MERCY HEALTH NETWORK'S
Midwest Rural Telemedicine Consortium
Telemedicine/Telehealth: Pieces in the Elaborate Health Care Puzzle

1. Telemedicine History
2. Incentives for Growth
3. Reimbursement
4. Legislation and Policy
5. Services and Models
6. Technology
7. Barriers
8. Drivers
“Telemedicine”

means the use of synchronous, two-way conferencing, remote patient monitoring, and asynchronous health images or other health transmissions by a health care provider to deliver health care services at a site other than the site where the provider is located relating to the health care diagnosis or treatment of a patient.

*Definition: American Telemedicine Association*

“Telehealth”

A tool for enhancing health care, public health, and health education delivery and support, using electronic communication and information.

*Definition: National Telehealth Resource Centers*
Telemedicine Modes

Interactive video and audio equipment allows the provider to see and hear the patient, ask questions and use many additional tools, much like a face-to-face visit.

Store and Forward telemedicine shares medical images and data that may be read or viewed later.
MHN Hospital and Clinic Locations

- **MHN Medical Centers (11)**
- **MHN Affiliate/Managed Hospitals (29)**
- **MHN Physician Clinics (142)**
  - Total Employed Physicians (612)

Revised 12/10
33 MRTC Member Hospitals

MRTC Member Hospitals
Organization Model

• Executive Committee
• Medical Director (Part Time)
• Program Coordinator (Full Time)
• Administrative support staff (Part Time)
• Facility Site Coordinators (Part Time)
• Advisory Committees
MRTC History

- Originated in 1994 between Mercy Medical Center-Des Moines and Mercy Medical Center-North Iowa
- Grant funded through Centers for Medicare and Medicaid Services (CMS) and Office of Rural Health Policy (ORHP, OAT)
- Additional grant from Substance Abuse and Mental Health Services Administration (SAMHSA)
- Now self-funded through member contributions
- Iowa Communications Network
MRTC Supports Community Hospitals Through Distance Education and Clinical Telemedicine

**Purpose:** support community hospitals to increase access to medical specialists and continuing education

**Primary Services**

1. Broadcast Live Interactive Continuing Education
2. Support Clinical Telemedicine
Continuing Education Programs Provide Learning Opportunities for Health Care Workforce

Programs Broadcast from Mercy - Des Moines

- Trauma Conference
- Pediatrics Conference
- Critical Care Conference
- Advancing Evidence-Based Practice in Nursing
- Grand Rounds
- Diabetes Management
Clinical Specialties That Have Used Telemedicine Since 1994

Burn
Cardiology
Dermatology
Endocrinology
ENT
Gastroenterology
General Surgery
Infectious Disease
Neonatology
Nephrology
Neurology

Obstetrics
Oncology
Orthopedics
Pain Management
Palliative Care
Pathology
Plastic Surgery
Psychiatry
Pulmonology
Radiology
Thoracic Surgery
Vascular Surgery
Neurosurgery
Clinical Programs within MHN

Current

1. Tele-Radiology (from Mercy Des Moines)
   - To 8 central Iowa critical access hospitals

2. Mental Health ED Assessments (from Mercy Des Moines)
   - To Centerville, Greenfield, Leon, Mercy-West Lakes and Mercy Downtown

3. Tele-Nephrology Consults (from AKC Des Moines)
   - To Mercy North Iowa

4. Inpatient Tele-Psychiatry (from Des Moines)
   - To Mercy Clinton

5. Tele-Palliative Care Consults (from Mercy North Iowa)
   - To Critical Access Hospitals in North Iowa

6. Tele-Pharmacy (from CHI-Fargo)
   - To Manning, Winterset, Corydon, Bloomfield, Greenfield, Clarinda
Tele-Mental Health Assessments
Support Emergency Rooms

Emergency Mental Health Assessments

- 24/7 crisis center at Mercy-Des Moines (Hub)
- Urban and rural hospitals access the psychiatric nurses and social workers at the Crisis Center to conduct a nursing assessment to determine if inpatient admission is appropriate (Spoke)
- 447 patient assessments FY 2012
- 801 patient assessments FY 2013
- 1195 patient assessments FY 2014
TelePharmacy and TeleRadiology Expand to Meet Shortages

1. TelePharmacy:
   • Remote pharmacist dispensing, advising and mentoring services during the evening and at other times when a hospital pharmacist cannot be present
   • 10 hospitals in Eastern Iowa
     • Hub Mercy Medical Center – Dubuque: non-visual, non-video program using Cerner EHR implemented prior to CHI program
     • 6 MHN Central Iowa hospitals participating or in planning stage with CHI Telepharmacy Program in Fargo

2. TeleRadiology:
   • Des Moines Hub: Image review and diagnosis services to remote hospitals when detailed sub-specialist knowledge is required or a local radiologist is not available
   • 11 Hospitals in our network currently use teleradiology
Original Technology

Dual Monitor Room System

Home Grown Telemedicine Cart

MIDWEST RURAL TELEMEDICINE CONSORTIUM
A service of Mercy Health Network

Mercy Health Network
Sponsored by Catholic Health Initiatives—Denver, CO and Trinity Health—Novi, MI
Mercy Help Center

- Desktop Video Units in the Crisis Center
- Portable Capability in the Emergency Department
Teleradiology
Broadband, Bandwidth and MRTC

1. Iowa Communications Network (ICN) primary telecommunications carrier since 1995

2. Partnered with Iowa Hospital Association and others in an FCC pilot project “Iowa Rural Health Telecommunications Program” (IRHTP) in 2007
Broadband, Bandwidth and MRTC

1. Iowa Rural Health Telecommunications Program (IRHTP) was one of 69 programs across the U.S. funded by the Federal Communications Commission (FCC).

