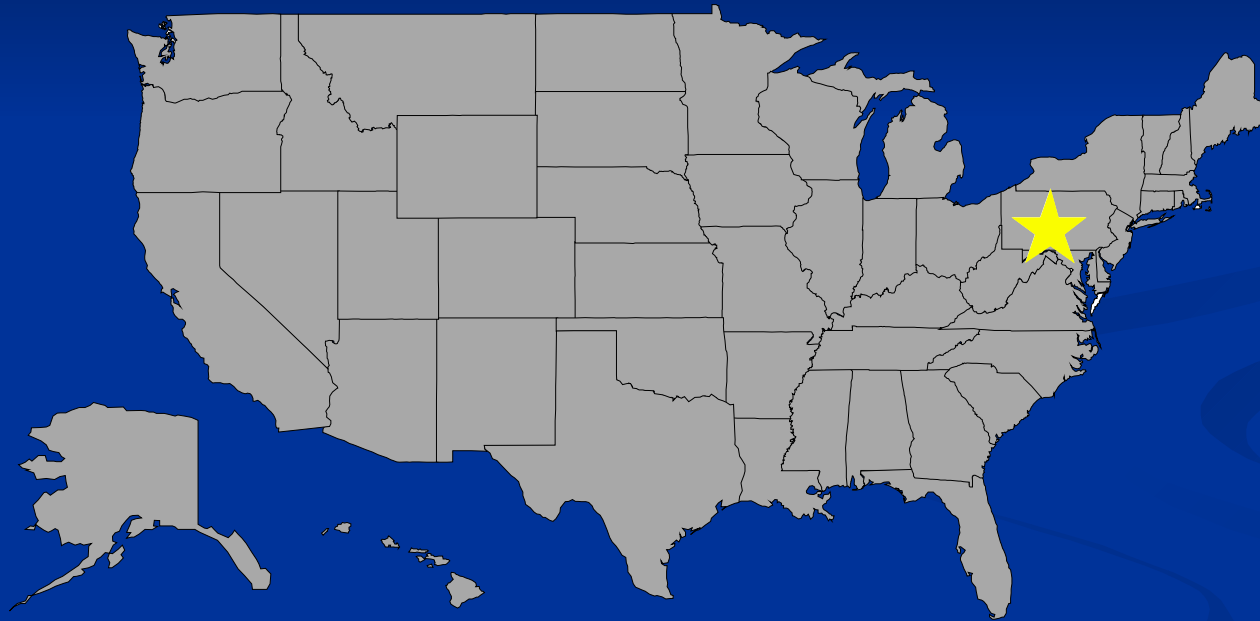# Shepherd University Research Corporation (SURC)

**Shepherd University
Shepherdstown, West Virginia**

Mission

[Shepherd University](#) is a student-centered, learning community meeting the changing needs of the people of the Eastern Panhandle of West Virginia and the surrounding communities through *teaching, research, service,* and *technology.*

[Shepherd University Research Corporation (SURC)](#) is a non-profit corporation established in November 2005. Its primary mission is to help foster and support academic and scientific research at Shepherd University. It also provides evaluation, development, patenting, management, and marketing services needed by faculty, staff, and students involved in the research and technology transfer program activities of the corporation. See www.shepherd.edu/surc

Shepherd University Research Corporation (SURC)

- Goals -

- Fostering increased research activities by faculty in all disciplines thereby helping to attract and retain high caliber faculty

- Obtaining funding to support the program via research grants from public and private sector institutions

- Involving students in funded research projects thereby enriching their learning experience

- Involving local businesses from the Eastern Panhandle of West Virginia and the surrounding region in these research projects, where appropriate

- Helping to transfer technology and knowledge to local businesses from the Eastern Panhandle and start up new businesses where possible

