



Will Ross, Project Manager

CaIPSAB Symposium

Sacramento, California

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Redwood MedNet

A community-based nonprofit rural health information exchange (HIE)

Established 2005

Lab result delivery launched April 2008

Radiology delivery in pilot testing

Redwood MedNet is currently in a grant funded startup phase

Health Information Exchange Defined

Health Information Exchange is a secure data service that utilizes nationally recognized standards to provision the electronic movement of clinical information among separate health care organizations

An HIE is sometimes called a “RHIO” (regional health information organization)

HIEs in California

CalRHIO

Fresno Healthy Communities Access Partners

Health-e-LA

Long Beach Network for Health

Northern Sierra Rural Health Network

Redwood MedNet

San Diego Medical Information Network Exchange

Santa Cruz County HIE

HIE Participants?

Clinicians, Hospitals, Service Providers (labs, etc.), Payers, Patients, Caregivers (parents, guardians, etc.) Public Health?

Maybe in other communities...

...but Redwood MedNet believes the current healthcare reimbursement system does not incentivize deployment of HIE services to all healthcare participants

Redwood MedNet Participants

Clinicians

Hospitals

Service Providers (labs, rads, etc.)

Public Health

(i.e., no consumers & no payers)

HIE as a B2B Service

Redwood MedNet operates an electronic business-to-business (B2B) service providing data delivery between health care businesses (e.g., between laboratory and clinician)

This new electronic data delivery service, replacing manual processes, increases the agility of clinical work flow and allows improved focus on patient safety and on tracking quality health outcomes

Health Data Consent

The HIE inherits a HIPAA-based consent model for health data access from the previous manual health data access policies at participating healthcare sites

Per these existing consent policies, data that should not be distributed is withheld from the HIE network by the sites

Not “No Consent”

CalPSAB handouts represent the status quo in HIEs as “No Consent” -- which may lead to confusion.

What CalPSAB calls “No Consent” Redwood MedNet calls “No Additional Consent” because HIPAA mandated consent for patient care already governs the health data transaction between the clinical partners participating in the HIE

Consent Reality Check

Consent at Redwood MedNet

Service limited to delivery of electronic clinical data for direct patient care by clinicians, hospitals and data providers with no patient or payer facing service

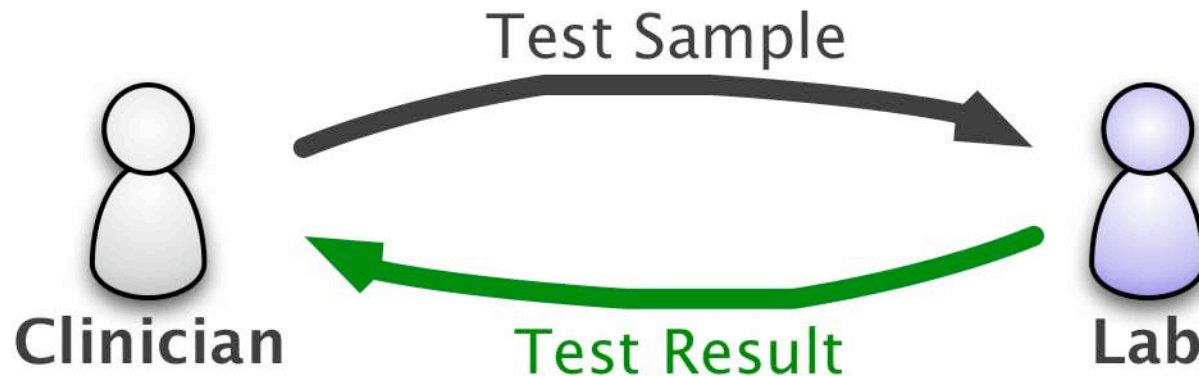
Beyond explicit consent inherited from participating sites, Redwood MedNet has no unresolved consent issues

