACOM surgeon's strategy:

Field technologies to Joint Mission Force units first.



PACOM JMF VISION

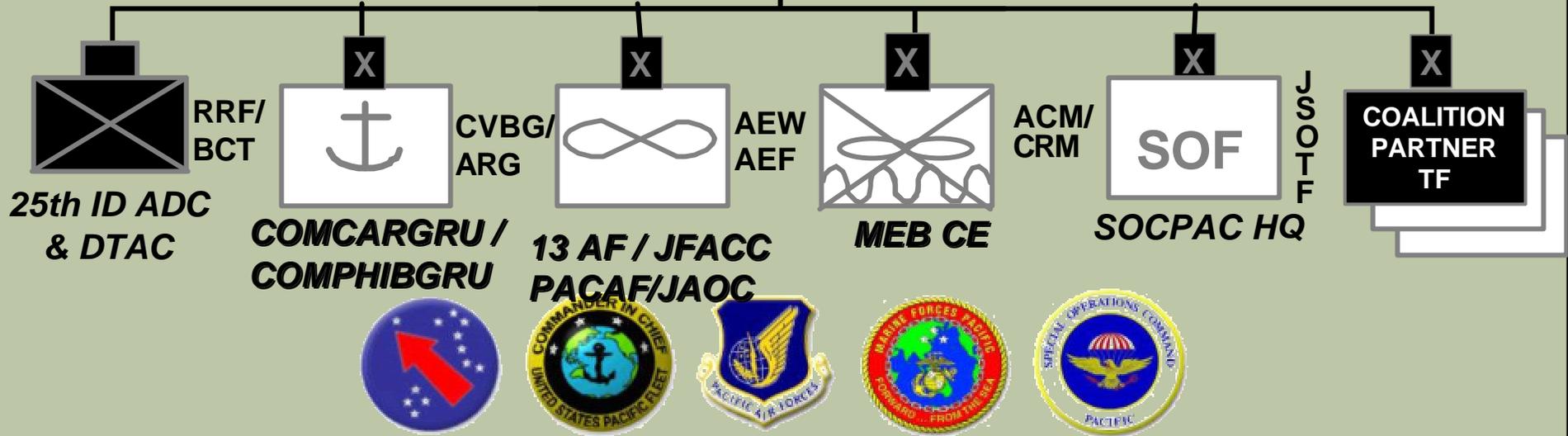
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CJTF
III MEF/C7F
III CORPS

OPCON

**SHARED COMMON
OPERATIONAL
PICTURE / JOINT
INTERACTIVE PLANNING**

**INTEGRATED
LOG/INTEL PICTURE
AND SUPPORT
SCHEME**



JMF Tailorable to METT-TC

UNCLASSIFIED



How did JMO-T engage operational forces?



- Attended all exercise planning conferences and provided written CONOPS, logistical, and engineering support to field units.
- Matched IM/IT capabilities with exercise objectives to improve mission effectiveness, enhancing data collection and evaluation of MOPs/MOEs.
- Provided capabilities that enabled successful completion of medical requirements listed in the CDRUSPACOM's Joint Task Force Headquarters Standing Operating Procedures (JTF HQ SOP).
- Documented and implemented system change requests submitted by users.



How does JMO-T benefit operational forces?



- Forward Health Care (COI 1.)
 - Provides the capability to collect and analyze patient encounter data from Echelon 1+.
 - Provides clinical consultation tool to obtain support from medical specialists worldwide.
 - Provides digital cameras, scanners, and printers to facilitate the consultation process.
 - Enables aeromedical evacuation crew to communicate with JTF and destination MTFs for patient care during long evacuations.
 - Meets operational requirements through lighter weight, compact, easy to use technologies.



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Telemedicine Demonstration

Dean Doering
 Logged on 9:09 PM GMT
 Session Duration: 22
 minutes
 Location CJTF HQ, Thailand

Consult 100004 SF513

Submitter Information

Clinician: Federico Anies, HMC
 Facility: 1MAW-BAS, Utaphao Marine Air Wing
 Specialty: BAS
 Phone Number:
 Fax Number:
 E-mail: aniesff@1maw.usmc.mil

[TOP](#)

Demographics

Patient Name: Not Displayed
 Patient Age: 23.0 DOB: Not Displayed
 Gender: Male
 Weight: lbs.
 Social Security Number: Not Displayed

Details

Date Uploaded 05/08/2002 9:26 AM GMT
 Origin of Case: 1MAW-BAS, Utaphao
 ICD-9 Code(s):
 Patient's Unit mwss 171
 Provider Name LT STEUERLE
 Date of Visit 05/03/2002

Facility 1MAW BAS

Reason for Request conflicting orthopedic results from local orthopedist. We see above result. Ortho states rt wrist sprain. Pt has been casted, pls confirm/refute styloid fx.