Shepherd University Research Program
- Statistics –

- **31 Principle Investigators (PI) in 2005-08**
- **Over 90 Research Grants Awarded to PI's in 2005-08**
- **Majority of research grants were to the School of Natural Sciences & Mathematics**
- **25 Different Agencies Awarded Research Grants to PI's from 2001-2008**
- **Research grants ranged from $500 to $1.8 million**

SURC – Key Partners & Stakeholders

- Shepherd University & Nursing School
- Community Health Network of West Virginia (CHNWV)
- Gateway New Economy Council (GNEC)
- WV Department of Health & Human Resources (DHHR)
- WV Medical Institute (WVMI)
- WV School of Osteopathic Medicine (WVSOM)
- Pacific Telehealth & Technology Hui
- University of Hawaii
- WorldVistA Organization
- Open Health Tools
- KRM Associates, Inc.
- iConecto & Medical Alliances
- Various VistA Software Alliance (VSA) companies
- ...other selected organizations.

West Virginia
"Open for Business"

to

VistA, RPMS and Other
Open Source Healthcare Solutions

West Virginia Health IT Priorities

#1 - Availability and widespread use of <u>Electronic Health Record (EHR) Systems</u>,
… like VistA or RPMS!

#2 – Followed by the implementation of secure <u>Health Information Exchange (HIE)</u> networks.

#3 – Real transformation occurs when widespread use of <u>Personal Health Records (PHR)</u> take hold.

West Virginia – Other HIT Priorities

- **HIT Architecture & Standards**
- **ePrescribing (eRx) System**
- **TeleHealth/TeleMedicine**
- **Public Health & BioSurveillance**
- **Online Health Information Resources**
- **Health IT Education & Training**
- **Special Purpose HIT Systems**
- **Mmgt Information & Business Intelligence**
- **HIT Privacy & Security**

SURC & West Virginia

- **SURC awarded WV Medicaid eHealth Transformation Grant**

- **SURC & KRM Associates conducted state-wide health IT survey**

- **SURC & KRM prepared WV Medicaid Transformation eHealth Plan, Architecture & Standards**

- **SURC & KRM testing open source health IT solutions re: functionality, interoperability, certification, standards, …**

- **SURC , KRM, and CHNWV implementing VistA/RPMS at pilot sites across the state.**

- **SURC & KRM developing and testing an Open PHR interfaced to VistA, RPMS and other EMR systems.**

