A Promising Practice: Adoption, Collaboration, and Partnership

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CDR U.S. Public Health Service
Indian Health System

- Provide care to 2 million AI/AN
  - 566 Federally recognized tribes
  - 36 states

- Partnership
  - Federal IHS
  - Tribal
  - Urban

- Inpatient Admissions: 51,097
- Outpatient visits: 11,778,527
Indian Health Service

• **Mission:** To raise the physical, mental, social, and spiritual health of American Indians and Alaska natives to the highest level

• **Goal:** To assure that comprehensive, culturally acceptable personal and public health services are available and accessible to American Indian and Alaska Native people
IHS Director’s Priorities

• Renew and strengthen our partnership with Tribes
• In the context of national health reform, bring reform to the IHS
• Improve the quality of and access to care
• Ensure that our work is transparent, accountable, fair, and inclusive
IHS Partnership with Tribal Governments

- Under the Indian Self-Determination Act of 1975, Tribes may assume the responsibility of providing health care for their members, without lessening any Federal treaty obligation.
- Tribally-run programs operate the vast majority of facilities and receive 55% of appropriated funding.

<table>
<thead>
<tr>
<th>IHS</th>
<th>Tribal</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 Hospitals</td>
<td>17 Hospitals</td>
<td>34 Urban Indian Health Programs</td>
</tr>
<tr>
<td>58 Health Centers</td>
<td>235 Health Centers</td>
<td></td>
</tr>
<tr>
<td>31 Health Stations</td>
<td>92 Health Stations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>166 Alaska Village Clinics</td>
<td></td>
</tr>
</tbody>
</table>
Resource and Patient Management System

• Launched in 1984
  – Initially to track outbreaks of diarrheal disease in infants on reservations

• Based on the VA’s VistA system
  – RPMS and VistA have evolved together over the years

• RPMS is VistA at its core, sharing much of the same infrastructure and some clinical applications such as Radiology, VistA Imaging, and BCMA

• Many VA applications (Laboratory, Pharmacy) have been extensively modified to meet IHS requirements.
IHS has developed numerous applications independently of VA to address IHS-specific mission and business needs.

- All federal IHS facilities
- Most Tribal facilities
Differences: IHS and the VA

• Cradle to grave care
  – Pediatrics
  – Prenatal and obstetrical care
• Smaller facilities, more rurally located
• Decentralized administration
• Tribal autonomy
• Community and population-based mission
• Very modest IT staffing & budget
RPMS Suite of Applications

- **Clinical Applications**
  - Patient Care Component, Electronic Health Record, Behavioral Health System, Reminders, Pharmacy, Laboratory, etc.
- **Population Health and Case Management**
  - Diabetes Management System, HIV Management System, Immunization Tracking, iCare Population Management, etc.
- **Practice Management Suite**
  - Patient Registration, Scheduling, Third Party Billing, Accounts Receivable, Pharmacy Point of Sale, etc.
- **Quality Reporting**
  - Clinical Reporting System (GPRA), Uniform Data Set (HRSA), MU Clinical Quality Measures
- **Personal Health Tools**
  - Patient Wellness Handout, Personal Health Record
- **Infrastructure and Health Information Exchange**
  - Master Patient Index, NwHIN CONNECT gateway, etc.
RPMS-EHR Deployment
RPMS Outside of Indian Country

• RPMS applications are Public Domain or Open Source with minimal exceptions, and are freely available to any interested entity
  ─ FOIA RPMS suite is updated quarterly and posted on Sourceforge.net

• Community Health Network of West Virginia (CHNWV)
  ─ Deployed in 45 community health centers

• The Telecommunications Information Policy Group (TIPG) at the University of Hawai‘i is
  ─ RPMS implementation at hospitals and clinics in Hawai‘i, American Samoa, Guam, and elsewhere in the Pacific
Recognition of RPMS

- HIMSS Davies Award in Public Health, 2005
  - RPMS Clinical Reporting System

- HIMSS Davies Award in Public Health, 2008
  - Cherokee Indian Hospital, for using RPMS EHR and iCare to improve health care

- HHS Innovates: Electronic Health Records in Action 2011
  - Using RPMS for real-time H1N1 influenza surveillance nationwide

- Computerworld Honors 2011 Laureate in Health
  - RPMS iCare Population Management
Reasons for Meaningful Use

- Incentive funding
- Improved access to information
- Greater collaboration
- Patient engagement
- Improved Patient Outcomes
Our Plan – what we had

- RPMS-EHR developed
  - Certified to CCHIT criteria 2007
- RPMS EHR deployed to many sites
- EHR listserv
- EHR website
- Clinical Application Coordinators
- ARRA funding
Our Plan – What we needed

