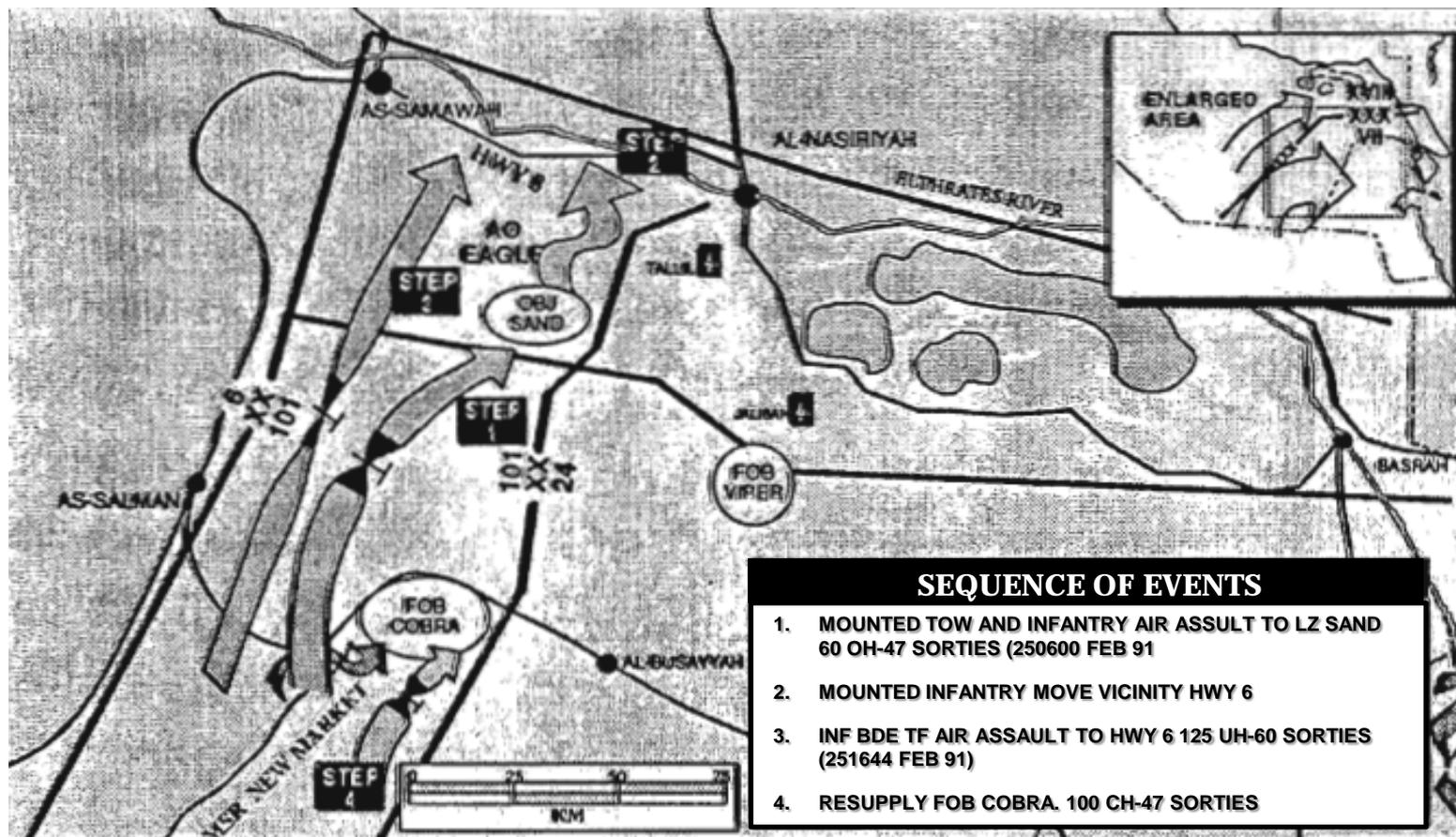


BREAKTHROUGHS IN TECHNOLOGY



GLOBAL TELEMEDICINE

HEALTH CARE UNDER STRESS



2/25/92: Airmobile Attack 300 KM Deep on 75 KM Front

AMEDD ADOPTS TELEMEDICINE

LT. GEN. ALCIDE LANOUE
SURGEON GENERAL OF THE ARMY
Sep 92-present

Buy Capability NOW

Dec 92: Decide what to buy

Feb 93: Deploy to Mogadishu, Somalia

May 93: To Zagreb, Croatia