2. Fiber to the door

3. ICN provides fiber backbone

4. Capable of delivering 1Gbps to each endpoint

5. 86 hospital partners, 2 radiology groups, Iowa Hospital Association
Iowa Rural Health Telecommunications Program (2008)
Benefits of Iowa Rural Health Telecommunications Program
Connections in Imaging

• Decreased image transmission times = quicker results to referring physicians and ease of physician to physician consultation

• Ease of access to increased bandwidth for new services = eg, addition of digital mammography or cardiac services

• Both result in improved care for patients where they live
Moving Large Data Emphasizes the Importance of Bandwidth

Email without attachment: 2-20 KB
Skype: 10 minute call = 5MB
Netflix: standard movie = 700MB
Standard to HD Videoconferencing: 128 KB - 4MB

Imaging:
Chest x-ray 20MB
Average CT = 100MB
Digital Mammogram = 150MB
CT Angiogram = 500MB
Cardiac Echo (US) = up to 1GB
### FCC Bandwidth Recommendations (2010)

<table>
<thead>
<tr>
<th>Facility</th>
<th>Mbps</th>
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</thead>
<tbody>
<tr>
<td>1 Physician</td>
<td>4</td>
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<tr>
<td>Small Practice</td>
<td>10</td>
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<tr>
<td>Large Clinic</td>
<td>25</td>
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<tr>
<td>Hospital</td>
<td>100</td>
</tr>
<tr>
<td>Medical Center</td>
<td>1000</td>
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</tbody>
</table>

1. MRTC funded by HCFA (CMS) in 1994 – 3 year demonstration project
2. Demonstration projects in IA, WV, NC, GA
3. Limited services based on consultations
4. Mental health exclusions
5. Medicare project waiver approved in 1996
7. Medicare telemedicine payment effective 1/1999
8. Adding services for payment tied to Physician Fee Schedule annual updates 2002
Telemedicine Reimbursement Rules
Started With Early Missteps

1. Medicare Project Waiver (1996)
   • Tele-consultation model
   • Specialist, patient and primary care provider must be present
   • Limited services (no mental health or emergency)

   • Add two physician payments
   • Add site and telecommunication fees

   • Health Professional Shortage Area (HPSA) rules
   • Fee splitting (specialist pays primary care provider)
   • Limited services (no mental health or emergency)
## Telemedicine Reimbursement Limits From 1996 - 2001

### CPT-4 Code Coverage for Telemedicine by Provider Plan

<table>
<thead>
<tr>
<th>Category</th>
<th>CPT-4 Code Numbers</th>
<th>Medicaid</th>
<th>Medicare Waiver</th>
<th>Medicare HPSA Rule</th>
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<tr>
<td>Evaluation and Management</td>
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<tr>
<td>Office/Outpatient (established)</td>
<td>99211-99215</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Inpatient – Initial Care</td>
<td>99221-99223</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Subsequent Hospital Care</td>
<td>99231-99233</td>
<td>✓</td>
<td></td>
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<tr>
<td>Consultations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>99241-99245</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Inpatient - Initial</td>
<td>99251-99255</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Inpatient - Follow-up</td>
<td>99261-99263</td>
<td>✓</td>
<td></td>
<td>✓</td>
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<tr>
<td>Confirmatory Consultations</td>
<td>99271-99275</td>
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<td></td>
<td>✓</td>
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</table>


2. Medicare Waiver – As implemented under Medicare waiver for telemedicine project No. 95-P-90425/7-02 effective October 1, 1996 – September 30, 1999 and telemedicine project No. 95-P-90425/7-03 effective June 1, 1998 – September 30, 2001

3. Medicare Proposed – Proposed rules as found in 42 CFR Parts 410 and 414 [HCFA-1906-P] scheduled to be effective January 1, 1999
# Medicare Slowly Adds Services (2001)

<table>
<thead>
<tr>
<th>Category</th>
<th>CPT- 4 Code Numbers</th>
<th>Medicare Waiver</th>
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<td><strong>Evaluation and Management</strong></td>
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<td>Office/Outpatient – New Patient</td>
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<td>Inpatient – Initial Care</td>
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<td><strong>Psychiatry</strong></td>
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<tr>
<td>Psychiatric Therapeutic Procedures –</td>
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<tr>
<td>Office/Outpatient</td>
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<td>90804-90809 GT</td>
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<tr>
<td>Psychiatric Therapeutic Procedures –</td>
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<td>90862 GT</td>
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<tr>
<td>Other</td>
<td>90862</td>
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1. Medicare Waiver – As implemented under Medicare waiver for telemedicine project No. 95-P-90425/7-02 effective October 1, 1996 – September 30, 1999 and telemedicine project No. 95-P-90425/7-03 effective June 1, 1998 – September 30, 2001


3. Medicare Rules “H.R.5661 Sec. 223 Revision of Medicare Reimbursement for Telehealth Services” effective October 1, 2001
Medicare Slowly Adds Services (2013)