Provisional Diagnosis fx rt ulnar styloid (per LT Steuerle and LCDR Weber)

Specialty Requirements orthopedics

Images

rt wrist styloid fx (X-Ray)

[05/09/2002]



TOP

rt wrist styloid fx (X-Ray)

[05/09/2002]



rt wrist styloid fx (X-Ray)

[05/09/2002]



rt wrist styloid fx (X-Ray)

[05/09/2002]



**Select Multiple Images for side by side comparison
Hold down the Ctrl key and click desired images**

rt wrist styloid fx (X-Ray)-05/09/2002
rt wrist styloid fx (X-Ray)-05/09/2002
rt wrist styloid fx (X-Ray)-05/09/2002
rt wrist styloid fx (X-Ray)-05/09/2002

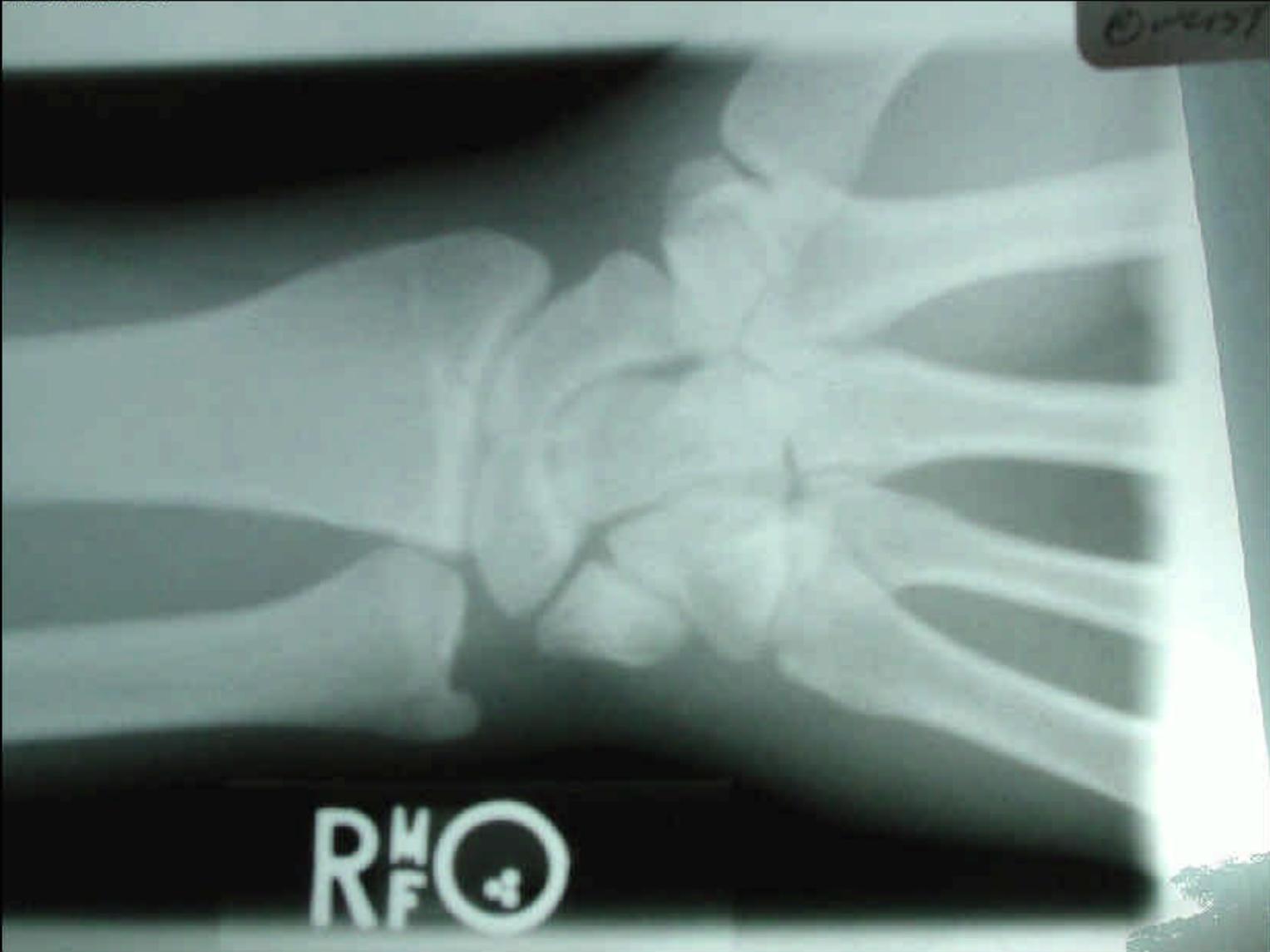
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Comments

Return to Case

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Current View: 80%

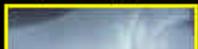
Zoom Out	Mag Tool	Zoom In
Rotate	Resize	Show/Hide All
Place Pointer	Pointer Color	Show/Hide Pointer
Write On Top	Place Text	Show/Hide Text
Zoom Image	Draw Rect	Show/Hide Rect
Show Original Image	Image Notes	Invert Image
Perm. Rotate	Mirror Image	Gray Scale Image



rt wrist styloid fx (X-Ray)



rt wrist styloid fx (X-Ray)



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[View Images](#)

Comments

From: Robert Whitton (Mr.) CJTF HQ Sattahip - Sattahip, Thailand
Date: 05/09/2002 2:24 AM GMT
Comments: Forwarded case to Judith Ciesla

From: Robert Whitton (Mr.) CJTF HQ Sattahip - Sattahip, Thailand
Date: 05/09/2002 2:24 AM GMT
Comments: Forwarded case to Laura Yanz [▲ TOP](#)

From: Laura Yanz (HM3) Okinawa, NH - Okinawa, Japan
Date: 05/09/2002 6:45 AM GMT
Comments: Case is in the process of being forwarded to Ortho Duty doc.