May 93: To Landstuhl, Germany

Feb 94: To Skopje, Macedonia

Develop Oncoming Technology

Jan 93: AMEDD-ARPA Joint Program

Jun 93: Fort Gordon Experiments

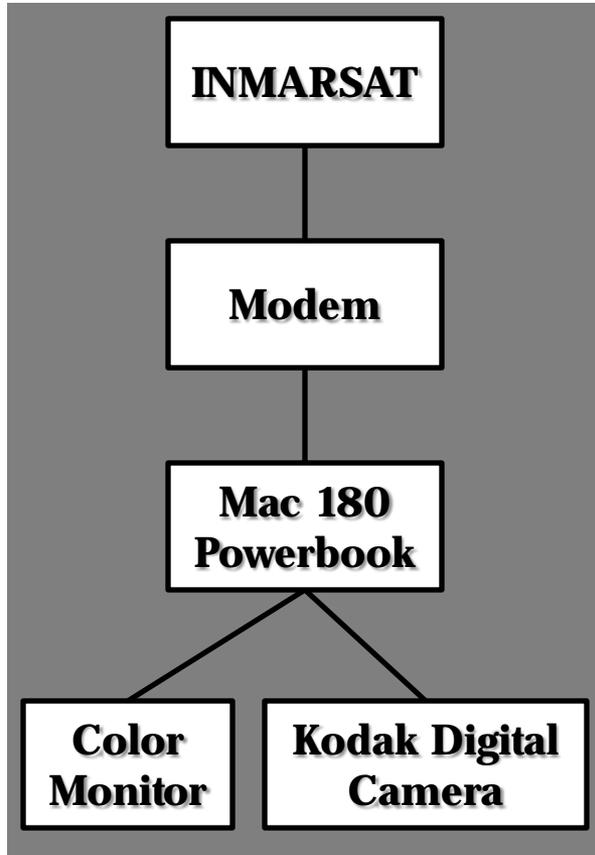
Jul 93: White House Demonstration

Sep 93: DISA Satellite Demonstration

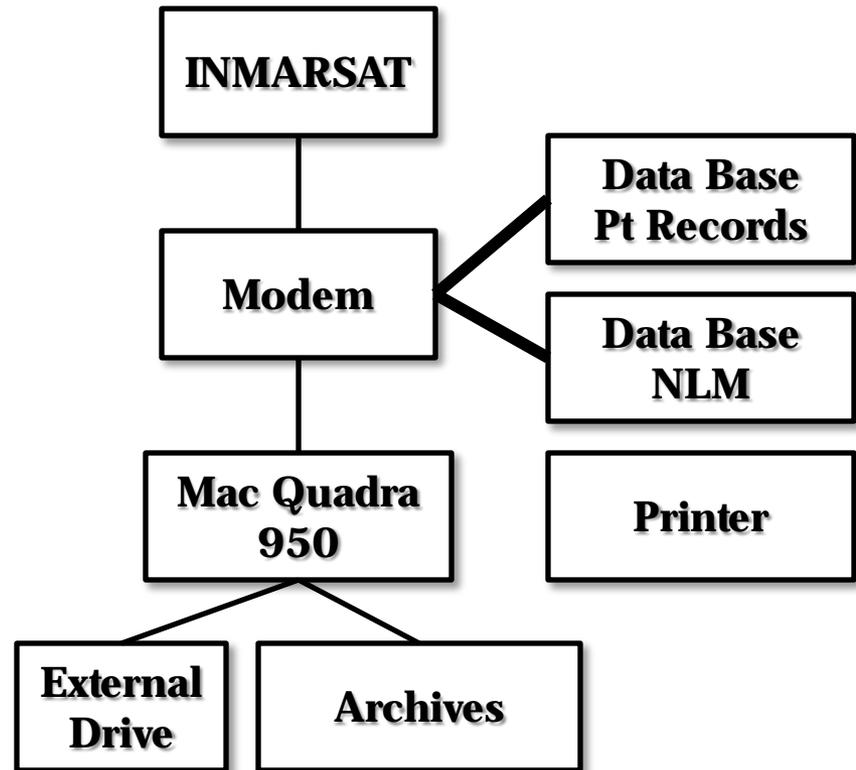
Feb 94: Fort Benning PSM Experiment