<table>
<thead>
<tr>
<th>Telehealth Services</th>
<th>CPT/HCPCS Codes</th>
<th>Telehealth Services</th>
<th>CPT/HCPCS Codes</th>
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<tr>
<td>In-patient Consultations</td>
<td>G0423-G0427</td>
<td>Follow-up in-patient telehealth consultations</td>
<td>G0406, G0407, G0408</td>
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<tr>
<td>Office or other outpatient visits</td>
<td>99201-99215</td>
<td>Health and Behavioral Assessment and Intervention Services (HBAI)</td>
<td>96150-96152</td>
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<td>Psychiatrist diagnostic interview examination</td>
<td>90791-90792</td>
<td>Group HBAI services (two or more patients)</td>
<td>96159</td>
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<tr>
<td>Individual psychotherapy</td>
<td>99032-90836/90836</td>
<td>Group HBAI services (family with patient present)</td>
<td>96154</td>
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<tr>
<td>Individual Medical Nutrition Therapy</td>
<td>G0070, 97802, 97003</td>
<td>Individual Diabetes Self-Management Training (ESMT)*</td>
<td>G0108</td>
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<tr>
<td>Group Medical Nutrition Therapy (MNT)</td>
<td>97804</td>
<td>Group Diabetes Self-Management Training (ESMT)*</td>
<td>G0109</td>
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<td>Individual Kidney Disease Education (KDE) services</td>
<td>G0420</td>
<td>Subsequent hospital care services*</td>
<td>99237, 99232, 99233</td>
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<td>Group Kidney Disease Education (KDE) services</td>
<td>G0421</td>
<td>Subsequent nursing facility care services**</td>
<td>99307, 99308, 99309, 99310</td>
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<td>Pharmacologic management</td>
<td>50662</td>
<td>Annual alcohol misuse screening (15 minutes)</td>
<td>G0442</td>
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<td>Smoking Cessation Services</td>
<td>99406, 99407, G0458, G0437</td>
<td>Brief face-to-face behavioral counseling for alcohol misuse (15 mins)</td>
<td>G0443</td>
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<td>Alcohol and/or substance abuse (other than alcohol)</td>
<td>G0096 (15-30 minutes) G0097 (30 minutes +)</td>
<td>Annual Depression Screening (15 minutes)</td>
<td>G0444</td>
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<td>End Stage Renal Disease (ESRD) related services**</td>
<td>90001, 90952, 90554, 90953, 90956, 90960, 90961</td>
<td>High intensity behavioral counseling to prevent sexually transmitted diseases</td>
<td>G0445</td>
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<td>Neurobehavioral Status Exam</td>
<td>98115</td>
<td>Cardiovascular disease intensive behavior therapy</td>
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<td>Behavioral counseling for obesity</td>
<td>G0447</td>
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CMS Proposes New Telehealth Reimbursement

Last week, the Centers for Medicare and Medicaid Services released the agency’s proposed rule for the CY2015 Physician Fee Schedule. The 609 page document contained proposals specifically related to CMS’s reimbursement of telemedicine services through Medicare.

CMS proposes adding the following services and related reimbursement codes:

- Psychotherapy services: CPT codes 90845, 90846, and 90847
- Prolonged service office CPT codes 99354 and 99355
- Annual wellness visit HCPCS codes G0438 and G0439

Click below for more information on the proposed changes in the CY2015 Physician Fee Schedule for CMS reimbursement of telemedicine.

The Robert J. Waters Center for Telehealth and e-Health Law is the "go-to" research organization for legal and regulatory information on telehealth and telemedicine -- providing vital support to the
Telemedicine Barriers

1. Provider availability
2. Reimbursement
3. Regulatory and Policy
   - Licensure
   - Eligible provider limitations
   - Eligible facilities limitations
   - Inconsistency (All states are different)
4. Cost to deploy
5. Connectivity
6. Awareness and misperceptions
What’s changing to address these barriers?

- 21 states have telehealth parity laws enacted
- Federal and state laws introduced
- Licensure change efforts
- Lower equipment costs
- Expanded access to broadband
- Media interest, information, education, Telehealth Resource Centers
1. Hospital or CAH may sign written agreements with distant hospitals and non-Medicare telemedicine entities to rely on credentialing and privileging information.

2. Hospital or CAH may choose to fully credential.

3. Hospital or CAH should review medical staff bylaws for procedural changes to meet requirements for telemedicine services agreements.

4. Practitioner must be licensed in Iowa.
CMS Welcomes Tele-Emergency Services

DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop C2-21-16
Baltimore, Maryland 21244-1850

Center for Clinical Standards and Quality/Survey & Certification Group

DATE:       June 7, 2013
TO:         State Survey Agency Directors
FROM:       Director
            Survey and Certification Group

SUBJECT:    Critical Access Hospital (CAH) Emergency Services and Telemedicine:
            Implications for Emergency Services Condition of Participation (CoP)
            and Emergency Medical Treatment and Labor Act (EMTALA) On-Call Compliance

Memorandum Summary

- The Center for Medicare & Medicaid Services (CMS) Welcomes use of Telemedicine by
  CAHs: Telemedicine has great potential to expand availability of specialty care services,
  including emergency medicine services, to rural populations. However, misconceptions
  about CAH CoP and EMTALA requirements may cause unnecessary concerns about, or
  create barriers to, using telemedicine.