From: Laura Yanz (HM3) Okinawa, NH - Okinawa, Japan
Date: 05/09/2002 7:04 AM GMT
Comments: Spoke with Dr. Rocca(Ortho Duty doc) read consult to him, case not deemed urgent per DR. He will review films on 10May02 and respond.

From: Judith Ciesla (LT) Okinawa, NH - Okinawa, Japan
Date: 05/10/2002 9:24 AM GMT
Comments: Per CDR Spak, Radiology:
"There does not appear to be an ulna styloid fracture. The lucency appears to be due to the degree of obliquity. Recommend splint and repeat films in 10-14 days."

[Add Comments](#) | [Forward](#) | [Close Case](#) | [Print SF513](#) | [Print SF600](#)

MEDICAL RECORD		CONSULTATION SHEET	
REQUEST			
TO SF513	FROM: (Requesting physician or activity) Federico Anies, HMC	DATE OF REQUEST 08 May 2002	

REASON FOR REQUEST (Complaints and findings)

Details

Date Uploaded 05/08/2002 9:26 AM GMT
 Origin of Case: IMAW-BAS, Utaphao
 ICD-9 Code(s):
 Patient's Unit mwss 171
 Provider Name LT STEUERLE
 Date of Visit 05/03/2002
 Facility IMAW BAS
 Reason for conflicting orthopedic results from local orthopedist. We see above
 Request result. Ortho states rt wrist sprain. Pt has been casted, pls confirm/refute
 styloid fx.
 Provisional
 Diagnosis fx rt ulnar styloid (per LT Steuerle and LCDR Weber)
 Specialty orthopedics
 Requirements

PROVISIONAL DIAGNOSIS

DOCTOR'S SIGNATURE Federico Anies HMC	APPROVED N/A	PLACE OF CONSULTATION BEDSIDE ON CALL	ROUTINE TODAY 72 HOURS EMERGENCY
--	------------------------	---	--

CONSULTATION REPORT

RECORD REVIEWED YES NO PATIENT EXAMINED YES NO TELEMEDICINE YES NO
The History and Physical Exam was completed by Federico Anies HMC, for the Consultant's Review.
MedX7 Teleconsultation ID: 100004

IMAGES



Enter description of image...
(X-Ray)



CONSULTATION

From: Robert Whitton (Mr.)-Sattahip, Thailand
 Date: 05/09/2002 2:24 AM
 Comments: Forwarded case to Judith Ciesla

From: Robert Whitton (Mr.)-Sattahip, Thailand
 Date: 05/09/2002 2:24 AM
 Comments: Forwarded case to Laura Yanz



How does JMO-T benefit operational forces?