- **SURC & KRM pilot testing other open HIT solutions, e.g. Open HIE, Clinical Data Warehouse, etc.**
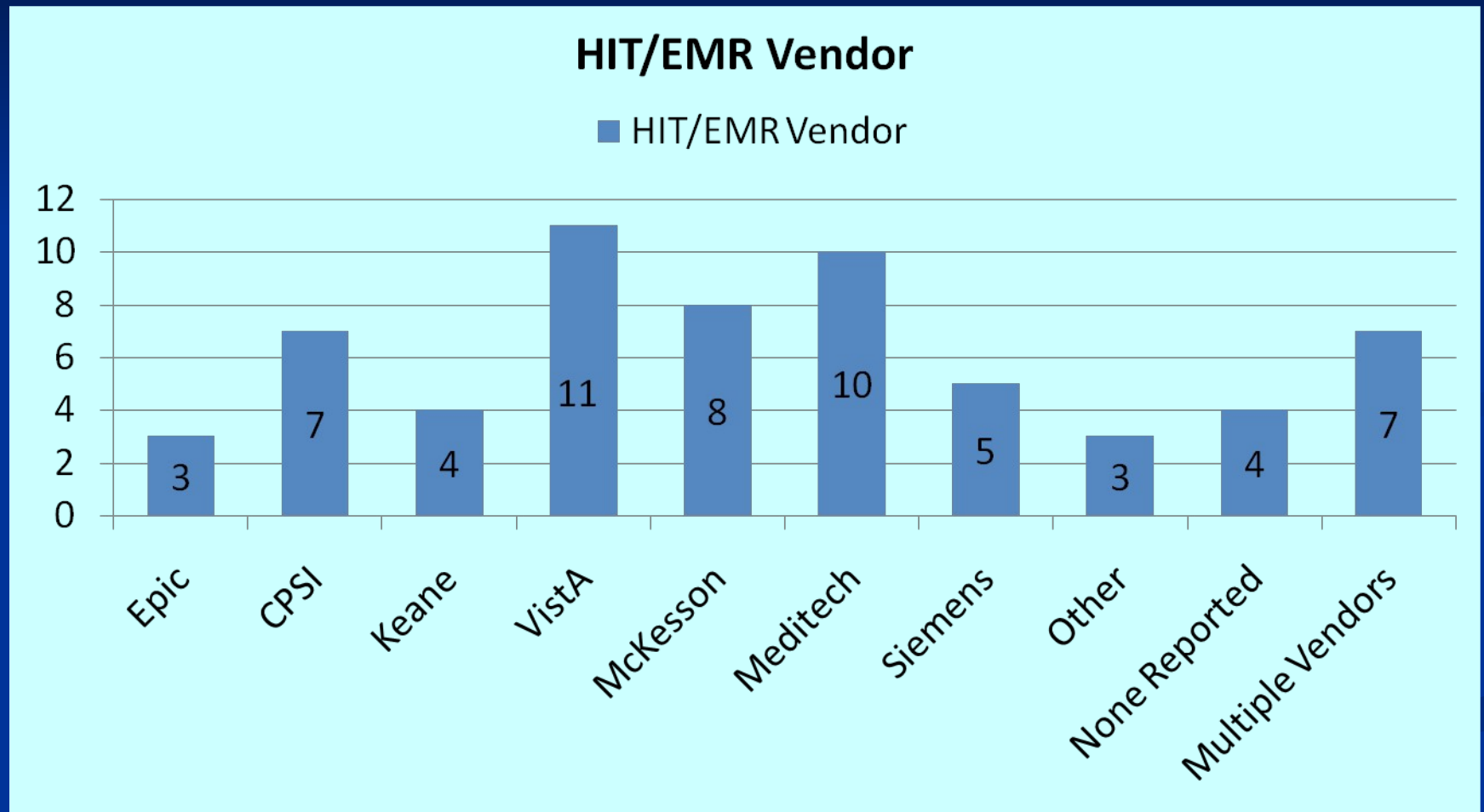
Current status of Health IT/Electronic Medical Record (EMR) systems in WV <u>Hospitals</u>