• Requirements (Gap analysis)
• Development teams
• Knowledge transfer
  – Registration/attestation
  – New software
  – Deployment
Our Plan – what we added

- Meaningful Use team
- Certification team
- Staff to assist the field
- Enhancements and development to meet Meaningful Use requirements
- Meaningful use website
- Meaningful use listserv
Meaningful Use Teams

• Analysis of EHR Certification requirements from ONC did not include all of the necessary modifications to RPMS EHR to meet the CMS requirements.
  – Two requirements streams
  – Confusion
  – Inconsistency
Realigned Teams

- Senior Management
  - Clinical Quality Measures Team
  - Meaningful Use Core Team
  - EHR Certification Team
    - Meaningful Use Field Team
  - EHR Deployment Team
- Regional Extension Center (NIHB)
Certification

InfoGard Laboratories, Inc.

an Office of the National Coordinator for Health IT-Authorized Testing and Certification Body (ONC-ATCB)

certifies that the EHR Product listed below meets the mandatory certification criteria identified in the ONC Standards and Certification Criteria Final Rule as listed on the reverse.

Resource and Patient Management System (RPMS)

Version RPMS Suite (BCER) v1.0

by

Indian Health Service

Certificate #: IG-2419-11-0050
Certified Date: April 1, 2011
Classification: Complete EHR
Practice Setting: Ambulatory

The complete list of certified EHR Products is posted on the ONC Certified HIT Product List (CHPL) website at: http://onc-chpl.force.com/ehrcert.
Resources

http://www.ihs.gov/meaningfuluse
Key Changes for Meaningful Use

- Chart Review for Problem List, Medication List, and Allergies
- Changes to Allergy/Adverse Reaction documentation
- Patient-Specific Education Materials
- New Tobacco Health Factors
- New BMI/Weight requirement
- Continuity of Care Document generation and printing
- E-Prescribing
- Personal Health Record
- C32 (CCD) - Interoperability
Challenges

• Diverse health delivery system
• 35 states
  – Understanding Medicaid health plans
  – Immunization exchange with each state
• Health Information Exchange Exchange (C32)
• EPrescribing
• Personal Health Record
• New documentation processes
• Clinical Quality Measures
C32: Continuity of Care Document

• Addresses MU requirements to provide patients with electronic summaries of care and to exchange clinical data.

• The Continuity of Care Document (CCD) includes the following data elements:
  
  - Encounters
  - Immunizations
  - Results
  - Conditions or Problems
  - Allergies and Adverse Reactions
  - Vitals Signs
  - Insurance Payors
  - Procedures
  - Medications
### Allergies and Adverse Reactions

<table>
<thead>
<tr>
<th>Date</th>
<th>Substance</th>
<th>Reaction</th>
<th>Allergy Type Code</th>
<th>NDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/01/2010</td>
<td>RUBBER BELT,ADJUSTABLE</td>
<td>ANAPHYLAXIS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11/01/2010</td>
<td>RUBBER BELT,ADJUSTABLE</td>
<td>ALOPECIA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>08/17/2010</td>
<td>PENICILLIN</td>
<td>ALOPECIA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>08/17/2010</td>
<td>PENICILLIN</td>
<td>ANAPHYLAXIS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/27/2010</td>
<td>CODEINE</td>
<td>HIVES</td>
<td>416098002</td>
<td></td>
</tr>
<tr>
<td>07/16/2010</td>
<td>AMPICILLIN</td>
<td>ANAPHYLAXIS</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Encounters

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Location</th>
<th>Clinic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/27/2010 12:00:00</td>
<td>DEMO IHS CLINIC</td>
<td>PHARMACY</td>
<td>Service Category: AMBULATORY</td>
</tr>
<tr>
<td>08/27/2010 12:00:00</td>
<td>DEMO IHS CLINIC</td>
<td>GENERAL</td>
<td>Service Category: AMBULATORY</td>
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<tr>
<td>08/24/2010 06:28:00</td>
<td>DEMO IHS CLINIC</td>
<td></td>
<td>Service Category: EVENT (HISTORICAL)</td>
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<tr>
<td>08/13/2010 07:34:00</td>
<td>DEMO IHS CLINIC</td>
<td></td>
<td>Service Category: EVENT (HISTORICAL)</td>
</tr>
</tbody>
</table>

### Vitals Signs

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Height (in)</th>
<th>Weight (lb)</th>
<th>BP Systolic (mm Hg)</th>
<th>BP Diastolic (mm Hg)</th>
<th>Temperature (deg F)</th>
<th>Head Circumference (in)</th>
<th>Pulse Rate (min)</th>
<th>Respiration (min)</th>
<th>O2 Saturation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/01/2010 06:00:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>120</td>
<td></td>
<td>65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>08/13/2010 07:32:00</td>
<td>65</td>
<td>130</td>
<td>180</td>
<td>60</td>
<td></td>
<td>103</td>
<td>70</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>07/27/2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>65</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Thank you for choosing CHEROKEE INDIAN HOSPITAL.
This handout is a new way for you and your doctor to look at your health.