TRANSOCEANIC TELEMEDICINE

Remote Clinical Communications System



OVERSEAS HOSPITAL



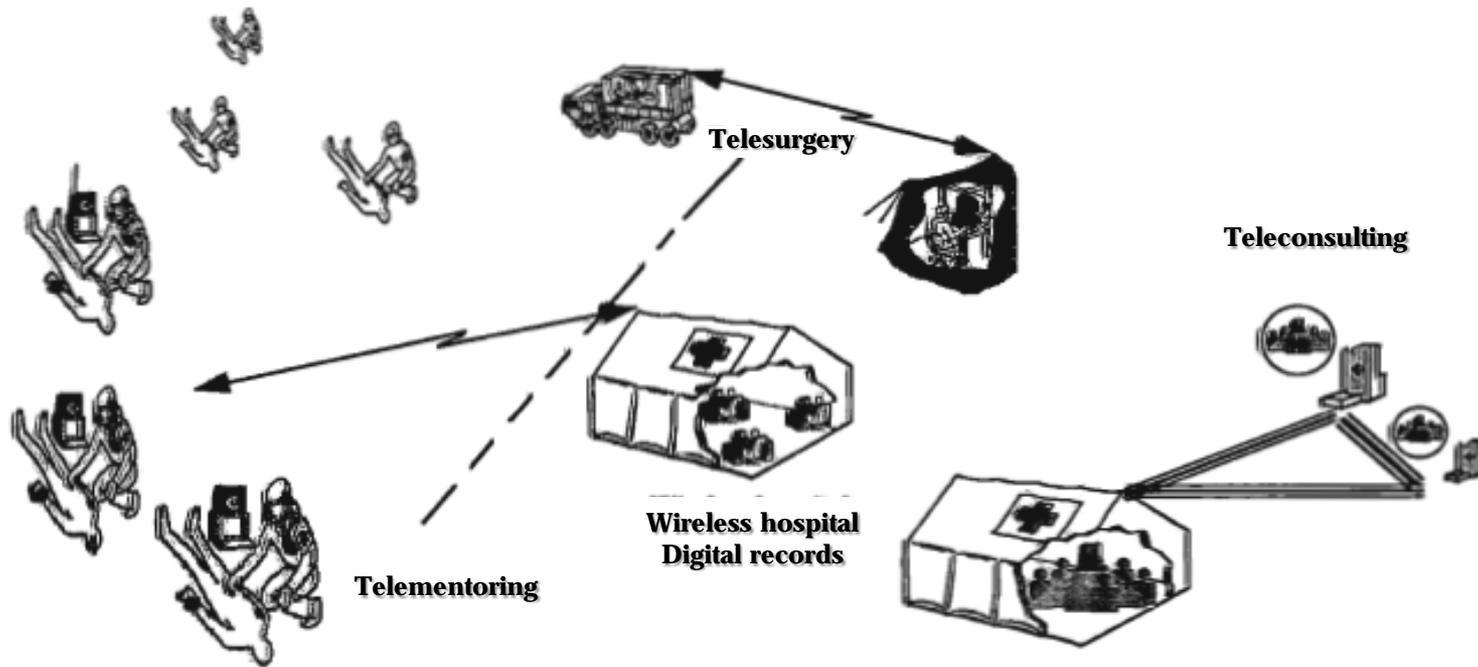
**WALTER REED
ARMY MEDICAL CENTER**

RCCS DESIGN

- **PHYSICIAN FOCUS**
 - EASY TO LEARN
 - EASY TO USE
 - EASY TO ACCESS
- **TWO-WAY AUDIO, HI-RES STILL IMAGES**
- **ON-LINE DATA BASES**
- **RELIABILITY**
- **AVAILABLE ON DEMAND**
- **PAY BY USAGE**