HIT/EMR Systems

Implemented · Underway · Planned · No Plans

- 55% Implemented
- 21% Underway
- 17% Planned
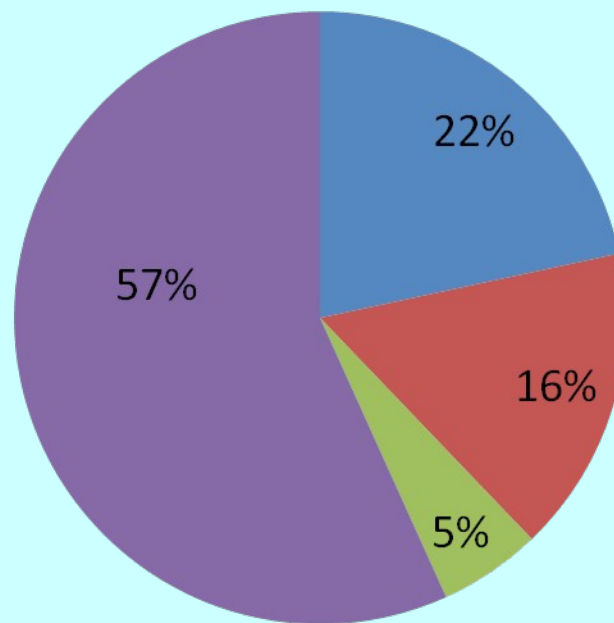- 7% No Plans
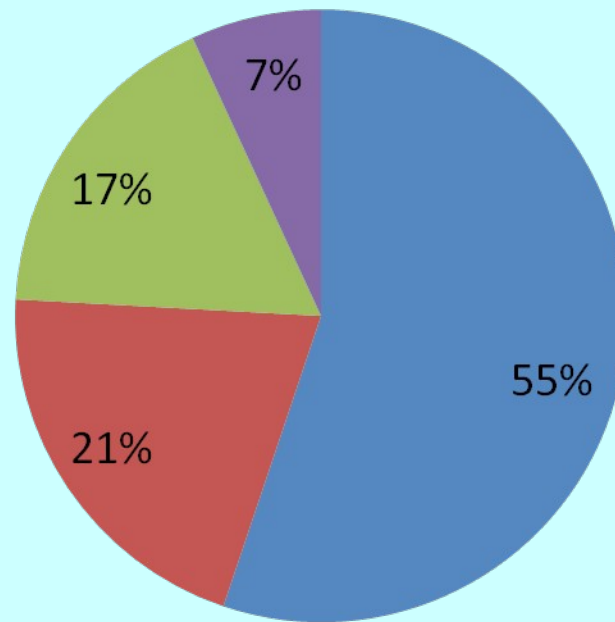
Vendor selected for <u>Hospital</u> Health IT/EMR systems

Current status of Health IT/Electronic Medical Record (EMR) systems in WV <u>Clinics</u> & County Health Depts