- The CAH Emergency Services CoP does not require a Physician to Appear On-site
  Whenever an Individual Comes to the Emergency Department (ED):
  - Under 42 CFR 485.618(d), a doctor of medicine (MD), a doctor of osteopathy (DO), a
    physician assistant (PA), a nurse practitioner (NP), or a clinical nurse specialist (CNS),
    with training or experience in emergency care, must be immediately available by
    telephone or radio, and available on-site within 30 minutes (60 minutes for CAHs in
    frontier areas that meet certain conditions). Under the CAH CoPs an MD or DO
    is required to be available in addition to a non-physician practitioner.
  - Under the CoP at 42 CFR 485.618(e), an MD or DO must be immediately available
    on a 24-hours a day basis to receive emergency consultations on behalf of emergency
    patients, and refer patients. This requirement

Sponsored by Catholic Health Initiatives—Colorado and Trinity Health—Nebraska
CMS Options for Approving New Telehealth Services

- Category 1: Services that are similar to professional consultations, office visits, and office psychiatry services that are currently on the list of telehealth services. In reviewing these requests, we look for similarities between the requested and existing telehealth services for the roles of, and interactions among, the beneficiary, the physician (or other practitioner) at the distant site and, if necessary, the telepresenter. We also look for similarities in the telecommunications system used to deliver the proposed service, for example, the use of interactive audio and video equipment.

- Category 2: Services that are not similar to the current list of telehealth services. Our review of these requests includes an assessment of whether the use of a telecommunications system to deliver the service produces similar diagnostic findings or therapeutic interventions as compared with the in-person delivery of the same service. Requestors should submit evidence showing that the use of a telecommunications system does not affect the diagnosis or treatment plan as compared to in-person delivery of the requested service.
AMA adopts telemedicine policy to improve access to care for patients

The American Medical Association (AMA) has adopted a policy that expands access to telemedicine for patients who are physically distant from a health care provider. The new policy will allow patients to receive telemedicine services from providers located in different states, provided the patient is registered in the state where the service is provided. The policy also requires that telemedicine services be provided in a manner that preserves patient confidentiality and privacy.

The policy was adopted by the AMA’s House of Delegates during their annual meeting. According to the AMA, the policy is intended to increase access to care for patients who live in remote areas or who have limited access to health care providers. The policy also recognizes the potential of telemedicine to improve the quality of care and reduce costs for patients.

The AMA policy includes several key elements:
- **Expansion of Services:** Patients will be able to receive telemedicine services from providers located in different states, provided the patient is registered in the state where the service is provided.
- **Preservation of Confidentiality:** Telemedicine services will be provided in a manner that preserves patient confidentiality and privacy.
- **Quality Assurance:** Telemedicine services will be provided in a manner that ensures quality of care.

The AMA policy is intended to support the use of telemedicine in a way that is consistent with the AMA’s mission to improve the health of the nation.

**AMA’s President, Dr. Andrew W. Young:**

“Telemedicine has the potential to improve access to care for patients who live in remote areas or who have limited access to health care providers. The new policy will expand access to telemedicine services and ensure that they are provided in a manner that preserves patient confidentiality and privacy.”

The new policy builds on the AMA’s existing work in telemedicine, including the development of guidelines for the use of telemedicine in critical care settings and the development of enhanced training programs for physicians who provide telemedicine services.

The AMA’s new telemedicine policy is expected to be implemented in the coming months, and the organization will work with state and national health care providers to ensure that the policy is effectively implemented.

**AMA’s Vice-President, Dr. G. Roger Baker:**

“Telemedicine is a valuable tool that can improve access to care and improve the quality of care for patients. The new policy will expand access to telemedicine services and ensure that they are provided in a manner that preserves patient confidentiality and privacy.”

The AMA’s new telemedicine policy is expected to be implemented in the coming months, and the organization will work with state and national health care providers to ensure that the policy is effectively implemented.

**AMA’s Medical Director, Dr. Kristin S. Wilson:**

“Telemedicine is a valuable tool that can improve access to care and improve the quality of care for patients. The new policy will expand access to telemedicine services and ensure that they are provided in a manner that preserves patient confidentiality and privacy.”

The AMA’s new telemedicine policy is expected to be implemented in the coming months, and the organization will work with state and national health care providers to ensure that the policy is effectively implemented.
Compact aims to ease licensing for teledmedicine

July 1, 2014  By Kate Doughty

A new pathway is being proposed that would make it easier for doctors licensed in multiple states to practice across state lines.

Draft legislation—in the form of a bipartisan compact—has been introduced in both houses representing state medical boards around the U.S., and the Federation of State Medical Boards (FSMB) admires an article in the New York Times.

This would allow doctors to practice in Huntsville, Ala., and then go to work in a hospital in New York. It would allow doctors to practice in a hospital in New York, and then go to work in a hospital in Huntsville, Ala.

The legislation, if passed, would allow doctors to practice in multiple states. Currently, they must go to the same state they want to practice in, which means they must go to the same state they want to practice in. This can be expensive and time-consuming.

Retail clinics and urgent care centers offer patients a more convenient and affordable way to access healthcare. But even as the costs of healthcare rise for patients and employers, some patients still go to urgent care centers for tasks like minor cuts and bruises. The trend could be slowed, but not stopped, by the healthcare system.

AHIMA Convention & Exhibit
September 27 – October 2 | San Diego, CA

Licensing issues could slow telehealth services

By Brian Chausby

Published: December 24, 2013 - 1:45 pm ET

Teens, teens, teens, teens—Health Information, Healthcare, More Clinic, Medical Boards, Physicians, Retail Clinics, Urgent Care

Telemedicine

Retail clinics and urgent care centers offer patients a more convenient and affordable way to access healthcare. But even as the costs of healthcare rise for patients and employers, some patients still go to urgent care centers for tasks like minor cuts and bruises. The trend could be slowed, but not stopped, by the healthcare system.

