
**Federal Health Information Exchange
Bidirectional Health Information Exchange**

VistA Community Leadership Overview

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Bidirectional Health Information Exchange

BHIE Clinical Content Overview

BHIE delivers Patient Identification Correlation with real time bidirectional transmittal and display of:

- ✦ **Outpatient Pharmacy Data**
- ✦ **Inpatient Discharge Summaries**
- ✦ **Radiology Text Reports**
- ✦ **Surgical Pathology Reports**
- ✦ **Microbiology Results**
- ✦ **Cytology Results**
- ✦ **Chemistry and Hematology Reports**
- ✦ **Laboratory Order Information**
- ✦ **Food and Drug Allergy Information**
- ✦ **Emergency Room Notes**
- ✦ **Pre and Post Deployment Health Assessments and Reassessments**
- ✦ **Medical Imaging exchange---underway**

BHIE: An Approach to Leveraging Legacy Systems

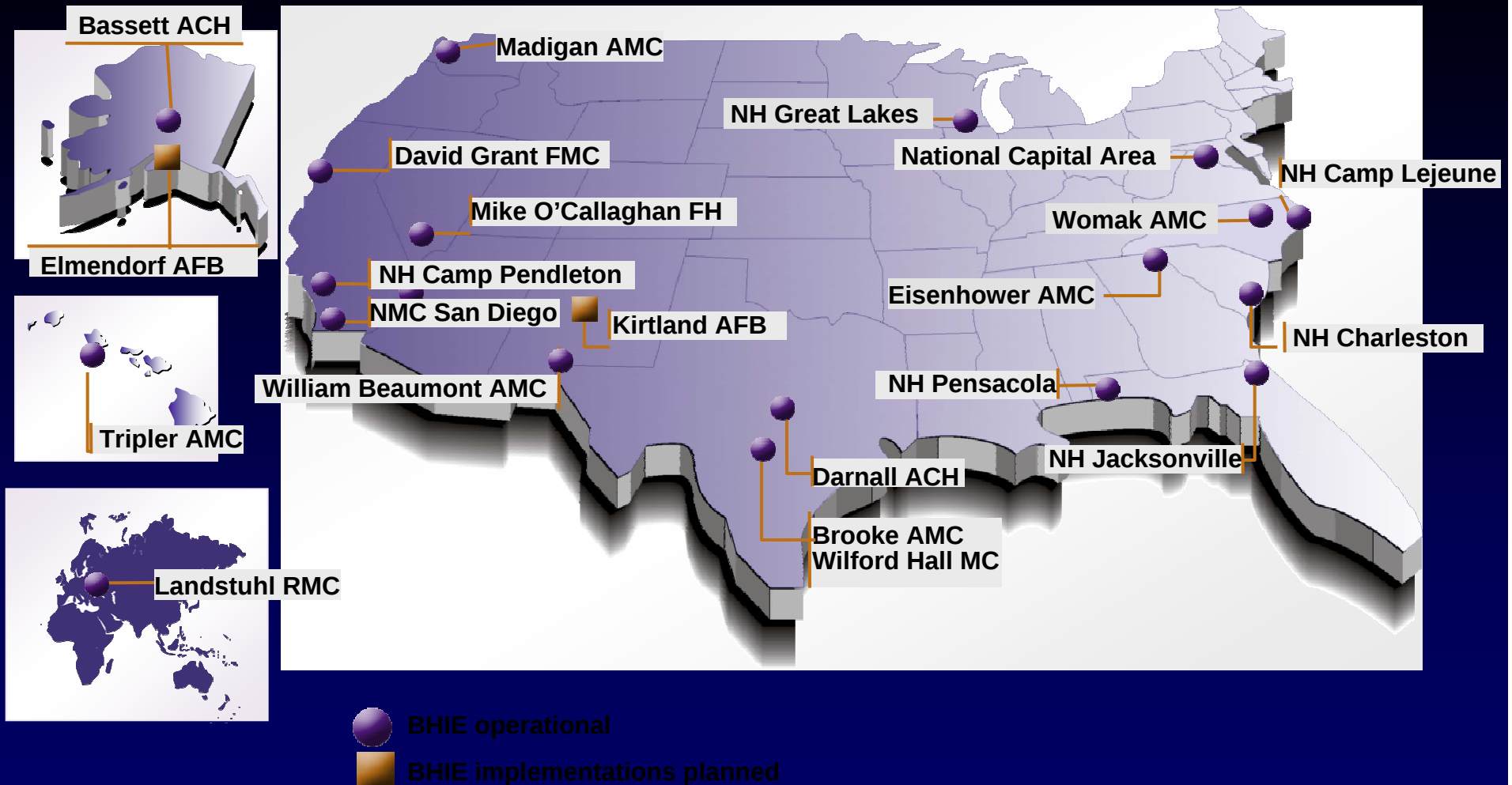
Interagency Bidirectional Health Information Exchange (BHIE)