Without HIE = printed clinical data delivery



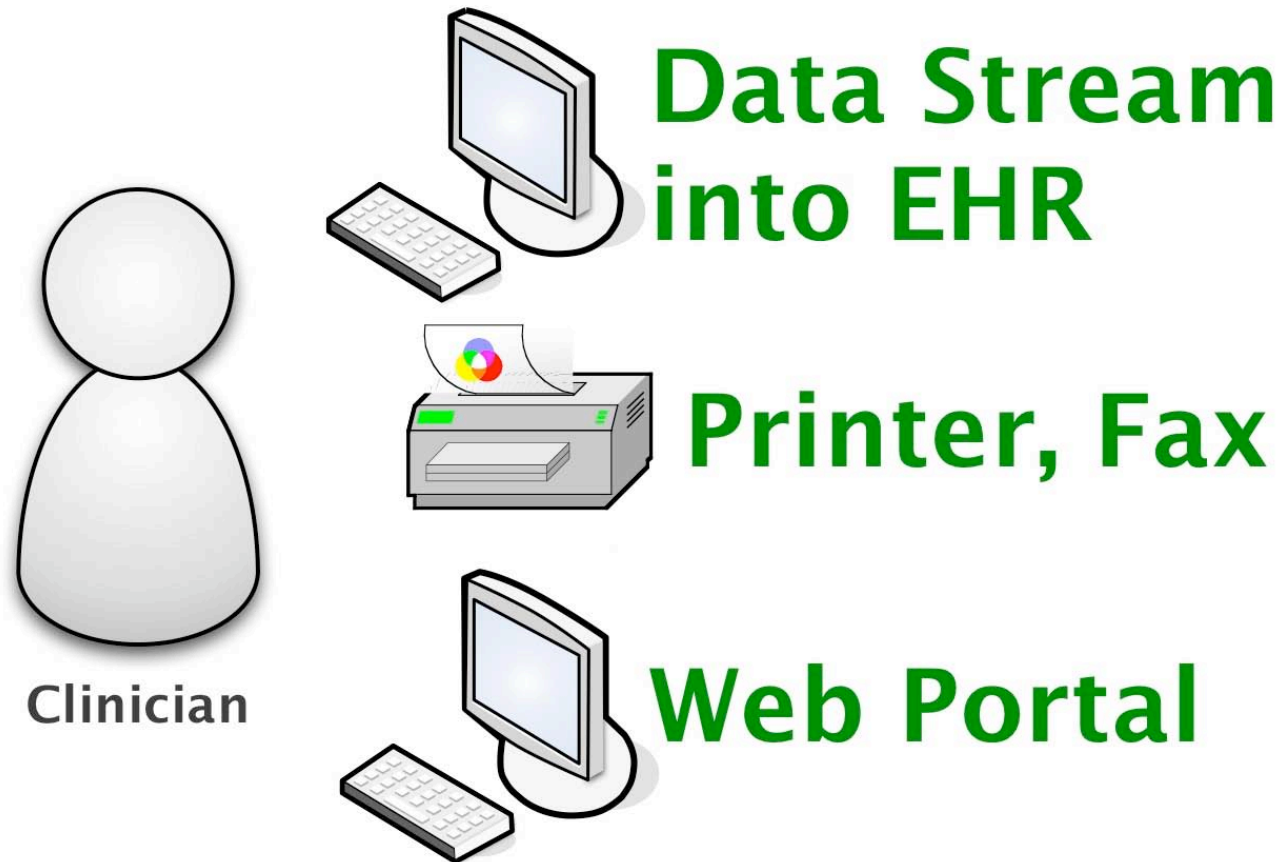
test result data is for patient treatment, therefore
HIPAA requires no additional consent

With HIE = Electronic Clinical Data Delivery



test result data is for patient treatment, therefore
HIPAA requires no additional consent

Electronic Result Delivery



HIE Portal Demonstration



An HIE in the rural Mendocino, Lake and Sonoma County region of Northern California



Home Administration
Lab Reports Patients

Search Lab Reports... 🔍

Lab Report Actions ⌆
Refresh List

Announcements ⌆
This static site demonstrates the functionality of the Redwood MedNet clinical data results delivery service.