18TH FIELD HOSPITAL USAR Fort Gordon, Georgia

**FIELD TRAINING EXERCISE
28 JUNE 1993**

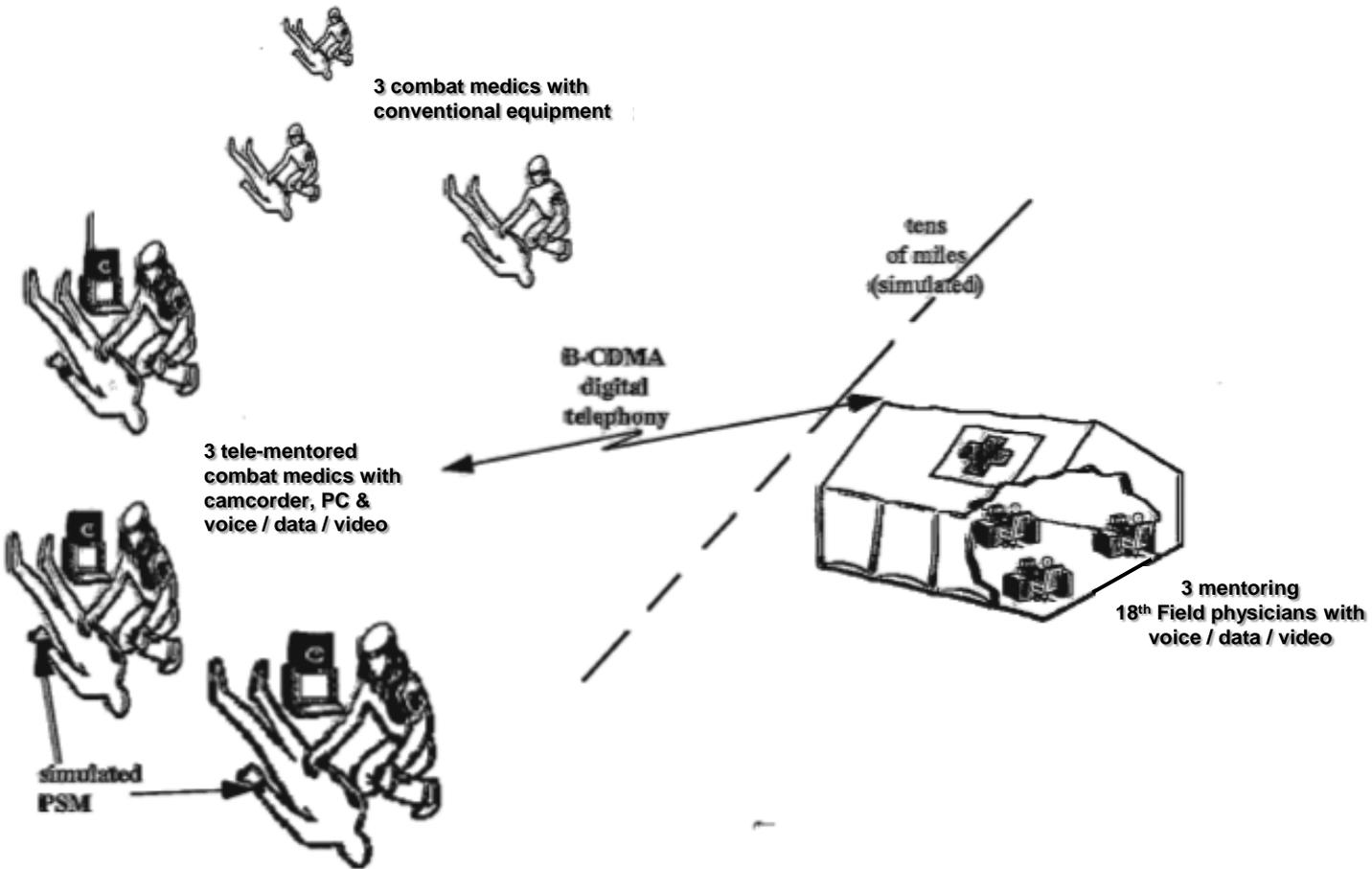


CNN
Science & Technology Week

3 July, 1993

TELEMENTORING

Hypothesis: Early intervention by physician = lower mortality for critically wounded