- Real time bidirectional sharing of clinically relevant healthcare data between the Composite Health Care System (CHCS) located at major DoD facilities and the VA's Veterans Health Information System and Technology Architecture (VistA)
- DoD data is available throughout the Veterans Health Administration (VHA) and continues to operate according to specifications.
- Almost 4 million DoD patients now available for clinicians using CPRS
- Interoperates with other DoD systems
 - Defense Medical Surveillance System
 - CliniComp's ESSENTRIS suite
 - Pharmacy Data Transaction Service (PDTS)
- Demonstrated ability to interoperate with other Non-DoD systems, too (HIMSS 2006)

FHIE/BHIE Project Characteristics

- **Enhance the capability to provide timely Department of Defense (DoD) electronic health care information for veterans seeking Veterans Affairs (VA) services through re-use of existing Electronic Health Records (EHR).**
- **Secure the HIPAA-compliant infrastructure to transfer available Composite Health Care System (CHCS) and other DoD health record data for all service members to the VA upon discharge from military service.**
- **Sustain the daily transfer of available, clinically relevant DoD data, to a jointly operated Interagency repository at a Federal data center with long term retention capabilities.**
- **Provide immediate access to DoD medical data showing results of DoD tests and procedures contributing to improved quality care while increasing patient satisfaction**
- **Participate in One-VA, World-Class service by providing seamless sharing of DoD electronic health record data to both Veterans Health Administration (VHA) with the Computerized Patient Record System (CPRS) and Veterans Benefits Administration (VBA) in the Compensation and Pension Records Interchange (CAPRI).**