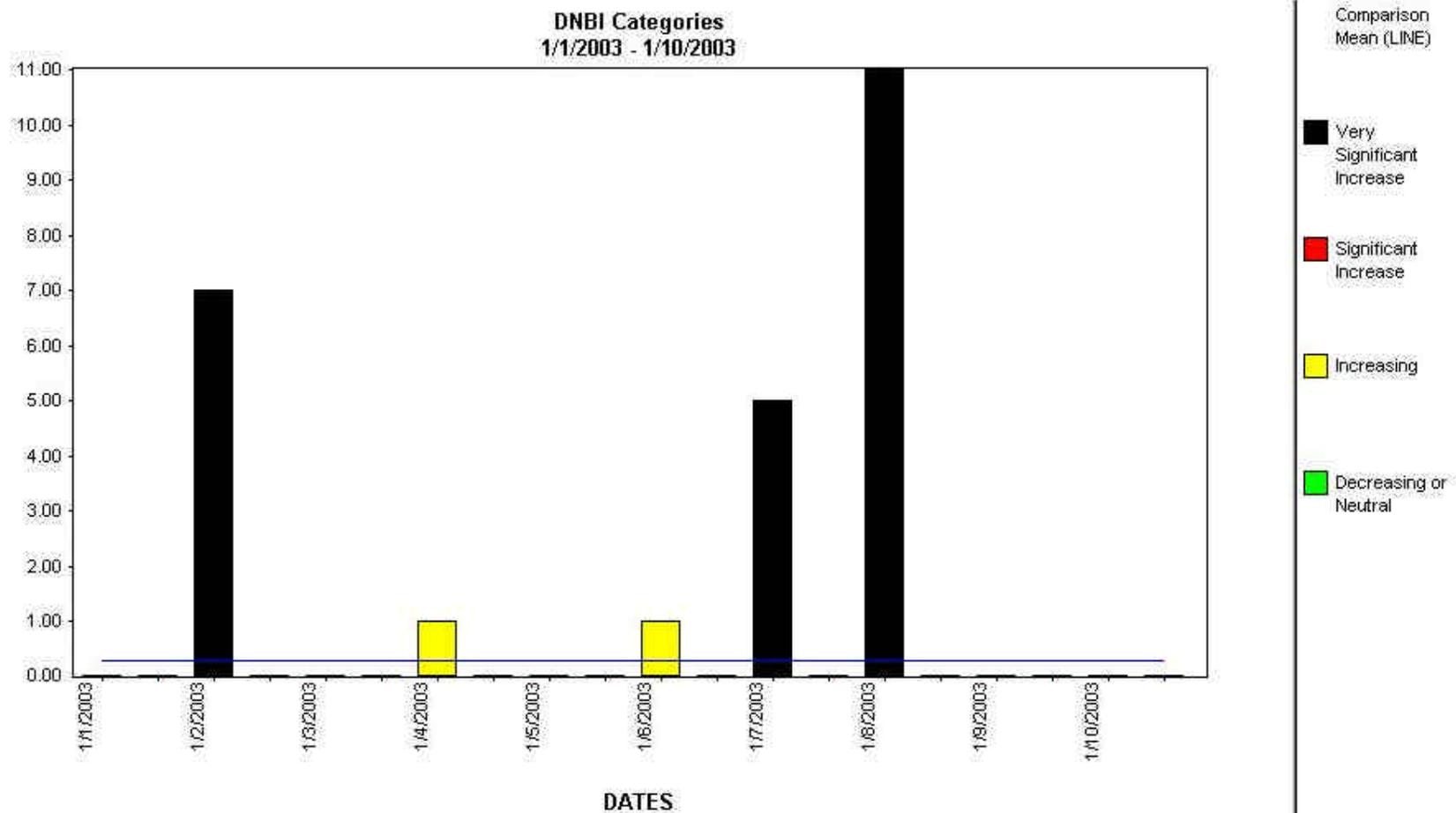
- Information Superiority (COI 2.)
 - Improves situational awareness and enhances decision-making ability.
 - Provides a medical common operating picture.
 - Enhances joint medical surveillance by collecting patient data from each service's patient encounter module (GEMS, SAMS, CHCS II-T, etc.)
 - Displays near real time status of all medical assets in the JTF.
 - Displays other reports for patient movement/visibility.

Joint Medical Workstation (JMeWS) Watchboard Map Viewer



Medical Data Surveillance System

“Dynamic Change Point Detection Analysis”