Remote care is a key component of telemedicine. It’s a way to deliver care in a virtual setting, without the need for physical transportation. In the past, telemedicine was limited to doctors and patients who could connect via telephone or computer. But advances in technology have made telemedicine more accessible to patients and doctors.

AHIMA is a leader in the development of telemedicine standards. The organization has developed guidelines for telemedicine services that aim to improve the quality and safety of care.

Cedars-Sinai Health Network, a top hospital in Los Angeles, is using telemedicine to help patients receive care. The hospital has implemented a telemedicine program that allows patients to receive care from their own homes, via video conferencing.

The program is currently available to patients who meet certain criteria, including those who live in remote areas or who have difficulty accessing care. The program has been successful, with patients reporting improved access to care and higher levels of satisfaction.

The future of telemedicine looks bright. As technology continues to advance, it will be easier for patients to receive care remotely. This will have a positive impact on the healthcare system, allowing patients to access care more easily and at a lower cost.
Telemedicine

For purposes of Medicaid, telemedicine seeks to improve a patient's health by permitting two-way, real-time, interactive communication means that includes, at a minimum, audio and video communications. Telemedicine is viewed as an alternative to the face-to-face way of providing medical services under Medicaid. Telemedicine is recognized under Medicaid (42 CFR 440) as a service for which states may elect to provide coverage.

**Telemedicine Terminology**

- **Distant** or **Hub site:** The site where the practitioner delivering services is located.
- **Originating** or **Spoke site:** The site where the patient is located.

Telepresenters may be medical practitioners, nurses, or other medical professionals.

- **Asynchronous** or **Synchronous** service being furnished:
  - Asynchronous: Service that is not administered in real time; communication occurs at different days and times.
  - Synchronous: Service that is administered in real time; communication occurs at the same time.

- **Medical Codes:**
  - E/M Codes (99401-99404): Consultation codes that can be used for telemedicine services.
  - CPT codes (99341-99355): Codes used to specify the nature of the service.

**House bill seeks to phase in Medicare coverage of telemedicine, remote patient monitoring**

By: Jonah Comstock | Jul 23, 2014

Tags: Medicare Telehealth Parity Act of 2014 | remote patient monitoring | Rep. Glenn Thompson | Rep. Mike Thompson | telemedicine legislation | Representatives Mike Thompson (D-Calif.) and Glenn Thompson (R-Penn.) are set to announce a new telehealth bill soon. Like some of Mike Thompson's previous telehealth efforts, the bill seeks to amend the Title XVIII of the Social Security Act, the law that has long limited government-reimbursed telemedicine to rural areas and specific use cases.

As Jonathan Linkous, CEO of the American Telemedicine Association (ATA), has told MobiHealthNews in the past, when the Social Security Act was passed telehealth was in its infancy and legislators, worried about abuse or that telemedicine wouldn’t be cost-effective, limited Medicare and Medicaid coverage to very particular cases. Only patients in rural areas could be reimbursed for any telehealth service that required patient-physician interaction, for instance. Those types of restrictions have become less common now.
State Laws and Reimbursement Policies

Select a state to view telehealth-related laws, regulations, and Medicaid programs. You can also view a list of pending laws, or do an advanced search. An annually updated PDF version of this information can be found here.
The Telemedicine & Advanced Technology Research Center (TATRC) performs medical reconnaissance and special operations to address critical gaps that are underrepresented in DoD medical research programs. TATRC is an office of the headquarters of the US Army Medical Research and Material Command (USAMRMC). TATRC fosters research on health informatics, telemedicine/in Health, medical training systems, and computational biology, and promotes and manages science and engineering in other key Scientific Domains. Through an extensive network of partners, TATRC is focused at both ends of the research spectrum, exploring models of high risk and innovative research, and putting research findings into the hands of warfighters while looking toward wider civilian utility. TATRC augments core medical research programs through special funding and partnership opportunities.

PROGRAM ANNOUNCEMENTS / SOLICITATIONS

JPC-1 Medical Training and Health Information Systems (MTHIS) Research Program FY13 Request For Proposals (RFP) for the research and development of an Advanced Modular Manikin. (Solicitation No. W15XWH13R0032)

JPC-1 Medical Training and Health Information Systems (MTHIS) Research Program Request For Information (RFI) seeking to identify candidate medical and supporting products and services using nanotechnologies. (Solicitation No. W911WRF13R0013)

TATRC & NIH are partnering in four funding opportunities in the areas of Virtual Reality and Obesity.

Health Information Technology Request for Information (RFI) now posted on FedBizOpps.gov website.

NIH announces $50 million dollars in SBIR/STTR funding opportunities for Alzheimer's research.

RECENT EVENTS

National Medical Museum Reopens on its 150th Anniversary—TATRC Participates & is Prominently Featured—See Video Clip!
The Telehealth Resource Centers (TRCs) have a mission to serve as a focal point for advancing the effective use of telehealth and support access to telehealth services in rural and underserved communities.

Telehealth Resource Centers (TRCs) are funded by the U.S. Department of Health and Human Services’ Health Resources and Services Administration (HRSA) Office for the Advancement of Telehealth, which is part of the Office of Rural Health Policy. Nationally, there are a total of 14 TRCs, including 2 National Resource Centers and 12 Regional Resource Centers.
Incentives for Growth

1. Provider availability
2. Reimbursement
3. Regulatory and Policy
   - Licensure (Credentialing)
   - Eligible provider limitations
   - Eligible facilities limitations
   - States mandate coverage
4. Cost to deploy
5. Connectivity
6. Awareness (Public, Patient, Employer)
Telemedicine Networks are Growing

New England Telehealth Consortium Tops 250 Healthcare Facilities on Network

FairPoint Communications and NETC plan to ultimately connect more than 300 healthcare facilities in Maine, New Hampshire and Vermont.