Vendor selected for <u>Clinic</u> Health IT/EMR systems
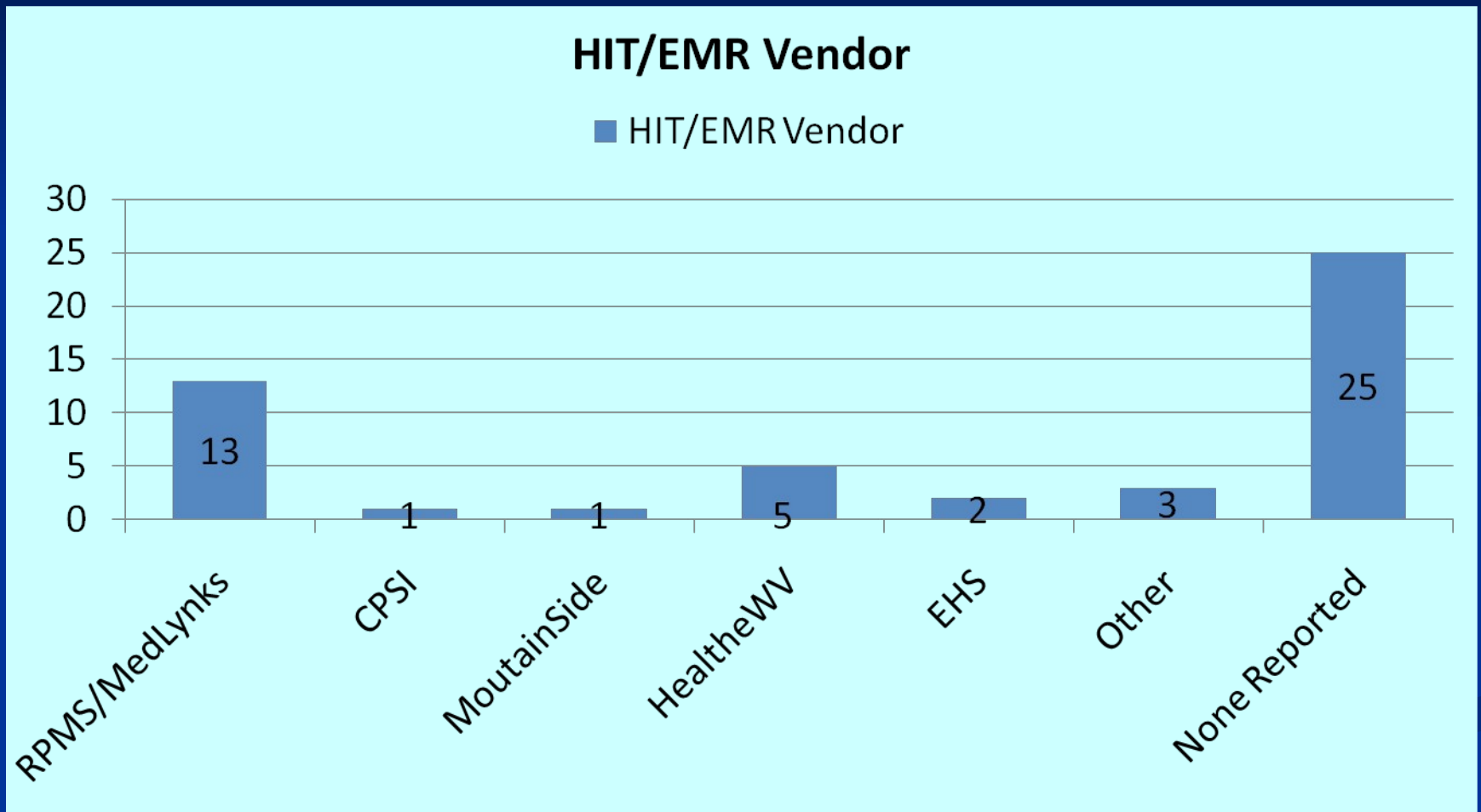
Type of medical record is used in your <u>private practice?</u>
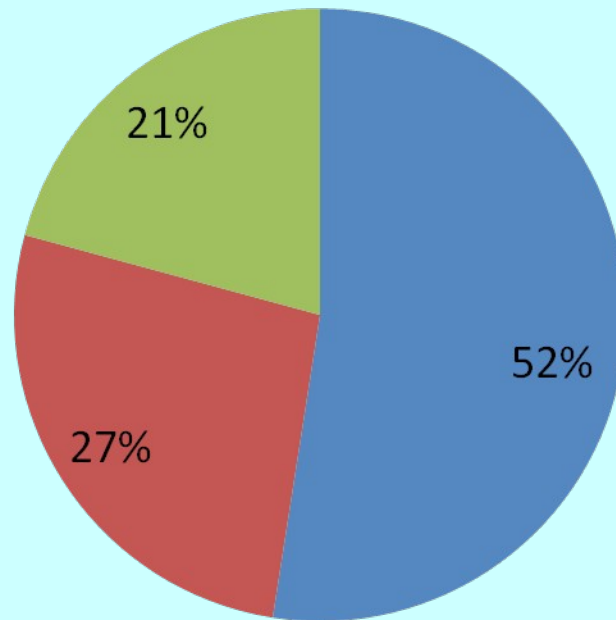
Do you use a Practice Management (PM) system?
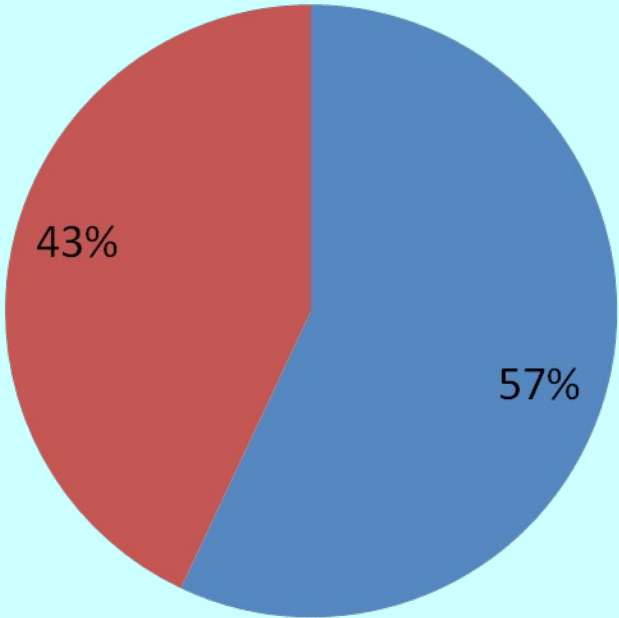
VistA & RPMS in West Virginia
Existing Organizations & Activities