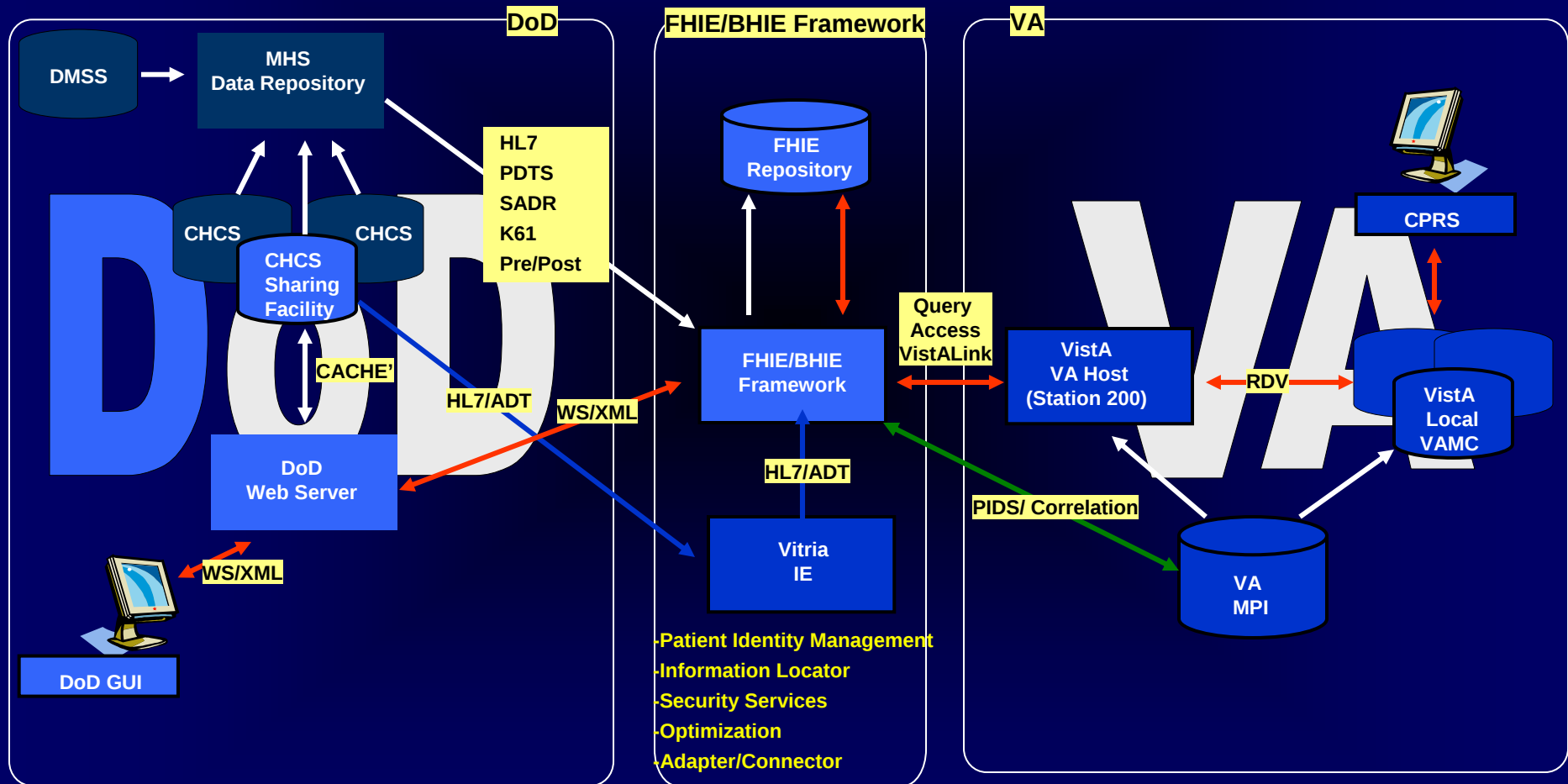
World Wide BHIE Sites



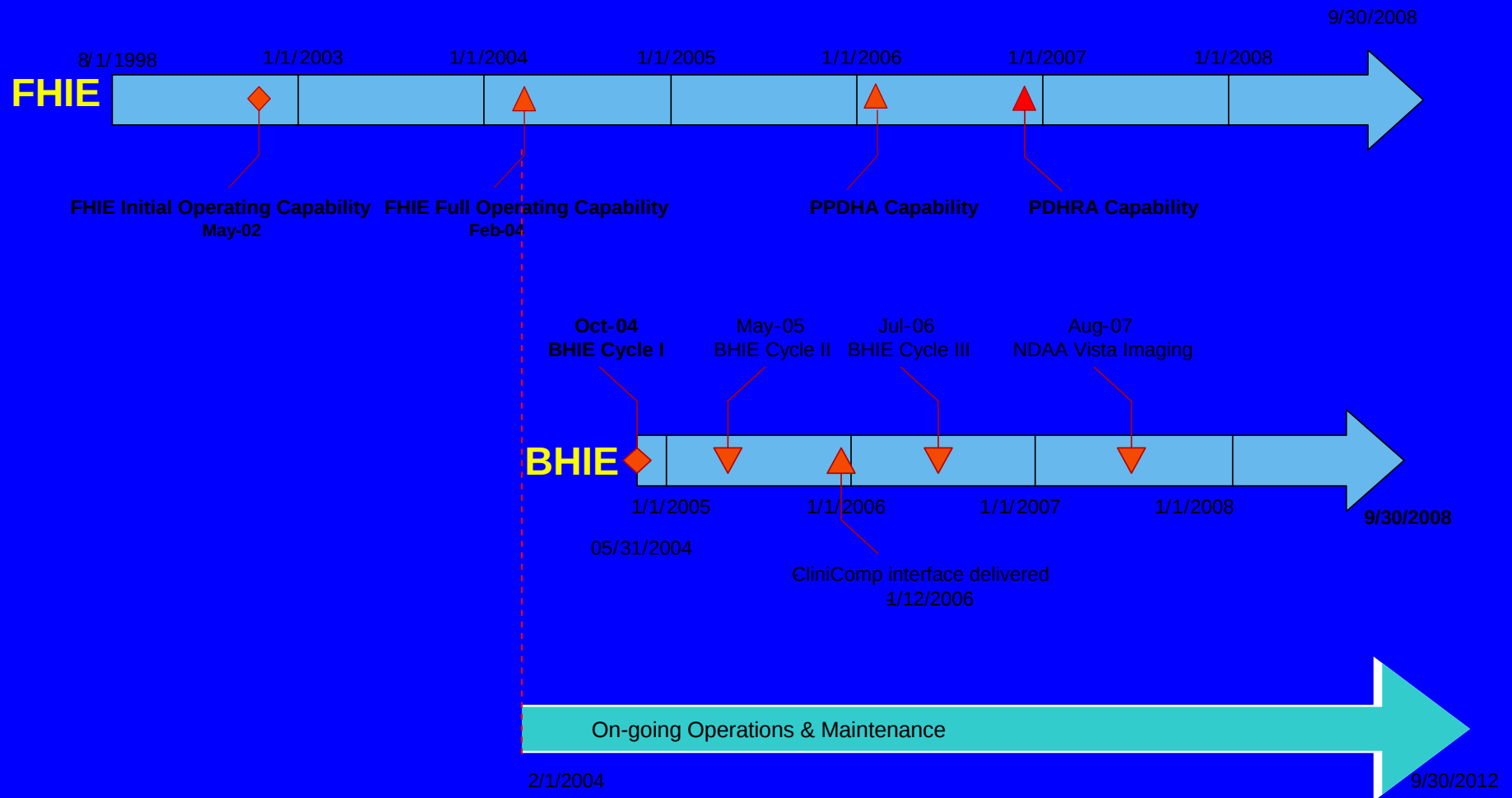
19 DoD host sites = 14 DoD Medical Centers, 9 DoD Hospitals & over 150 DoD Clinics, including Western Europe