Support / Help ⌆
Send questions to support@redwoodmednet.org

Lab Reports

Page 4 of 7 Displaying Items 61-80 of 122

Flags	Patient Name	Report ID	Provider	Received	Lab	Tests
	WOQRZ, CELIA	537090	ESYR, P.	06/18/08 03:46	DLS	CULTUR GLU1H50
	ZSOW, JOSEPHINE	537032	JSN, P.	06/18/08 03:46	DLS	CMP LIP
	KOTKSWHRZ, ANAYELI	537086	ESYR, P.	06/18/08 03:45	DLS	GLU1H50
	RJISOOZB, LIZETH	537135	ESYR, P.	06/18/08 03:45	DLS	LIV
	BAABKT, HARMONY	617280	JSN, P.	06/18/08 03:45	DLS	HEP CMP
	FRKYBONRJ, ERNESTINA	537120	ESYR, P.	06/18/08 03:45	DLS	FE IBC TSH CBC
	IHKRFO, KARLA	536629	ESYR, P.	06/18/08 03:45	DLS	O&P
	YSTBOOJ, FERMIN	617304	ESYR, P.	06/18/08 03:44	DLS	CULTRTN
	DRKOBOTRZ, MARIA	537087	ESYR, P.	06/18/08 03:44	DLS	CULTUR
	THKBO, JOSEFINA	537157	ESYR, P.	06/18/08 03:44	DLS	HCGQUANT
	FBKYRK, JEFFREY	537167	JSN, P.	06/18/08 03:43	DLS	CMP LIP
	QBOOS, WILLIAM	3004481	JSN, P.	06/18/08 03:43	DLS	CBC
	KOTKSWHRZ, SILVIA	617504	ESYR, P.	06/18/08 03:41	DLS	CMP CBC TSH LIP URIC...
	EAOKRJ, JOSE	537243	ESYR, P.	06/18/08 03:41	DLS	FE CMP TSH LIP URIC ...
	FBOFDOAB, GERARDO	617610	JSN, P.	06/18/08 03:41	DLS	CMP CBC
	KBQSKRZ, EUSTOQUIA	617369	JSN, P.	06/18/08 03:41	DLS	A1C
	WHZQBO, ELIZABETH	537254	JSN, P.	06/18/08 03:41	DLS	CBC
	KOTKSUHRZ, ANA	537231	ESYR, P.	06/18/08 03:40	DLS	GTT3
🚨	DORERK, MARK	537303	ESYR, P.	06/18/08 03:40	DLS	CRPHS CBC ESR
	IRKRZ, TEODORO	617653	ESYR, P.	06/18/08 03:40	DLS	LDH CMP TSH LIP URIC...

Flag Legend: 📄 = Needs Review 📄 = Preliminary results 🚨 = Critical Results 📄 = Archived



Report Actions

- Back to List
- Download Lab Report
- Print Lab Report
- Archive Lab Report
- View Report Accesses

Announcements

This static site demonstrates the functionality of the Redwood MedNet clinical data results delivery service.

Support / Help

Send questions to support@redwoodmednet.org

Report General Information

Patient Name	Patient Lab ID	Encounter ID	Date Of Birth	Gender	Phone Number
DORERK, MARK	44483	3730	01-01-1999	M	(123) 456-7890
Ordering Provider	Collection Date	Reported Date	Received From Lab	Status	
ESYR, PROVIDER ()	06-02-2008 11:55:00	06-02-2008 00:38:09	06-18-2008 03:40:47	F	

Clinical Procedure Results

Diagnostic Procedure	Normal	Abnormal	Units	Ref Range	Status	Lab ID
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Performing Labs

CLF12345 - Demo Lab Source - 123 Fake Street Nowhere, CA 91234 US

CRP-HIGH SENSITIVE (300)

CRPHS		6.47	mg/L	0.00-3.00	F	CLF12345
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INCREASES IN CRP VALUES ARE NON-SPECIFIC AND SHOULD NOT BE INTERPRETED WITHOUT A COMPLETE CLINICAL HISTORY. WHEN USING CRP TO ASSESS CARDIAC RISK, MEASUREMENTS SHOULD BE COMPARED TO PREVIOUS RESULTS.