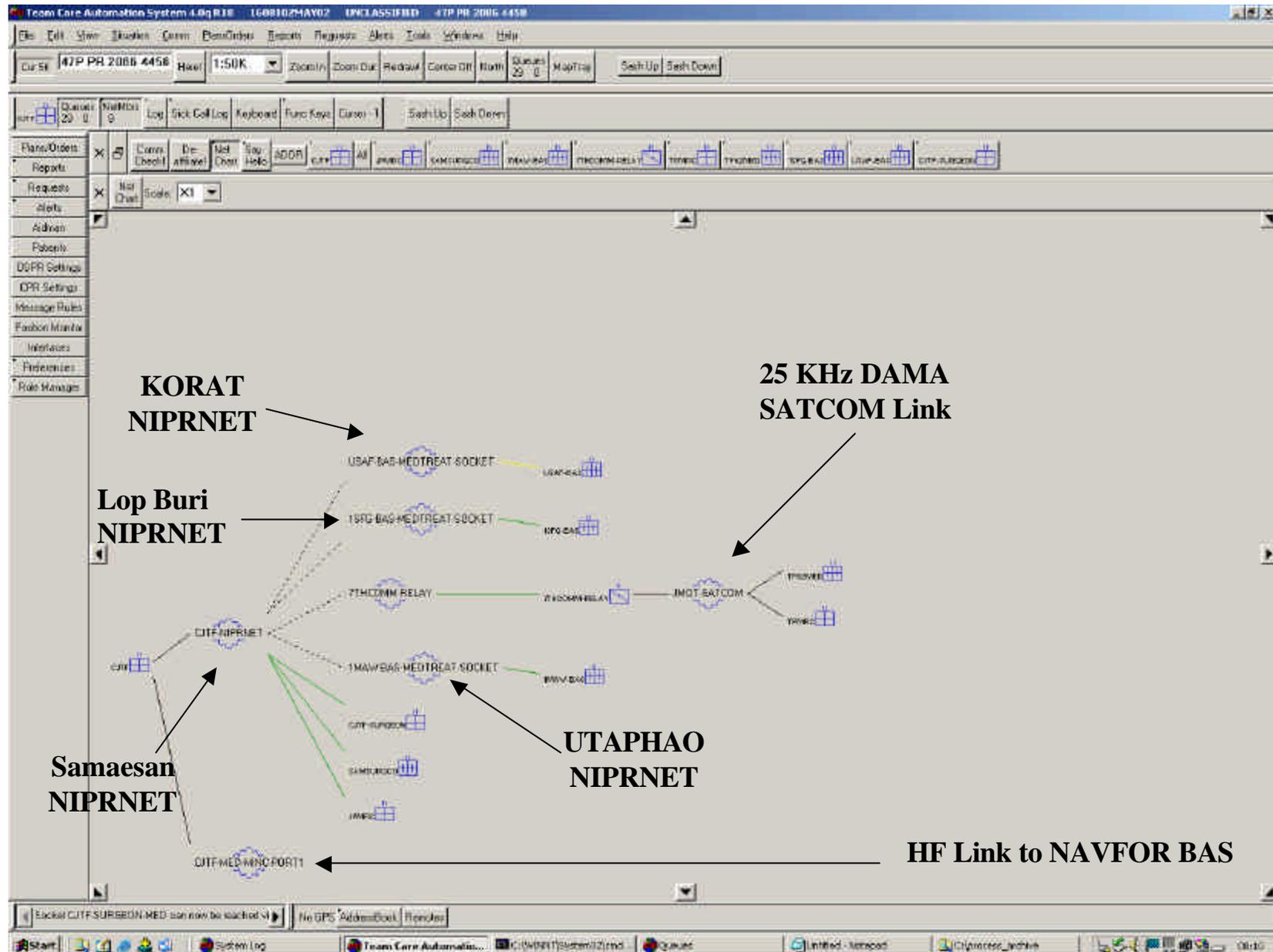


How does JMO-T benefit operational forces?



- Information Superiority (COI 2. continued)
 - Interoperable communications and networking system meets information requirements outlined in CDRUSPACOM's JTF HQ SOP.
 - Layered communications network keeps medical data flowing when JTF communications infrastructure is weak, intermittent, or non-existent.

CG02 net chart 1500 16 May, as viewed from CJTF Server





How does JMO-T benefit operational forces?



- Telemedicine Teams (COI 3.)
 - Facilitates introduction of technologies into the JTF environment.
 - Provides technical support directly to JTF surgeon and subordinate medical units.
 - Operates and troubleshoots the medical communications network, improving data/information consistency, integrity, protection, and transfer.
 - Manages the clinical consultation process.

USS Essex well deck
with Landing Craft,
Air Cushion (LCAC)



Theater telemedicine
team (TTT) training
USS Essex medical
staff.





How does JMO-T benefit operational forces?



- Modeling and Simulation (COI 4.)
 - Provides objective tailoring of medical support assets for deploying forces.
 - Improves exercise play by simulating patient flow and resource utilization and by identifying impacts on logistics and medical evacuation assets. Forces the line to react to medical needs.
 - Allows for rehearsal of medical plans and COAs.
 - Allows for evaluation of the effects of medical planning factors.



How does JMO-T benefit coalition partners?



- Coalition units can use the modeling and simulation tools to play alongside US units.
- Supports humanitarian assistance and disaster relief.
 - Medical Civic Action Program statistics.
 - Village profiles for Thai Public Health officials and refugee simulations.
 - Bilingual (Thai and English) reports for patients requiring follow-up visits.
 - Clinical consultation software for reachback to specialists (Thai and US military).



Where did we field the technologies?