PERSONAL STATUS MONITOR

ON-PERSON COMPUTER

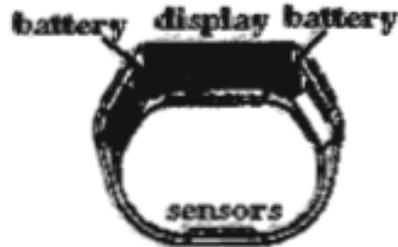
CASUALTY
ALARM

GPS

RECORDS

DISPLAY

B-CDMA
COMMS



COMMAND MODULE
Non-invasive blood pressure
Oxygen saturation
Personal medical data



ARM-THORASIC MODULE

ECG electrode C

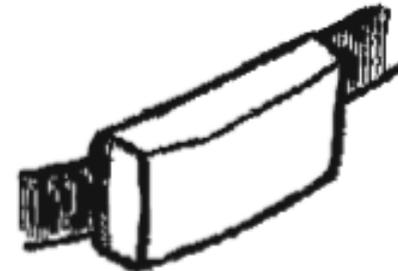
Respiration strain gauge

Temperature sensor

Wireless XCVR

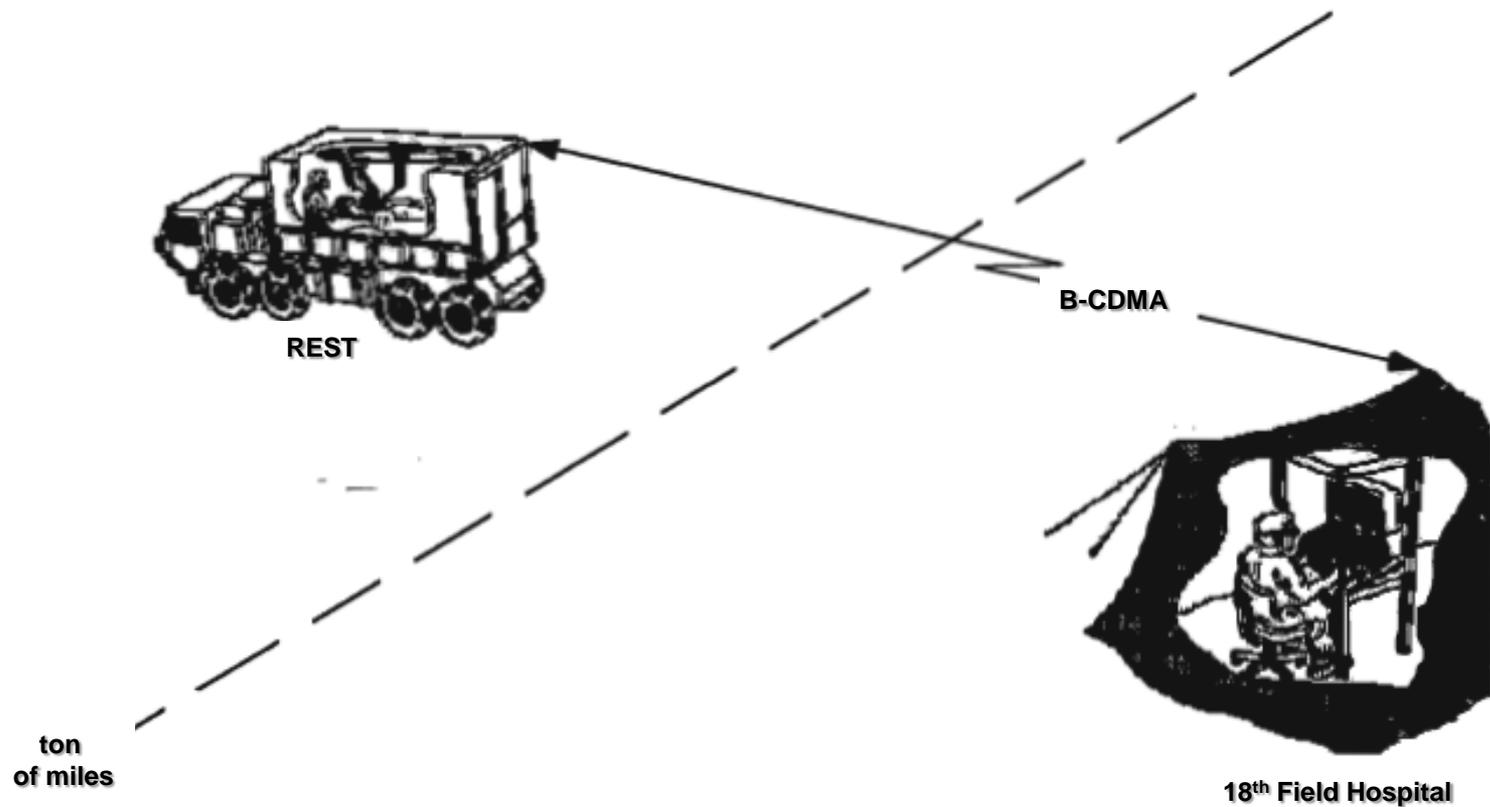


COMMUNICATIONS MODULE B



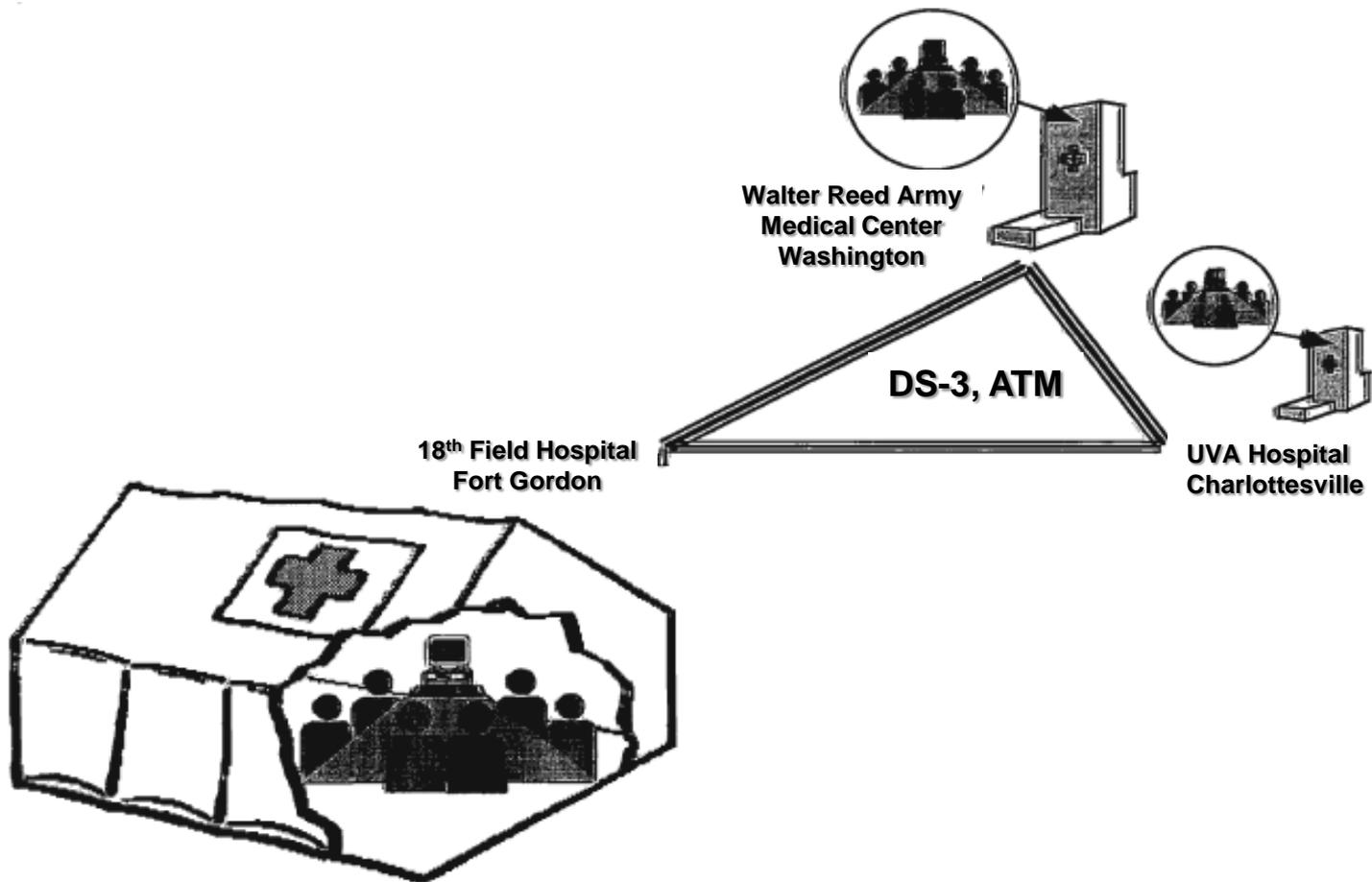
TELESURGERY

Hypothesis: Early intervention by surgeon = lower mortality for very critically wounded