COMPLETE BLOOD COUNT (100)

LUC notified JAH
on 6/02/08 at 12:11
FAXED TO AL 6-2-08 12:10

WBC		1.61	K/UL	4.0-11.5	F	CLF12345
RBC		2.46	M/CMM	4.10-5.90	F	CLF12345
HGB		9.52	GM/DL	13.8-17.2	F	CLF12345
HCT		27.8	%	41-50	F	CLF12345
MCV		113	fL	80.0-99.0	F	CLF12345
MCH		28.0	PG	25-35	F	CLF12345

Portal Reality Check

Redwood MedNet is not a web portal

Redwood MedNet is a secure health data delivery service

The Redwood MedNet web portal is just one method of delivering health data

Redwood MedNet also delivers health data by printer and by direct data stream to local healthcare software applications

Portal Security

VPN between HIE and data sources (lab, radiology service, hospital)

https between clinician sites and HIE

Login access to portal governed by industry standard strong security using two-factor authentication

Redwood MedNet operates as a secure clinical data delivery service with no public access

Can HIEs Reduce Duplicate Tests?

Yes, but this is the wrong question

Duplicate tests do not cost justify HIEs, because duplicate tests are driven by the healthcare reimbursement model which rewards volume of procedures and defensive medicine

Redwood MedNet is focused on provider collaboration, patient safety and quality of care

HIE Reality Check

The Portland Metropolitan HIE was cancelled when its business model forecasted a \$10 million drop in combined revenues for hospitals through elimination of duplicative testing, yet hospitals were being asked to pay for the HIE.

Diamond & Shirky, “Health Information Technology: A Few Years of Magical Thinking?” *Health Affairs*, August 19, 2008