HEIGHT/WEIGHT/BMI - Weight and Body Mass Index are good measures of your health. Determining a healthy weight and Body Mass Index also depends on how tall you are.

You are 5 feet and 10 inches tall.
Your last weight was 220 pounds on Aug 03, 2010.
You should have your weight rechecked at your next visit.
MEDICATIONS - This is a list of medications and other items you are taking including non-prescription medications, herbal, dietary, and traditional supplements. Please let us know if this list is not complete. If you have other medications at home or are not sure if you should be taking them, call your health care provider to be safe.

1. ALBUTEROL MDI (HFA) 6.7GM  Rx#: 1234567  Refills left: 5
   Directions: INHALE 2 PUFFS BY MOUTH EVERY 4 HOURS IF NEEDED FOR BREATHING; **SHAKE WELL BEFORE USING**

2. FLUTICASONE PROP 110 MCG (12GM)  Rx#: 1234568  Refills left: 11
   Directions: INHALE 1 PUFF 110MCG/INHL BY MOUTH TWICE A DAY

MAMMOGRAM
Your last mammogram was on Nov 07, 2005. It is recommended that you receive a mammogram every year. Ask your health care provider to order a mammogram for you.

COLON HEALTH SCREENING
You are up to date for colon health screening. Your next colon health screening will be due on Apr 05, 2019.

My Healthcare Goals
ASHTMA - Lifestyle Adaptation
   Goal: will avoid too much time outdoors when the pollen is high
Patient-Specific Education Resources: NLM Info Button

<table>
<thead>
<tr>
<th>Action</th>
<th>Chronic</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMOXICILLIN 250MG CAP Qty: 10 for Sig: TAKE ONE (1) CAPSULE BY MOUTH</td>
<td></td>
</tr>
<tr>
<td>CLONIDINE 0.2MG TAB Qty: 60 for Sig: TAKE ONE (1) TABLET BY MOUTH</td>
<td></td>
</tr>
<tr>
<td>TRIAMCINOLONE 75MCG/SPRAY INHLE 2 PUFFS BY MOUTH EVEN</td>
<td></td>
</tr>
<tr>
<td>ROSIGLITAZONE 4MG TAB Qty: 180 for Sig: TAKE ONE (1) TABLET BY MOUTH</td>
<td></td>
</tr>
</tbody>
</table>

![MedlinePlus](image)

[Add Patient Education Event]

**Education Topic:** Medications-Literature

- **Type of Training:** Individual
- **Comprehension Level:** Good
- **Length:** 4 (min)
- **Status/Outcome:** Goal Met

![Additional Details](image)
ePrescribing in RPMS

• Providers using RPMS with internal pharmacy will meet ePrescribing requirement using RPMS EHR alone
• Providers at clinics without pharmacies will need to use electronic prescribing functions to meet MU
• RPMS ePrescribing meets requirements for Certification & Meaningful Use
• Finalizing our data exchange agreement with SureScripts (the ePrescribing clearinghouse)
• High demand at many facilities
Personal Health Record

- Provides patients with online access to personal health information, from any facility at which they are registered
  - Integrates with Master Patient Index
- Aligns with MU requirements
- Requires in person authentication to create an account
- Each facility will need a PHR “registrar”
Personal Health Record

View and Manage Your Health Records Online
To begin using PHR, click the link below to create an account and apply to view your Indian health system medical records.

Register to Use PHR

Welcome to your Personal Health Record (PHR)!
To view your medical information, click on the links above. The Indian Health Service (IHS) has created the PHR to help you improve your health. The PHR will help you improve your health by communicating with your doctors, nurses, and other healthcare providers about it. Research shows that talking to your healthcare providers improves the healthcare that you receive. It improves the healthcare provider's understanding of your health and treatments. It also improves your own understanding, which will help you to plan healthcare issues and take action to recover from them.

So look at your information. Use it to track your progress or remind you to take some action, such as renewing a medicine prescription. If you have questions about your information, IHS strongly encourages you to ask your healthcare provider.

In the future, IHS will add new features to PHR, such as viewing a summary of your visit, viewing details about medical procedures, making appointments with your doctor, or renewing your prescriptions online. If you wish to participate in testing them, you can contact the IHS Help Desk at 1-888-887-7261.

Medicines

Current Medicines
Below is a list of medicines you herbal, dietary, and traditional is not complete. Click on the

Medicine Name Prescriptions
AMOXICILLIN 3/31/01

Allergies
Below is a list of allergies we have on file for you. Please let your healthcare provider know if this list is not complete.