- RPMS & Community Health Network of West Virginia
  - 30 Community Clinic Sites
- VistA & WV State Hospitals
  - 7 State Hospitals
- VistA & VA Medical Centers
  - 4 Hospitals
  - 8 Outpatient Clinics
  - 4 Nursing Homes
- VistA & State Veterans Homes
- VistA & RPMS at Shepherd University
  - Nursing School
  - Student Health Center
- VistA/RPMS & WV Health IT Corporations
  - KRM Associates Inc.
  - Shepherd University Research Corporation (SURC)
  - Community Health Network of West Virginia (CHNWV)
  - West Virginia Medical Institute (WVMI)

VistA in West Virginia

The Promise Medical Informatics Holds for West Virginia

- Creating jobs and building the workforce of the 21st century

- Attracting new businesses to West Virginia, i.e. Medical Informatics organizations

- Implementing low cost, interoperable Electronic Health Record (EHR) systems across the state

- Implementing a Personal Health Record (PHR) system for West Virginia citizens

- Implementing an 'Open' Health Information Exchange (HIE) Network - WVHIN

- Creating Medical Informatics education and training programs to create a more skilled workforce

Vista_Imaging_System

File Options View Reports Help Testing

Patient: **MADTL,F F**   4 Images

1924   500505000   NON-VETERAN (OTHER)

MADTL,F F: 4 Images found.

Image listing :MADTL,F F

#	PROC. DATE	PROCEDURE	SHORT DESC
1	1998 - 03/24	COL	SIGMOID COLON DIVERTICULA
2	1997 - 07/28	GEN. MED.	X-RAY CHEST SINGLE VIEW 7/28/97
3	1997 - 07/28	COL	COLON 7/28/97
4	1992 - 12/24	GEN. MED.	BLEEDING SCAN FOR POSSIBLE GI BLEED 12/24

Abstracts : MADTL,...

1 SIGMOID COLON DIVERT
COL 1998 - 03/24 -Group

2 X-RAY CHEST SINGLE
GEN. MED. 1997 - 07/28

3 COLON 7/28/97
COL 1997 - 07/28

VistA CPRS in use by: Clerk,Pharm (LOCALHOST)

File Edit View Tools Help

MADTL,F F   **Visit Not Selected**   Primary Care Team Unassigned   CIRN   Postings
500-50-5000   ,1924 (74) Provider: CLERK,PHARM   Data   A

Lab Results

Most Recent
Cumulative
All Tests by Date
Selected Tests by Da
Worksheet
Graph
Microbiology
Anatomic Pathology
Blood Bank

Laboratory Results - Worksheet - All Results

Table Format
( ) Horizontal   ( ) Vertical
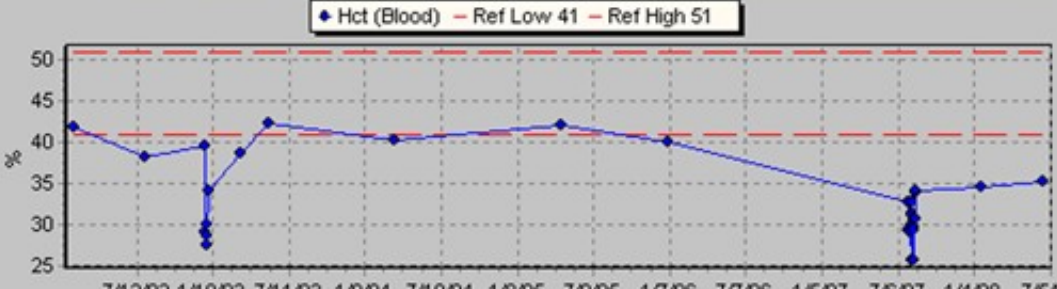
Other Formats
( ) Comments   ( ) Graph