TELECONSULTATION

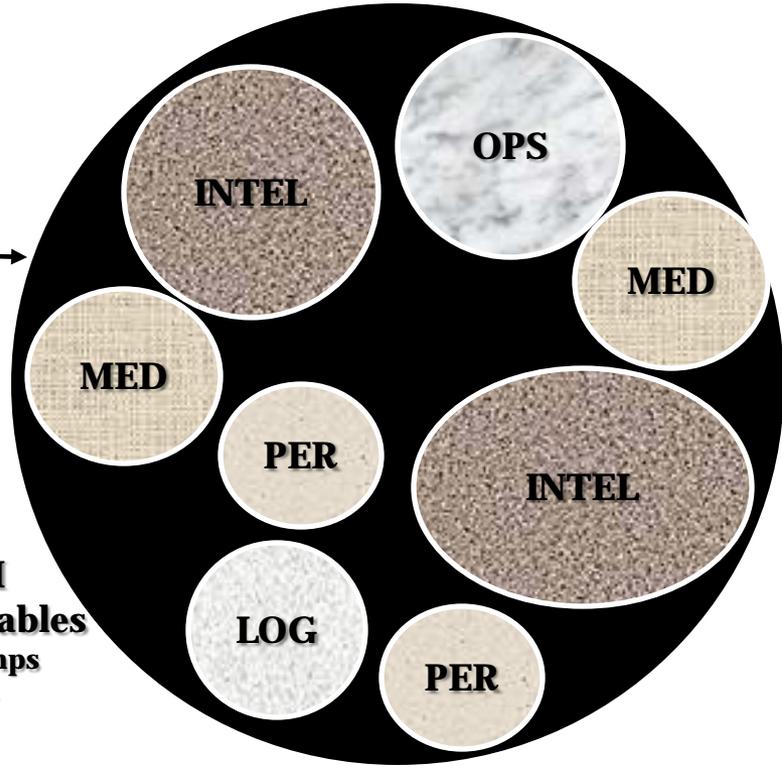
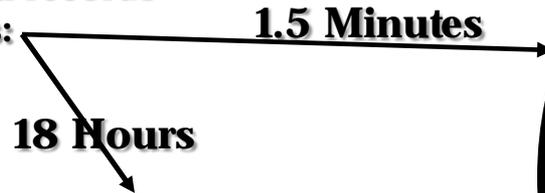
Hypothesis: Early intervention by specialists = lower mortality for critically wounded



GLOBAL GRID

Omnipresent High-Capacity Information Conduits

Time to transmit overseas
complete medical records
for 1000 patients:



ATM
Virtual Cables
44.7 mbps
DS-3

ATM switched data-stream



REMOTE CRISIS INTERVENTION SYSTEM RCIS



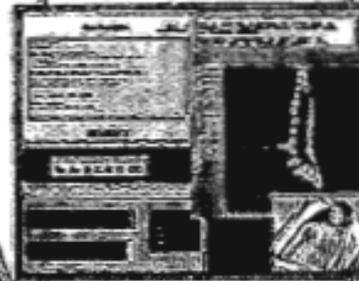
LAW ENFORCEMENT



COMMUNICATIONS



MILITARY MEDICAL



MULTIPLE WINDOWS
WORKSTATION DISPLAY



CIVILIAN MEDICAL

A Proposal Jointly Submitted to the Advanced Research Projects Agency July 23, 1993

**GDE Systems, Inc.
InterDigital Communications Corporation
David Sarnoff Research Center
University of Virginia Health Sciences Centers**

**Federal Bureau of Investigation
National Institute of Justice
Naval Research Laboratory
Surgeon General of the Army**

TELEMEDICINE IN COUNTY

