



# Clinical Messaging in Mendocino

Carl Henning, MD

Connecting California to Improve Patient Care

July 18, 2008

Ukiah Valley Conference Center

# History of Redwood MedNet

- In 1999 Carl E Henning, Orthopedic Surgeon moved to Ukiah from Watsonville – Santa Cruz area.
- I was involved in the building of a successful RHIO in Watsonville – Santa Cruz with Dr. Keet and Axolotl
- After 5 years in Ukiah it was apparent that the medical community might benefit from a similar effort here.



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02° W elev 1731 ft

Streaming 100%

Eye alt 13.34 m

# Mendocino – Lake Counties

- Hospitals and Physicians are geographically separated
- 70 % of patients are Medicare or Medi-Cal
- Hard for Hospitals and Physicians to survive financially
- Present physicians were getting old and tired
- Young MD's are difficult to recruit

# Steering Committee

- First meeting July 2004
- Meet monthly to explore options
- Attend CMA Town Hall, meet David Brailer in person
- Clinical Messaging presentation to hospital staff November 2004
- Search for sponsor for our Clinical Messaging Project

# Physician Technology Survey # 1

## August 2004

- 70% of practices have computerized billing
- 61% of practices have high speed Internet
- 10% of practices have EMR

# Physician Technology Survey #2

## January 2006

- 83% of practices have computerized billing
- 71% of practices have high speed internet
- 10% of practices have EMR

# Founding Redwood MedNet

- August 2005
- Committee decides to form new 501(c)(3)
- Write Articles of Incorporation
- The specific purpose of this corporation is to demonstrate the secure and appropriate sharing of electronic health files and clinical data, and to develop, improve and assist in the implementation of health information technology for all physicians, caregivers and consumers in Northern California

# Board of Directors

- Mark Apfel, MD FQHC MEDICAL DIRECTOR
- Peter Cho, MD FAMILY PRACTICE
- Andrew Coren, MD FAMILY PRACTICE
- Carl Henning, MD ORTHOPEDIC SURGEON
- Jeff King FQHC EXECUTIVE DIRECTOR
- Tom Reidenbach, PharmD PHARMACIST
- Robert Rushton, MD FAMILY PRACTICE
- Marvin Trotter, MD COUNTY PUBLIC HEALTH OFFICER
- Mark Turner HOSPITAL I. S. SITE COORDINATOR

# IT Director Will Ross

- Excellent communications and networking
- Has given hundreds of hours of uncompensated time
- Always has a Vision and Goals
- Under appreciated
- The most valuable asset of RMN
- Super Grant Writer



# Robert Wood Johnson Foundation

- **InformationLinks** grant to Mendocino County Department of Public Health
- Strategic Plan for HIE
- Governance Plan for HIE
- Business Model for HIE
- User Agreements for HIE
- All planning documents posted to public website

# Blue Shield of California Foundation

- October 2005 - Clinical Messaging Pilot Project funded
- Collaborate with Public Health on Business Model
- Collaborate with Public Health on User Agreements



# Blue Shield Proposal

- Can a Clinical Messaging system be self sustaining in a small rural community?
- Can Hospitals and Clinics and Public Health and other health market participants work together successfully?
- Can security and confidentiality questions be satisfied?

# Mendocino Clinical Messaging

- January 2006 - 25 practices volunteer to participate
- April 2006 - Laboratory utilization survey completed.
  - Six labs in two counties = 98 %
- July 2006 - RMN begins software installation for laboratory results delivery
- September 2006 - RMN software ready, but no lab wishes to go first!
- March 2007 - lab at Healdsburg District Hospital will go first

# Mendocino Clinical Messaging

- February 2007 - Bench test “Mirth” open source HL7 software
- April 2007 - Pilot test “Mirth” HL7 appliance with lab data from Healdsburg District Hospital
- November 2007 - Pilot test “MirthResults” portal software



# Mendocino Clinical Messaging

- April 2007 - Install “Mirth” HL7 appliance in Healdsburg District Hospital
- Build parser for HMS hospital lab software
- July 2007 - **SUCCESS!** Parsing lab data streams from Healdsburg District Hospital
- Future – hospital can use Redwood MedNet for other lab customers (labs = 12% of hospital revenue)

# Mendocino Clinical Messaging

- Sept 2007 - most lab results flowing, but glitches remain with microbiology results
- Oct 2007 - based on progress at first hospital, three more local hospitals agree to test RMN results delivery service
- Nov 2007 - last glitches removed and acceptance test (1,000 results) completed

# UnitedHealthcare Grant

- Feb 2008 - Contract Signed
  - New funding will allow full implementation of the Blue Shield plans
- April 2008 - production begins
  - Lab results delivery from Healdsburg District Hospital
  - Lab results delivery to Alliance Medical Center FQHC
  - Lab delivery >1000 results per month
- July 2008 - begin planning lab results delivery with two more hospitals, UVMC and MCDH

# California HealthCare Foundation

- Feb 2008 - small grant to test ELINCS file format for lab delivery into local software application
- May 2008 - RMN uses ELINCS to deliver labs from HIE into “i2i-Tracks” application
- July 2008 - RMN publishes ELINCS solution for other HIEs to use

# Where Do We Go From Here ?

- Complete the Blue Shield deliverables
- Expand to all local hospitals and all labs
- Add E-Pharmacy and Radiology
- Add Consult Referrals and Reply's
- Add all Physicians
- Add Mobile Messaging via iPhone
- Add Public Health and CDC reporting
- Expand local community involvement and support

# Live Demo

- <https://demo.rwmn.org/mirthresults/>

# Sustainability

- June 2008 - Summer student interns to develop sustainable business model
  - Eric Follis, UC Berkeley
  - Tait Barnette, CSU Chico
- July 2008 - Build econometric model based on eHealth Initiative Proforma Business Tool
- September 2008 - Publish report as white paper

# Some Lessons Learned

- It must improve the quality of care to the patients
- Engage the entire clinical community
- Keep it simple
- Plan carefully and in small steps
- It must be financially sustainable for your economy and cost effective
- There are always problems and hurdles to be cleared. The Road is never smooth!
- You can't run an HIE business on grants alone