PORTLAND, Maine, June 26, 2014 /PRNewswire/ -- The New England Telehealth Consortium (NETC), which is working with FairPoint Communications to link healthcare facilities in northern New England to the NETC network, recently made its 250th connection.

FairPoint is providing Carrier Ethernet Services (CES) to the NETC sites in Maine, New Hampshire and Vermont offering data transport speeds up to 1 gigabit per second.

NETC is a consortium of healthcare providers whose mandate is to create a shared network among rural and urban healthcare facilities across the region. NETC was founded by Jim Rogers, president of Profinet, an independent consulting firm located in Bangor, Maine. Rogers was able to secure a $2.6 million Federal Communications Commission (FCC) Rural Health Care Pilot Program award to bring telemedicine to the region. The NETC award was the largest award issued by the FCC under the Rural Health Care Pilot Program (RHCPP). Participants are eligible to receive funding for up to 65 percent of the costs associated with constructing the network and the services provided by the network.

Rogers originally thought that NETC would not be able to get the bulk of its services from
ISU Headlines

Idaho State University Bengal Pharmacy provides innovative approach to rural health care in Arco

Posted June 20, 2014

Bengal Pharmacy, LLC, owned by the Idaho State University Foundation, opened Idaho's first-ever full-service telepharmacy on June 20 in Arco, Idaho. The pharmacy, in partnership with the Lost Rivers Medical Center, will utilize innovative technology to provide critical health care access to one of the state's many rural communities, while also providing hands-on experience for ISU's pharmacy students.

"The creation of the Bengal Pharmacy at Lost Rivers will not only advance the College's research opportunities but has also helped implement our rural community pharmacy residency program," explained Dr. Paul Cadly, dean of the ISU College of Pharmacy. "It’s an innovative and cost-effective approach, offering critical pharmaceutical care to the community."

After the announcement that Arco's community pharmacy would be replaced, the appointment of local pharmacist Steve Streeter in 2014.

Initiatives Online

December 2013

VHS’ ePharmacist Direct Delivers Virtual Clinical Pharmacy Services

When CHI established its Virtual Health Services (VHS) subsidiary in July 2012, it already had a successful venture: ePharmacist Direct (ePD), which provides rural hospitals with 24-hour access to the services of licensed clinical pharmacists. Since 2009, ePD has provided real-time, virtual medication order review and verification and clinical intervention services from a central site in Fargo, ND.

Hospitals, especially small and rural hospitals, may not be able to process medication orders as needed during peak hours, when pharmacists are on vacation or leave, or if they are unable to recruit enough pharmacists. VHS’ ePD fills the gap at a significantly lower cost than if the hospitals were to hire additional pharmacists.

Whenever a local pharmacist is not on-site, patient medication orders are processed or verified by the telepharmacists at ePD. An ePD clinical pharmacist consults with the on-site nurse, technician, provider or patient as necessary. A nurse or technician may verify or prepare the medication under the direct visual supervision of the ePharmacist Direct pharmacist.

"It's a huge contributor to patient safety," said Shelly Johnson, RPh, director of ePD. "Performing medication reviews, checking for..."
Telemedicine catches blinding disease in premature babies

Embargoed for Release: Thursday, June 26, 2014, 4 p.m. EDT

Institute/Center
National Eye Institute (NEI)
Contact
Joan Herrigan

Telemedicine is an effective strategy to screen for a disease known as retinopathy of prematurity (ROP). A recent NIH-funded study of premature infants could reduce obstacles to care for at-risk babies.

The telemedicine strategy consisted of testing infants’ eyes to a distant image reading center, who trained practitioners to identify whether infants should be referred for evaluation and potential treatment. The telemedicine approach reproduced the care that the infant had at the hospital who examined the babies onsite.

“This study provides validation for a telemedicine strategy that could be used to screen and could help save thousands of premature babies’ eyes,” said Graham E. Quinn, M.D., professor of opthamology at the University of Wisconsin-Madison.

MSC adds pediatric telemedicine service

USA TODAY

MSC adds pediatric telemedicine service

For parents on vacation, there’s nothing more troubling than a sick child. MSC Cruises is attempting to put that worry to rest with a new pediatric telemedicine service.

The Italian cruise line has partnered with the Giannina Gaslini Institute in Genoa, Italy, which is known for its expertise in pediatric medicine. MSC says its arrangement makes it the world’s first line to offer the 24/7 multilingual service to passengers.

RELATED: See the best cruise ships for babies and toddlers

PHOTO TOUR: Inside the MSC Fantasia

The service, which begins fleetwide Sept. 1, will allow on-board doctors to consult via videoconference with pediatric specialists at the Giannina Gaslini Institute.

Tags: MSC Cruises
The rise of telemedicine

By Ingrid Case
December 6, 2013 • Reprints

A tourist couple take a photo in an iconic red telephone in Parliament Square as snow falls in London, Friday, Jan. 18, 2013. (AP Photo/Nadine Brand)

Going to his doctor would have meant not working an appointment—and when Bright isn’t working, he’s getting paid. So he saw the doctor from his job site wasn’t a great option.