(Access to over 1.8 million correlated patients)

High-Level Architectural Components



FHIE/BHIE Program Iterative Lifecycle



BHIE Information Sharing Best Practices

➤ **Built upon existing an interagency platform---2005 award winning Federal Health Information Exchange (FHIE)**

➤ **Maintain a high performance project team with a “lead agent”**

➤ **Incremental software development phases**

➤ **6 month cycles with a sound data quality assurance methodology**

➤ **SEI principles followed---CMMI Level 2 or better processes**

➤ **Affordability achieved through re-use of existing processes and joint interagency infrastructure**

➤ **VA and DoD share annual operating costs**

➤ **Have established performance metrics**

➤ **Built on the notion of flexible architecture**

QUESTIONS ?

Back Up Slides: A Clinical Scenario

BHIE Scenario #1

Imagine a clinical scenario for a patient named Carl CTest, who is a 62-year-old lifelong smoker and who is seeing Dr. HealthEVet.

CTest mentions to his VA nurse practitioner that an X-Ray was taken at a DOD facility where they found a small pulmonary nodule.

He was informed of the spot on his lung, and told that while it is small, that he should follow up in 3 months.

BHIE Scenario #1

The VA clinician orders a CT scan to determine the current size of the nodule--- to determine if the nodule has grown significantly.

Carl does not remember the measurement recorded at the DOD MTF.

How a longitudinal E-history is important to a patient...

How do we deal with sharing CTest results, after being seen at Naval Medical Center Portsmouth and who is also seeing Dr. HealthEVet?

Away from his primary care practitioners...

- ✦ **While in Alaska on vacation, Carl CTest develops a serious cough and is seen at the Alaska VA Health Care System.**
- ✦ **When he returns to the local DoD facility in the “lower 48” his physician uses SHARE to review the details of his visit at the Alaska VA Medical Center.**

SHARE Log on

Login - Microsoft Internet Explorer

File Edit View Favorites Tools Help Address http://loki.saic.com:7010/share1_0/control/logout Go

Back Forward Stop Home Search Favorites Media Print Mail



SHARE
Secure Healthcare Alliance Record Exchange

DOD
clinician
signs onto
SHARE

User Name:

Password:

Login

This is a Federal Interest Automated System protected by Federal Law and may be accessed and used by authorized personnel only. All activities of personnel using this system may be monitored. Anyone using this system expressly consents to such monitoring and is advised that any evidence of unauthorized or criminal activity will be provided to the appropriate authorities. The information in this system is protected by the Privacy Act of 1974 (PL-93-579). Unauthorized access to or use of this system is a violation of Federal Law. Violators will be prosecuted.

Done Internet

Start 2 Microsoft Outl... 3 Microsoft Pow... Login - Microsof... Tuesday, February 08, 2005 7:42 AM

Patient Summary

Patient Summary - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://loki.saic.com:7010/share1_0/control/patientlookup Go Links

home | log off Personal Data - Privacy Act of 1974 (PL 93-579) SCHMIDT,DONNA 12-Feb-2005

Patient: [CTEST,CARL](#) 20/000-11-1103 01 Jan 1950 55Y/M

Patient Lookup

Patient Data

[Admissions](#)
[Allergies](#)
[Encounters](#)
[Immunizations](#)
[Laboratory](#)
[Prescriptions](#)
[Problem List](#)
[Radiology](#)
[Summary](#)