[ ] Abnormal Results Only   [ ] 3D   [ ] Values

Date/Time	Specimen	HCT	HGB	MCV	PLT	WBC
06/18/98 00:00	Blood	35.3 L	11.4 L		276	7.1
01/21/98 00:00	Blood	34.6 L	11.6 L	90.4	276	8.1
01/21/98 00:00	Blood	34.6 L	11.6 L	90.4	282	8.1
08/17/97 00:00	Blood	34.1 L	11.3 L	90	549 H	13.7 H
08/16/97 00:00	Blood	33.9 L	11.4 L	89.2	605 H*	15.2 H
08/15/97 00:00	Blood	30.8 L	10.4 L	89	559 H	14.5 H
08/14/97 00:00	Blood	30.7 L	10.2 L	90.7	544 H	18 H
08/13/97 20:36	Blood	30.7 L	10.3 L	89.1	538 H	21.5 H
08/13/97 04:06	Blood	25.7 L*	8.4 L	90	559 H	20.1 H
08/12/97 04:44	Blood	29.4 L	10 L	88.7	596 H	21.6 H

Other Tests

Date Range

Today
One Week
Two Weeks
One Month
Six Months
One Year
Two Years
All Results

Hct (Blood)
Hgb (hb) (Blood)
Mcv (Blood)
Plt (Blood)
Wbc (Blood)

KEY: "L" = Abnormal Low, "H" = Abnormal High, "*" = Critical Value, "**" = Comments on Specimen

Hct (Blood) — Ref Low 41 — Ref High 51

7/12/92 1/10/93 7/11/93 1/9/94 7/10/94 1/8/95 7/9/95 1/7/96 7/7/96 1/5/97 7/6/97 1/4/98 7/5/98

\Cover Sheet \Problems \Meds \Orders \Notes \Consults \D/C Summ \Labs \Reports\

RPMS/CH Cover Sheet

Collaboration, Open Solutions, & Innovation (COSI)

Figure 2. Medical Informatics 20/20 Model
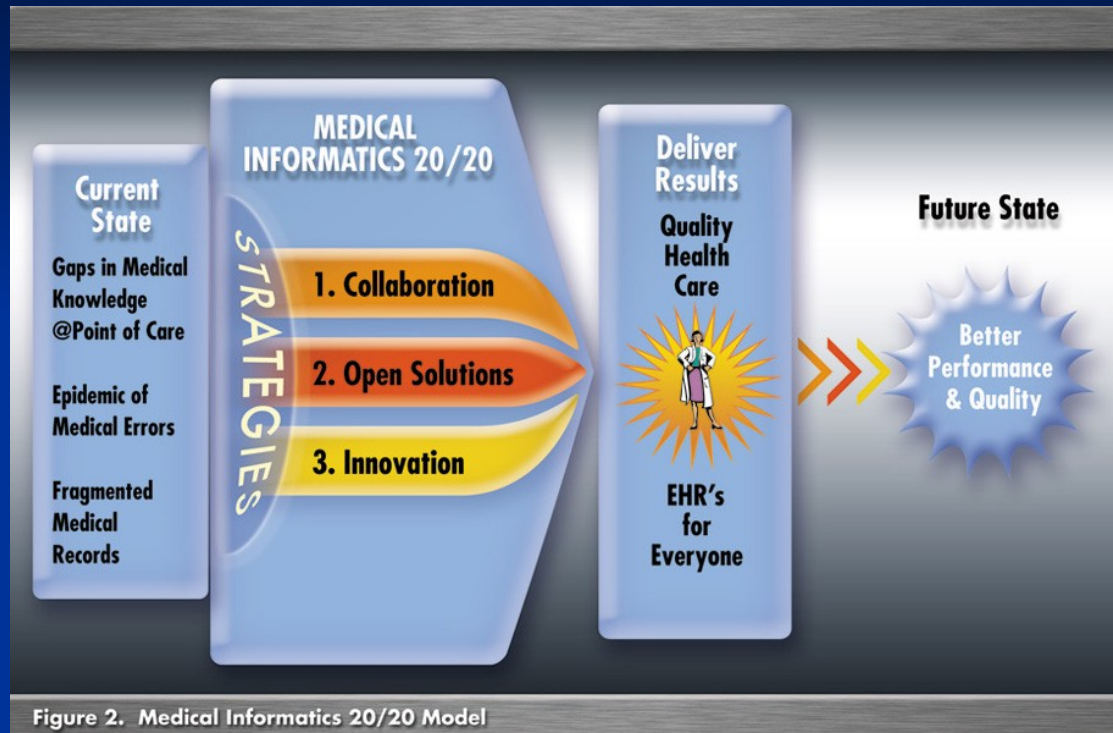
Key Strategies to help make the future we imagine into a reality.