“Unfortunately, I’d have to go to the doctors,” Bright says. “You’d either have to go to the doctor’s and the costs to send in someone else to come take your bloodwork at the hospital in the wilds of Nevada. Calling to get relief for just one appointment wasn’t going to work.”

So Bright used his employer’s new telemedicine to talk to his doctor.

“I had a conversation with a nurse first, then a doctor, and I got a prescription for an antibiotic,” Bright says. “At first, I wasn’t sure if I liked the idea, but then I feel like you want the doctor to see you. But basically it ended up being much better.”

Three Insurers Take The Plunge Into Telehealth

Nathan Golia
Senior editor, Insurance & Technology

Two Blue plans are piloting American Well online and mobile health services, while Humana Cares selects a new provider for a congestive heart failure initiative.

Tags: Telehealth, Humana, Blue Cross and Blue Shield of Louisiana, Blue Cross and Blue Shield of Massachusetts

JUNE 14, 2013

Like telematics in auto insurance, telehealth in health insurance provides an opportunity for insurers to have a closer dialog with their policyholders and better manage their risk of loss. And it’s growing at a similar rate: This week, three prominent insurers announced new telehealth initiatives.

BlueCross BlueShield of Louisiana and Blue Cross Blue Shield of Massachusetts announced partnerships with American Well, a telehealth provider that also works with WellPoint. American Well will provide physician consultation to policyholders of those companies through iPads, iPhones, Android devices and webcams-equipped PCs.
Telemedicine's Appeal Grows For Employers, Individuals

The ability to virtually connect patients and physicians is shaking up healthcare and dialing up a host of new opportunities.

Telemedicine is reshaping the healthcare industry, giving employers an additional (and less expensive) way to provide care and disrupting roles that have lasted centuries. This year, 28% of companies with more than 1,000 employees offer telemedicine as a benefit and 24% expect to add that capability in 2015, said Dr. Allan Khoury, senior health management consultant at Towers Watson, an interview.

"That's a sea change in our world," he said. "The return on investment, while not huge, is relatively assured. The employees who use the service, which may be 20% of employee They also like it because dependents can u

[Seeking clarity: Telemedicine Guideline Operations.]

Employer costs typically depend on volume providers are opening this model to smaller some cases, employees share no burden; it or similar to that paid for an in-office visit to noted. And while some patients use telemedicine emergency -- such as after-hours or on week these services as their primary caregivers. I

Dial a doctor: Telehealth company iSelectMD partners with employer plans for nonemergency care

November 9, 2013 8:36 am by Lindsey Alexander 10 Comments

Share This Story

Health care costs have risen and it can take weeks to get a doctor's appointment, but a Hilton Head Island man's company says it offers employers a remedy: an over-the-phone medical service that makes employees' care less expensive and more convenient.

iSelectMD, which started in 2010 on Hilton Head, connects patients with nonemergency ailments to certified physicians. It's part of an emerging trend called telemedicine, an umbrella-term for services that use technology -- video, telephones, even social media -- to bridge the gap between doctor and patient.

"Imagine being able to pick up the phone and talk to a doctor on WebMD," iSelectMD founder Michael Lapointe said, referring to the popular website that allows users to enter symptoms and

The future of healthcare is here.

Providers
Take traditional care to a new level of convenience for you and your patients.

Patients
See how HealthSpot brings you doctor’s office care where and when you need it.

Pharmacies
Become an exciting community destination for convenient, affordable healthcare.
HealthPartners' Online Clinic For Simple Conditions Delivers Savings Of $88 Per Episode And High Patient Approval

Patrick Y. Cunningham, Kevin J. Palansao and Jason M. Gallagher

Abstract

The delivery of health care suggests that it can improve populations, along with Minnesota. Launched in 40,000 cases, we report on care received in traditional and a 98 percent "would recommend" our clinic. The expansion of clinicians to be located in clinics to have had a positive impact on improvements in access and care.
CASE STUDY

Arizona Invests in Teledentistry to Overcome Dental Professional Shortages

Interviewees
Mary Ellen Cunningham
• Chief of Women’s & Children’s Health
Julia Wacloff
• Office Chief of Oral Health
Sheila Sjolander
• Division of Public Health Services

Introduction
The burden of oral disease in Arizona shows that 52 percent of 4-year-olds and 75 percent of 3rd graders have experienced tooth decay, levels that are far above national recommendations. Arizona’s oral health workforce is challenged by high dental needs of the state’s children, especially in rural areas where the dental workforce is in short supply. To address these issues, Arizona has implemented strategies that include a teledentistry demonstration program. Teledentistry takes advantage of electronic and communication technologies that allow offsite dentists to diagnose and coordinate treatment remotely with an onsite dental hygienist, who physically provides basic dental services. The state hopes that the initiative will ultimately reduce the number of Dental Health Professional Shortage Areas (DHPSA) across the state by increasing the number of teledental teams operating in rural areas and underserved communities.
Over the river and through the woods

Telehealth connects remote Alaskans to care

By Angela Lutz
AFHCAN's unique combination of product and program development makes telehealth easy.

**Telehealth**

AFHCAN has developed a complete telehealth solution for the changing world of health care delivery. The combination of an award-winning store-and-forward system coupled with highly-successful clinical program development has made AFHCAN a leading authority in the telehealth world.

**Health Care**

AFHCAN offers a diagnostic store-and-forward platform with the ability to create a telehealth case containing textual information and data from biomedical peripherals, and send the case for consultation. Health care professionals are able to view the data and respond to the case using a standard PC workstation.