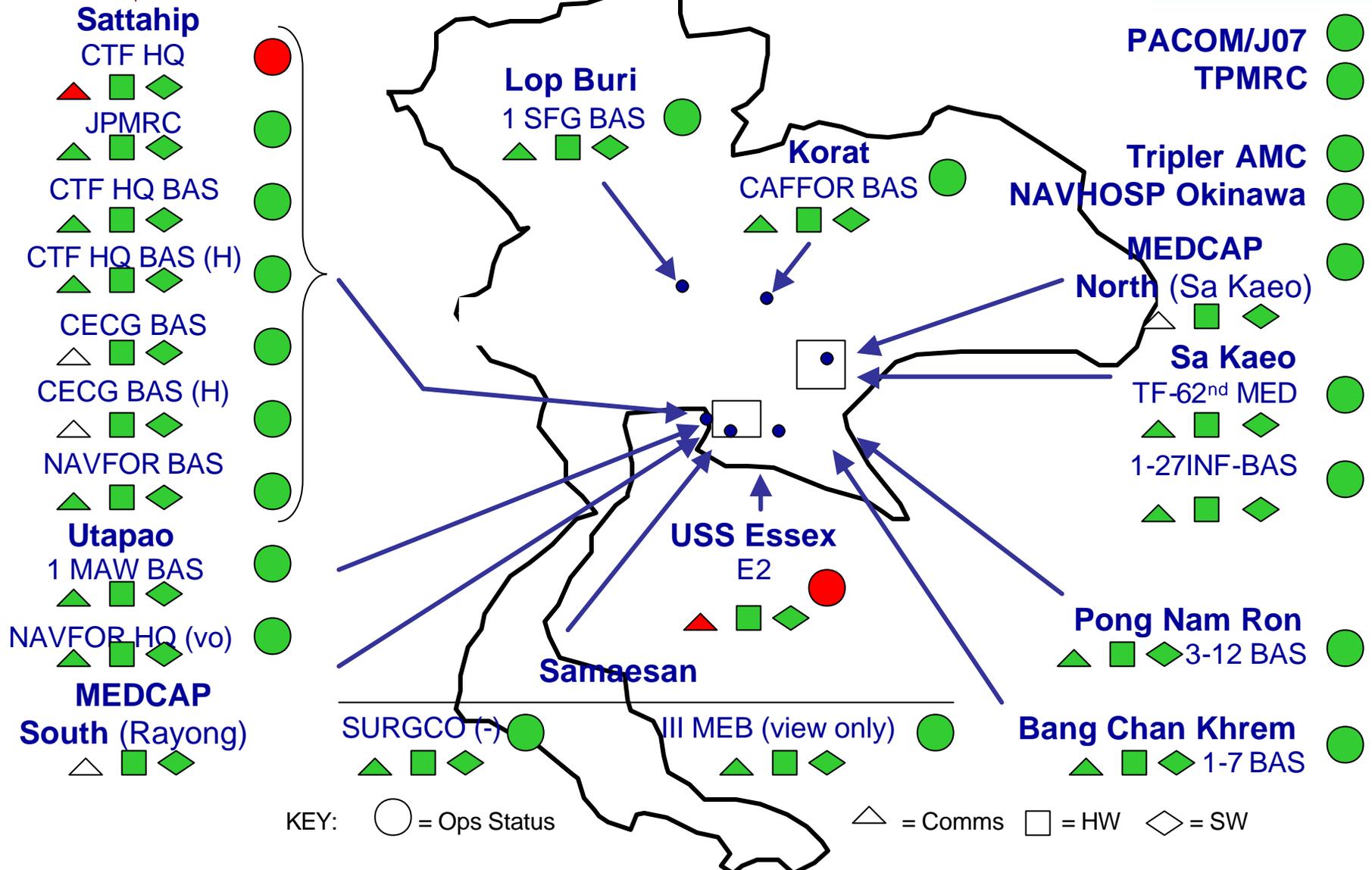
- JMO-T fielded ACTD technologies in three ways.
 - Joint exercises (5)
 - Combined/multi-lateral exercises (3)
 - Battle Labs and Demonstrations (4)
- Technologies were provided to operational forces (medics).
 - Users evaluated military utility.

JMO-T ACTD in Thailand





Cobra Gold 2002 Medical Nodes plus Telemedicine Support



3-12th
Battalion Aid Station
Pong Nam Ron
(a.k.a. the Mud Pit)



3-12th BAS medic
documenting a
patient encounter via
JMO-T equipment.

Preventive medicine officer utilizing Medical Data Surveillance System.





MEDICAL CIVIC ACTION PROGRAM (MEDCAP)

TELEMEDICINE TEAM

Mr. Andrew Bates, CAAMA
USPACOM Medical Planner, JMO-T ACTD
Office of the Command Surgeon, J07
Headquarters, United States Pacific Command

TTT MEDCAP CONOPS

- Support the National and Regional Military Strategy of engagement
- Test and evaluate technology insertions in austere environments with coalition partners
- Provide a daily village medical/demographic profile
- Provide clinical support using reach-back concept technology
- Provide patient follow-up consultation tool to rural doctors

Data Collection & Analysis

- Collaborative effort
 - Layered Collection Method
- Sources of Variation
- Results
 - Village profiles
 - Patient follow-up listing
 - Consults

MEDCAP Technology

How did it work?

- Software
 - MedX7!
- Hardware
 - Computers
 - Networking
- Communications
 - Wireless LAN (around MEDCAP compound)
 - NIPRNET
 - Local ISP (Thai ISP)

Data Entry for Follow-up Case



Bilingual (English/Thai) Interface

Joint Medical Operations Telemedicine

ส่งคำปรึกษา
หรือ (Submit
Consult)
ดูการปรึกษา
หรือ (View
Consults)
ฟอร์ม (Forms)
การสำรวจ
(Surveys)
เอกสาร
(Documents)
เริ่มต้น (Home
Page)
ธุรการ (Admin)
ต้องการ ความ
ช่วยเหลือ (Help)
เปลี่ยนข้อมูล
ประจำตัวผู้ใช้
(Edit Profile)
เขีนออก (Log
Out)

Telemedicine Demonstration

Robert Whitton
Logged on 12:22 AM
Session Duration: 0 minutes
Location Oahu, Hawaii

ฟอร์ม (Form) : MedCap Follow Up Required / แผนการติดตามสืบเนื่อง

รายละเอียด (Description) : Use this form to document a patient seen by the MedCap team that may require medical follow up after the team leaves.
A Red Asterix * indicates a required response.