COSI & VistA – General Observations

- 'Winning' organizations today have open porous boundaries and will need to collaborate in order to compete successfully - reaching out to harness external knowledge, resources, and capabilities.

- Collaborating with others in the open source community will speed an organizations ability to innovate while also off-loading tremendous costs, just as IBM and others have done.

- The bigger the ecosystem the better for all participants. A growing customer base will attract even more participants to the 'open' VistA/RPMS platform, e.g. users, vendors, developers, etc.

- Need to continue to build the critical mass needed to attract more and more people to the VistA / RPMS ecosystem.

- Once an 'open platform' gains traction, there is less and less incentive for people to defect to other platforms.

COSI & VistA – Mmgt Observations

- **Leadership will be one of the keys to success for the community**
- **Decentralization vs Centralization of management is always an issue. Minimum central control is the preferred model**
- **Need to continuously redefine current and future roles of people and organizations that make up the VistA/RPMS ecosystem**
- **Great care must be exercised in developing the governance structure, a minimum set of rules, selection of open source licenses, etc.**
- **Conflict will emerge. We must create a conflict resolution process for the good of the community.**
- **Revenue sharing agreements are needed that will enable many new participants and business to flourish in the ecosystem**
- **We must continuously strive to develop 'trust' between people and organizations within the community. It doesn't just happen.**

COSI & VistA – Technical Observations

- **Need an easy-to-use set of tools for people to use to help further build out VistA, add new modules, enhance the system, etc.**

- **A 'bottom up' rapid application development (RAD) process characterizes the open development community**

- **Accept all software contributions, but have a process for weeding out 'weak' contributions**

- **Adherence to key health IT standards is an important consideration**

- **Continual refinement and improvement of the product is a key goal of the community**

- **HardHats Wiki is a key communications tool for the community; similar to VA use of MailMan and Forum**

- **A code repository and patch management process is essential to the success of any open source product**

COSI & VistA – Other Observations & Recommendations

- Communication is essential to the creation and ongoing maintenance of an open source community, i.e. a news web site, training, conferences

- The community and its major players should Identify and partner with selected Universities, e.g. University of Hawaii, Shepherd University, Robert Morris University, etc.

- Community leaders should read the following books - Wikinomics, Medical Informatics 20/20, and The World is Flat

- An official statement of 'values' for the community might prove helpful – e.g. desire for creativity, social connectivity, fun, freedom, speed, sharing, openness, etc.

- In the end, pure open source solutions will likely morph into hybrid open solutions – fusing COTS and FOSS products together

Q&A ?!?

Visit www.shepherd.edu/surc/cosi