CHCS Patient Summary

Encounters(Future - 12mo)		Active Prescriptions	
Date	Clinic	Date	Medication
09Feb05@1224	ADULT PRIMARY CARE CLINIC	21Jul04	ACETAMINOPHEN--RECT 325MG SUPP

Laboratory (T-18mo)		Radiology (T-18mo)	
Date	Test Name	Date	Procedure Name
09Feb05	RBC MORPHOLOGY		No Radiology Data found
09Feb05	CBC WITH DIFF		

Admissions (T-12mo)		Problem List	
Date	Ward	Date	Diagnosis
No Admission Records found			No Problem Data found

1/0

Done Internet

start Untitled - Reflectio... UDISK 20X (F:) 2 Microsoft Powe... Patient Summary - ... 1:25 PM

DoD physician reviews Carl's patient summary

DoD Radiology Text Reports

Radiology - Microsoft Internet Explorer

Address: http://.../i/... Go

Personal Data - Privacy Act of 1974 (PL 93-579)

Physician Name: 25-Apr-2005

Start Date: 1-Apr-1994 End Date: 25-Apr-2005 GO

Patient Lookup

Search

Patient Data

- [Admissions](#)
- [Allergies](#)
- [Encounters](#)
- [Immunizations](#)
- [Laboratory](#)
- [Prescriptions](#)
- [Problem List](#)
- [Radiology](#)
- [Summary](#)

VA/FHIE Radiology Reports

Exam Date	Procedure	Location
24Mar05	US, BILIARY DUCTS	NMC PORTSMOUTH
24Mar05	US, ABDOMEN (COMPLETE)	NMC PORTSMOUTH
24Feb05	ANKLE ROUTINE 3 OR MORE VIEWS	ALASKA VAHSRO
24Feb05	ABDOMEN 1 VIEW	ALASKA VAHSRO
24Sep03	US, CAROTIDS	NMC PORTSMOUTH
24Sep03	US, BLOOD VESSELS (DOPPLER)	NMC PORTSMOUTH
24Sep03	US, ABDOMINAL AORTA	NMC PORTSMOUTH
23Sep03	US, BILIARY DUCTS	NMC PORTSMOUTH
23Sep03	MRI, BRAIN (W/CONT)	NMC PORTSMOUTH
23Sep03	CT, POST. FOSSA (W/CONTRAST)	NMC PORTSMOUTH
23Sep03	CT, HEAD/BRAIN (W/CONTRAST)	NMC PORTSMOUTH
05Sep03	US, HEAD	NMC PORTSMOUTH
05Sep03	MRI, BRAIN (W/CONT)	NMC PORTSMOUTH
05Sep03	CT, HEAD/BRAIN (W/O CONTRAST)	NMC PORTSMOUTH
04Sep03	ABDOMEN, BOTH LATS (ONLY)	NMC PORTSMOUTH
19Dec01	KNEE (ROUTINE)	ALASKA VAHSRO
19Dec01	CHEST 2 VIEWS PA&LAT	ALASKA VAHSRO
23Mar01	CHEST, PA/LAT	0060 - LAPOINTE HEALTH CLINIC

Done Internet

List of Radiology Text Reports from the VA

Date Range of Search

User clicks on the Procedure to go to the Report Details screen

Location of Treatment

DoD Radiology Report Details

VA/FHIE Radiology Report Details - Microsoft Internet Explorer

File Edit View Favorites Tools Help Address http://... Go

Back Forward Stop Home Search Favorites Media Print Mail

home | log off Personal Data - Privacy Act of 1974 (PL 93-579) Physician Name 25-Apr-2005

Patient CTest, Carl 20/ DOB 60Y/M

Patient Lookup VA/FHIE Radiology Report Details

Search

Patient Data

- [Admissions](#)
- [Allergies](#)
- [Encounters](#)
- [Immunizations](#)
- [Laboratory](#)
- [Prescriptions](#)
- [Problem List](#)
- [Radiology](#)
- [Summary](#)

Procedure: US, ABDOMEN (COMPLETE)

Order Number: 050324-00012

Exam Number: 05000001

Reason for Order: BHIE

Result Code: This is the result for all of the rad teams test procedures.

Report Text: BHIE

Transcription D/T: 24Mar05@1335

Interpreting Radiologist: UMHOEFER,TOM

Approved by: UMHOEFER,TOM

Ordering HCP: UMHOEFER,TOM

Order Date: 24Mar05@1327

Exam Date: 24Mar05@1330

Priority: ROUTINE

Radiology Report Details

Done Internet