**People**

In working with multiple independent health care organizations for nearly a decade, AFHCAN has developed an evolving line of supported telehealth services. Our program development staff collaborates with individuals and organizations to establish successful telehealth programs that fit within existing clinical infrastructure.

**tConsult**

The tConsult software suite is the complete telehealth software solution for your organization. tConsult provides end-to-end care from the originating site to the consulting site and beyond, regardless of distance.

**AFHCAN Telemedicine Cart**

The AFHCAN Telemedicine Cart provides support for a wide variety of biomedical peripherals. Integrated with the tConsult software, telehealth is made easy.

Learn More
**Software**

AFHCAN Telehealth Solutions started in Alaska in 1998 to bring better access to health care to rural locations. AFHCAN created tConsult, a store and forward solution, that is available worldwide to fulfill your Telehealth needs.

Users have a choice of two different interfaces when working with tConsult:

- **tConsult Cart Client**
  - Simple interface focused on capturing
  - Touchscreen compatible

- **tConsult Web Client**
  - Quick access to cases for easy consulting
  - No installation required

**EHR Connect**

- tConsult can be connected to your organization’s EHR to:
  - Import Patient Demographics
  - Import Patient Histories (CCD)

  Sending information from tConsult back into the EHR is possible, contact AFHCAN for details.

**Partner Connect**

- Connect to other organizations that also use TConsult to expand your Telehealth network. Partner connections are secure and firewall friendly and remote users only can view Telehealth cases that are sent directly to them.
AFHCAN Telemedicine Cart

The AFHCAN Telemedicine Cart integrates biomedical peripherals, wireless network capability, and power management hardware that allows healthcare professionals to:

- Capture patient information using electronic forms and integrated biomedical peripherals
- Capture information from external imaging devices such as microscopes, ultrasound and surgical scopes
- Forward information to other professionals at distant locations for review and consultation

Small enough to fit through a doorway, the cart has large rubber wheels to negotiate uneven floor surfaces, a low center of gravity to maximize stability, and is designed to meet the ergonomic needs of a variety of users. The cart is designed for patient safety with low EMI and a patient-safe isolated power system.

Three Lockable Drawers

A full 20 inches wide, each drawer has a rear hinged cable center that allows power and instrumentation cables to be run to any of the drawers. The top drawer supports a flatbed scanner and a work surface suitable for folders or paper documents. The middle drawer may be used for supplies or equipment. The final drawer comfortably stores most devices that require USB, Firewire, Video, and AC/DC power. A central covered channel provides cable management and configurable dividers may be used to create up to six device bays.
About Us

AFHCAN, a program of the Alaska Native Tribal Health Consortium (ANTHC), designed and developed an innovative store-and-forward telehealth solution to meet the health care needs of rural Alaska. AFHCAN has evolved into an FDA listed medical device manufacturer that provides an array of telehealth products and services that empower organizations to improve health care delivery worldwide.

The AFHCAN Telemedicine Cart and tConsult software are products of the Alaska Native Tribal Health Consortium. To learn about our privacy statement, click here.

Telehealth Products

- **tConsult Software Suite**
  - Create Patient Telehealth Cases
  - Capture Data from Medical Devices
  - Consult and Respond
  - EHR Connect and Partner Connect

- **AFHCAN Telemedicine Cart**
  - Biomedical Peripheral Integration
  - Patient Safe
  - Small Footprint

Program Development

- **Training**
  - Hardware
  - Software
  - Specialty Courses
  - Video Conferencing

- **Consultation**
  - Strategic Planning
  - Workflow
  - Program Implementation/Expansion

“We develop telehealth solutions in a culture of innovation and excellence that empower organizations to improve health care delivery.”
Telehealth

Mission

To improve access to health care in underserved Alaskan communities through the expansion and adoption of telehealth initiatives.

Goals and Objectives

- Advocate for and assist in the development and implementation of health information technologies including electronic medical records, personal health records, tele-health systems, and a cohesive state-wide health information exchange system.
- Collect and disseminate program information.
- Act as a liaison between DHSS and federal, state and private organizations.
- Identify laws, regulation and reimbursement practices that serve as barriers to implementation of health information technologies while assisting with development of solutions to these barriers.
- Partner with Medicaid services in efforts to increase implementation and sustainability of health information technologies and tele-health programs through appropriate compensation for technology based services.
- Serve on state-wide health information technology committees.
- Assess impact of health information technology initiatives on improvements to access and continuity of care.
- Advocate for development and system-wide use of health information technologies to improve provider to provider sharing of relevant treatment focused patient information.
- Identify gaps in services that health information technologies and telehealth systems could effectively address.

Health Information Technologies

Health Information Technology (HIT) offers great promise as a means to achieve more affordable, safe, and accessible healthcare for Alaskans state-wide. Integrated HIT has the ability to bring all levels of medical care together, from general practitioners to specialists.
Telemedicine/Telehealth: Pieces in the Elaborate Health Care Puzzle

1. Telemedicine History
2. Incentives for Growth
3. Reimbursement
4. Legislation and Policy
5. Services and Models
6. Technology
7. Barriers
8. Drivers
Summary – Telemedicine is Poised for Growth

- Regulations are changing
- Telemedicine can be used to ease workforce shortages and maintain workforce education
- Technology has improved to allow faster speeds, better workflow and greater access
- Awareness has been heightened
- In the last 12 months we have seen increased interest in telemedicine from our providers
Contact Information

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