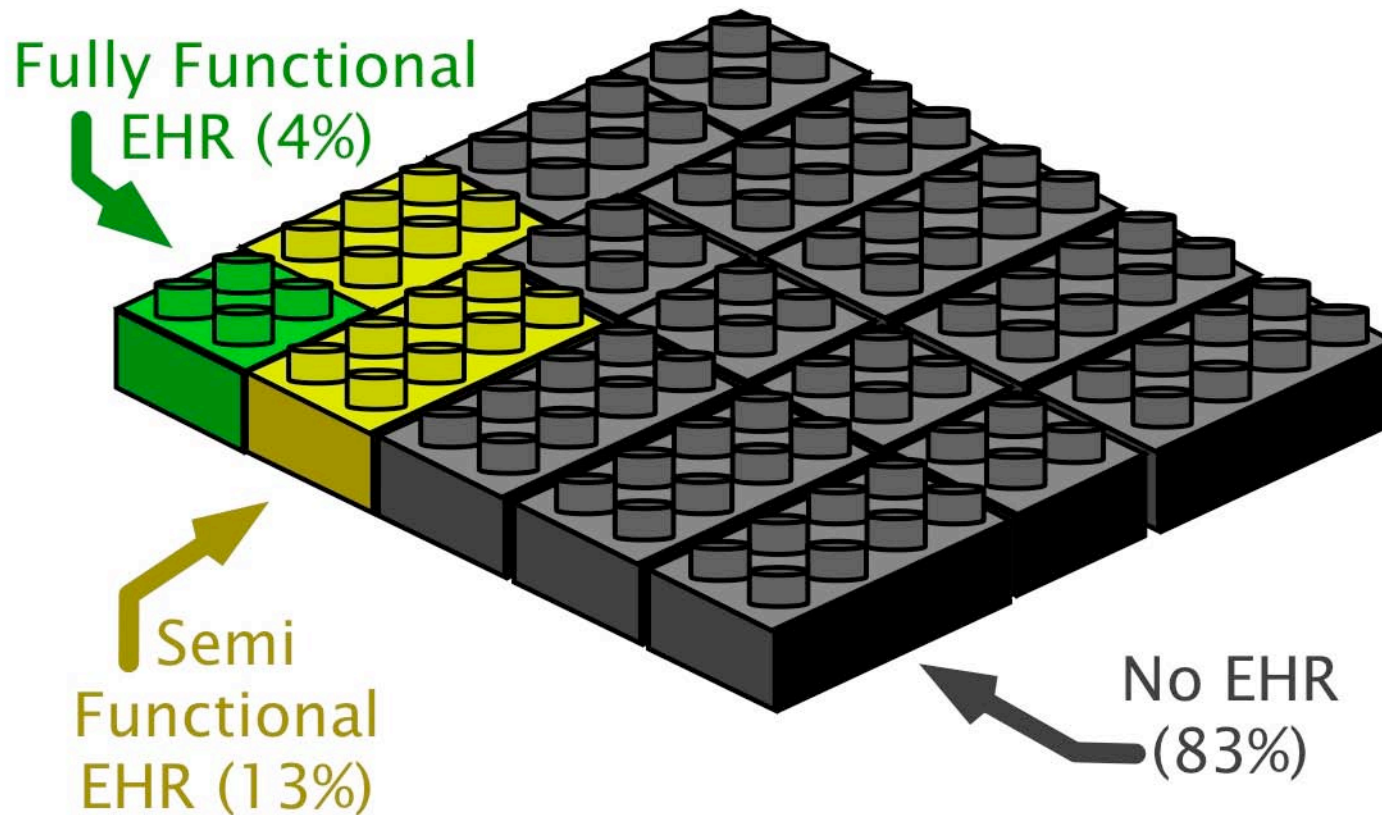
EHR Reality Check

4% of American ambulatory physicians have an extensive, fully functional electronic health record (EHR), while 13% have a basic EHR system

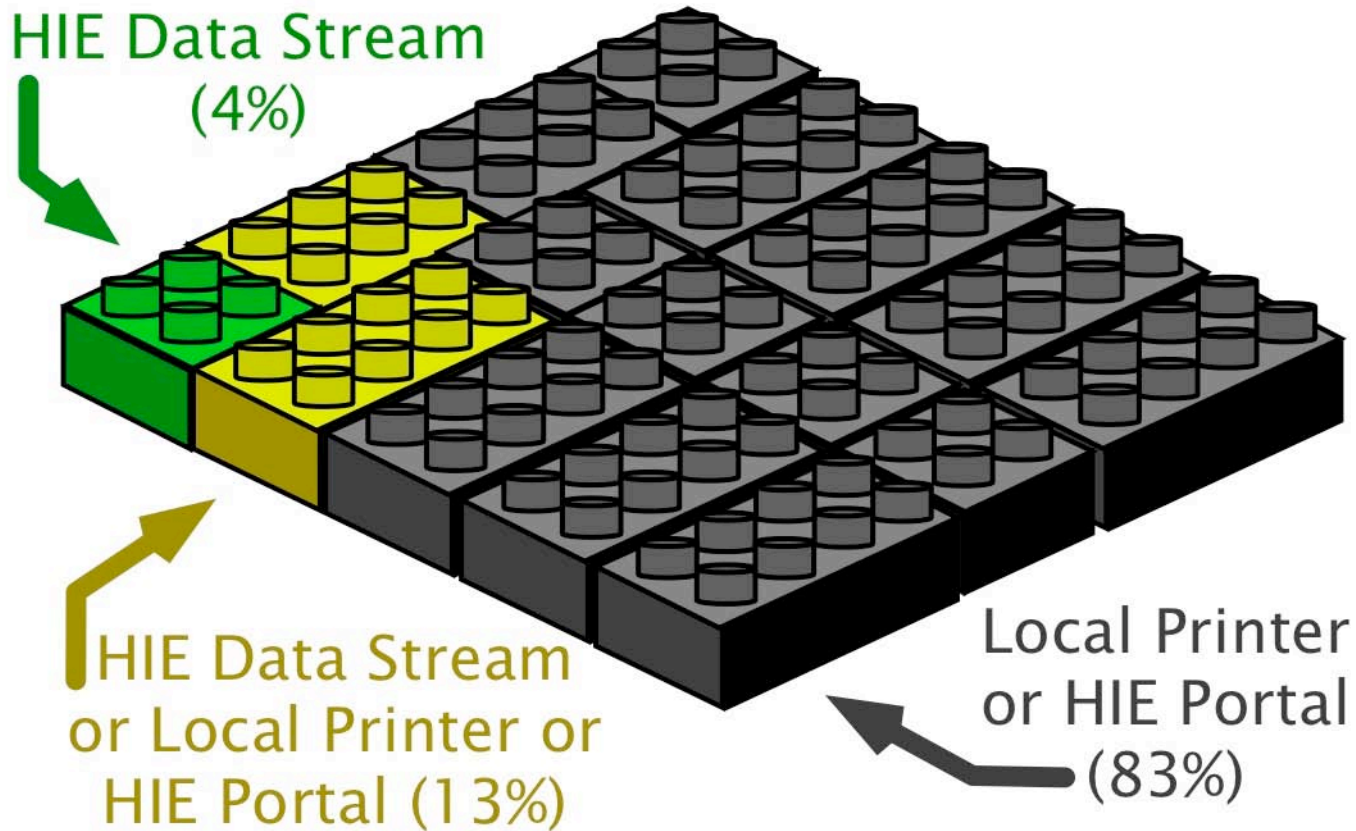
DesRoches, Campbell, Rao, et al., "EHR in Ambulatory Care: A National Survey of Physicians." *New England Journal of Medicine*, July 3, 2008