1. Patient Name
นามผู้ป่วย
2. Village
หมู่บ้าน
3. MedCap Provider(s)
แพทย์เจ้าของไข้
4. Diagnosis
การวินิจฉัยโรค
5. Recommended TX Plan/Date
แผนการติดตามสืบเนื่อง / วันที่

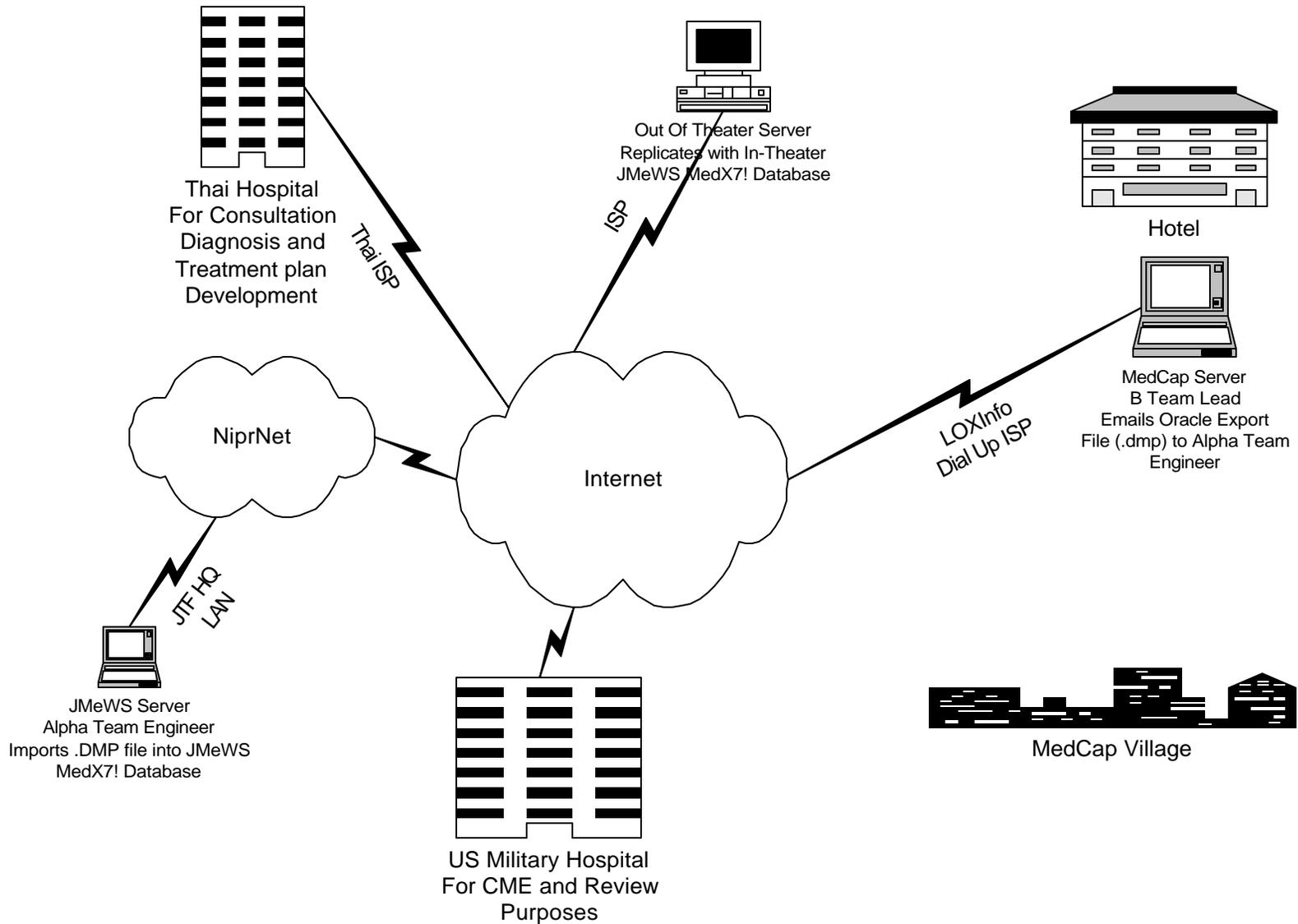
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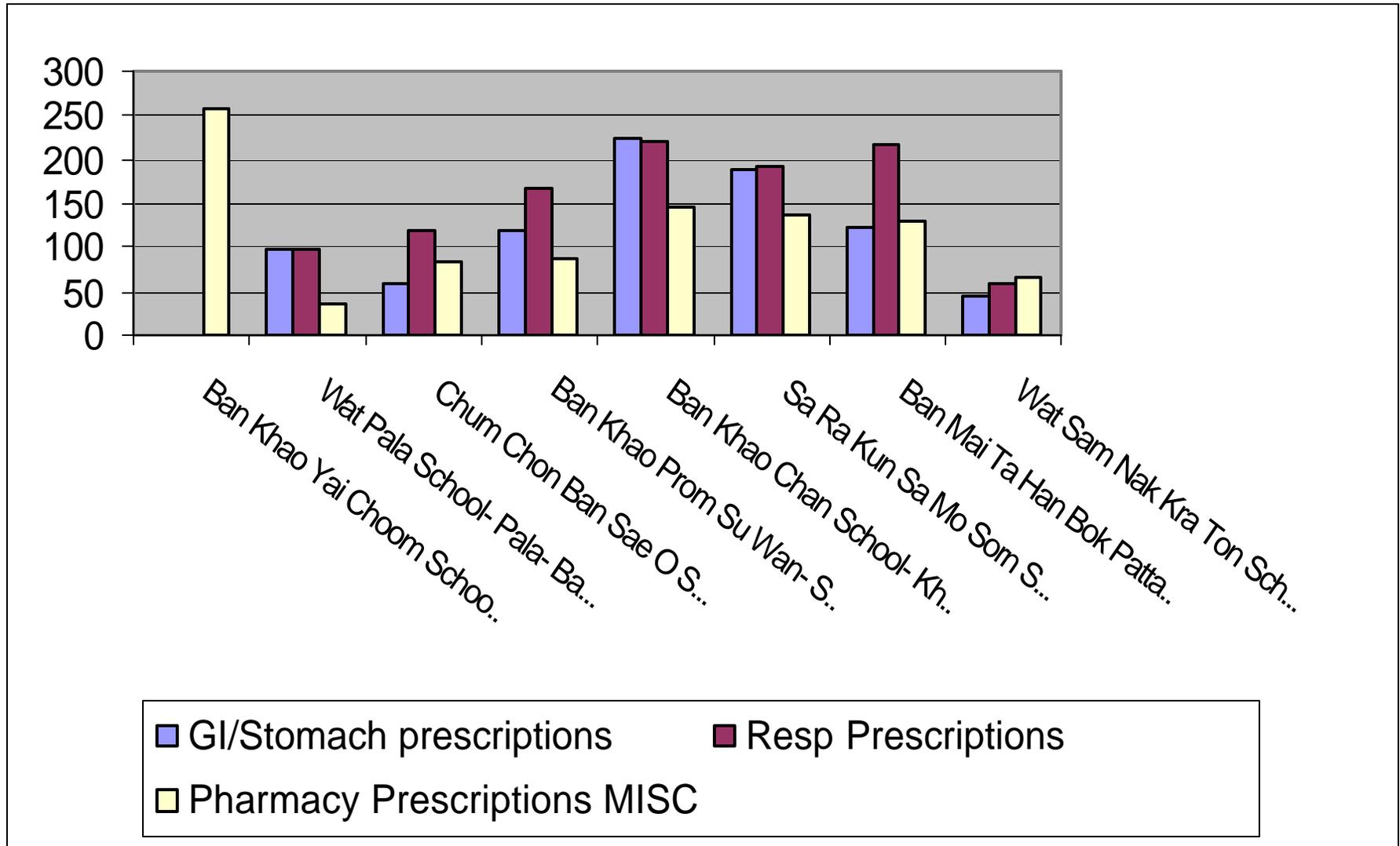
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Operational Architecture