Laboratory Test Results
Below is a list of laboratory test results to view details about each test.

Laboratory Test Name
INFLUENZA TYPE A (TITER)
GLUCOSE, FASTING
GLUCOSE, FASTING
CREATININE
TOTAL CHOLESTEROL
HDL CHOLESTEROL
LDL CHOLESTEROL
TRIGLYCERIDES
UREA NITROGEN
SODIUM
POTASSIUM
PROTEIN
TOTAL

Problems
Below is a list of problems we have in our files for you. Please let your healthcare provider know if this list is not complete.

Problem Status Date Started
Influenza With Other Manifestations ACTIVE 6/24/2010
Diabetes Mellitus Without Mention Of Complications INACTIVE 6/24/2010
Congestive Heart Failure, Unspecified INACTIVE 6/24/2010
Acute Myocardial Infarction unspecified Site.epiNATIVE 6/24/2010

Laboratory Result Detail

Test Name: CREATININE
Test Date: 12/06/2010
Result: 1.0 mg/dL
Unusual Result?: No
Normal Range: 0.5 - 1.4 mg/dL
Ordering Provider: USER SUPER
Facility: BLOOD
Tobacco Assessment

• Assessing tobacco use disorder
• Meaningful Use only focuses on smoking
• Revised documentation methods to accommodate Meaningful Use reporting while maintaining the practices already in place
Tobacco Use Assessment

**ASK**
Do you smoke tobacco? (Cigarettes, Cigars, Pipe)

<table>
<thead>
<tr>
<th>Never Smoked</th>
<th>Current Smoker</th>
<th>Cessation Smoker</th>
<th>Previous (former) Smoker</th>
<th>Smoking Status Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never Smoked</td>
<td>Current EVERY day smoker</td>
<td>First 6 months after quitting</td>
<td>Quit for more than 6 months</td>
<td></td>
</tr>
<tr>
<td>Ceremonial Use</td>
<td>Current SOME day smoker</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ceremonial Use</td>
<td>Current Smoker but smoking status is unknown</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ASK**
Do you use smokeless tobacco? (Chewing tobacco, Snuff, Dip)

<table>
<thead>
<tr>
<th>Never used Smokeless Tobacco</th>
<th>Current Smokeless</th>
<th>Cessation Smokeless</th>
<th>Previous (former) Smokeless</th>
<th>Smokeless Tobacco Status Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never used Smokeless Tobacco</td>
<td>Current Smokeless</td>
<td>First 6 months after quitting</td>
<td>Quit for more than 6 months</td>
<td></td>
</tr>
</tbody>
</table>

**ASK**
Are you exposed to tobacco smoke in the home or at work?

<table>
<thead>
<tr>
<th>Smoker in the Home</th>
<th>Smoke Free Home</th>
<th>Exposure to Environmental Tobacco Smoke</th>
</tr>
</thead>
</table>
Medication Reconciliation

• Pharmacist driven process
• Often conducted when the patient picks up their medications from the pharmacy
  – Next day pickup

• Revise workflows to incorporate medication reconciliation to the forefront of the clinic visit to count for Meaningful Use
Clinical Quality Measures

• Clinical Reporting System
• Internally standardized data fields
• Differences in logic between IHS measures and CQM measures
• Alignment of measures to reduce confusion and duplication
Meaningful Use Participation

• 27 Eligible Hospitals (FY 11)
  – 2 hospitals with Medicare
  – 25 hospitals with Medicaid

• 1,111 Eligible Providers
  – 268 Eligible Providers with Medicare
  – 822 Eligible Providers with Medicaid
Lessons Learned

• Certification requirements and Meaningful Use requirements are not separate entities
• Begin analysis early
  – Be prepared for changes to occur
• Teamwork and collaboration is the key to success
  – capitalize on everyone’s strengths and experiences
• Identify Meaningful Use champions
• Incorporate Meaningful Use into what you already have
• Start adopting Meaningful Use early
• Monitor Meaningful Use at the local level
Challenges for Stage 2

- Limited staffing
  - No ARRA funds to support
  - Slow startup for incentive payments
- Locum tenens at rural facilities

- Internet Access
- Secure messaging
- Eprescribing – 25 mile radius
- SNOMED (& ICD10)
Internet Access
25 Miles is TOO FAR

• ePrescribing
  – Patients in rural areas may have difficulties travelling 25 miles
  • It is not our choice to decide which pharmacy the patient will go to
New Documentation Processes

• SNOMED
  – Problem List
  – Purpose of Visit
  – Family Health History
  – Clinical Quality Measures
  – Others?

• ICD 10
  – Billing
  – PHR
Conclusion

• Meaningful Use is a difficult journey
• Meaningful Use will improve patient care and access to health services
Thank you!

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