2008 Survey of American Physicians

NEJM 2008;359:50-60



HIE Clinical Data Delivery Method



HIE Development

HIE development is (fortunately) independent of the limited pace of EHR adoption

The patient safety and health care quality benefits of interoperable data enabled by HIEs are sufficient reasons to build HIEs

In the future, when EHRs are broadly adopted, HIEs will accelerate EHR deployment and magnify EHR utility

HIE Invisibility

As physicians adopt fully functional EHRs, the HIE will become an invisible clinical data routing layer

“Consent” issues will continue to reside in the edge applications (EHR, PHR, etc.), and HIEs will continue to inherit their consent model from the participating health care sites at the edge of the HIE network

HIE Impact

American healthcare business processes are discretely isolated by mistrustful and competitive reimbursement silos

This business model has inherent disincentives for efficiency, collaboration or quality outcomes

Clinical data exchange simultaneously promotes efficiency, enables collaboration and prioritizes quality health outcomes

Opt In with Restrictions

Allows patients to explicitly withhold data from their health records

Reduces trust in clinician-patient relationship

Prevents full view of patient health history

Increases site level EHR complexity

Interferes with quality of patient care

Has no impact on HIE security, privacy or audit systems

Opt Out

Can health record data be “undelivered” from data systems it has already been delivered to?

As a data processing task, “opt out” is the functional equivalent of “unsend” in email -- it’s too late, the message is already published and it cannot be unsend

As a practical health business process, if the data that has already been delivered is part of a legal medical health record, then it cannot be removed

Opt Out

Correcting a Legal Medical Record

“When an error is made in a medical record entry, the original entry must not be obliterated, and the inaccurate information should still be accessible”

Legal Medical Record Standards, University of California Policy No. 9420, www.ucop.edu/ucophome/coordrev/policy/legal-medical-record-policy.pdf

Opt Out

Regarding Duplicate Tests

Preventing duplicate tests is the wrong goal

The right goals are

- 1 - Reduce medical errors
- 2 - Increase patient safety
- 3 - Improve health outcomes

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“San Francisco, 137 Miles”
Highway 128 meets the Navarro River
Mendocino County, California, USA