Sample Data Display



Summary & Questions

- Flexibility in the field for meeting small contingency operations' requirements.
- Ease of use (no engineer support required on site).
- Field tested tool to enhance relationships with coalition partners.



Military Utility Assessment



- USA Medical Department Board managed T&E data collection efforts.
 - Abundant documentation to determine military utility.
 - Some survey sample sizes were too small to generate statistically significant findings.
- Operational forces like the technologies and have formally requested them.
- ACTD operational manager has a draft of the Final MUA and will submit the report in Apr 03.



Military Utility Assessment



Technology

- Patient Encounter Module (SAMS) Utility
- Clinical Consultation (MedX7!) Utility
- Annex Q Reports Utility
- Clinical/Hospital Reports Utility
- Medical Data Surveillance System (MDSS) Utility
- Watchboard Utility
- Team Care Automation System (TCAS) Utility

Military Utility



Military Utility Assessment



Technology

- Medical Simulator (JMedSAF)
- Medical Model (HCM)
- Care in the Air (CITA)

Military Utility

Utility

Limited Utility

Limited Utility

Theater Telemedicine Team Concept

Utility



Requests for JMO-T Support



- USN/USMC: Support for a medical surveillance capability at Camp Pendleton and other units in the USPACOM AOR (ongoing).
- DOD Health Affairs/Joint Staff J4 HSSD: Medical surveillance and C2 tools for current operations in USCENTCOM AOR (ongoing).
- United States Forces Korea surgeon: C2 tools for 18th MEDCOM MEDEX (Feb 03).
- III MEF surgeon: Real world healthcare, CPX, & MEDCAP support for Cobra Gold 03 (May 03).



Operational Lessons Learned



- Leadership must outline and enforce business processes to improve medical surveillance.
 - Timely and accurate collection, transmission, distribution, and analysis of patient encounter data are critical.
- Training prior to deployment is highly recommended.
- Shipment of gear by deploying units promotes unit buy-in and increases use of technologies.
- Weight, cube, and complexity of technologies impact utility.



Operational Lessons Learned (continued)



- Use multi-layered communications (net-centric architecture) whenever possible.
 - Mission success depends on being able to transmit data.
- Be part of the exercise planning process from the start and support specific exercise training objectives.
- Conduct end-to-end testing of applications prior to fielding and maintain configuration control.
- Collaborate when possible to capitalize on synergies.
 - Wireless LAN/multi-layered comms from JTF Warnet ACTD.
 - TCAS software from Mine/Countermine ACTD.
 - Watchboard digital display concept from CINC 21 ACTD.

Take whatever mode of transportation you can get!

