Implementing Telehealth Project:
Lessons Learned

Eva Lenoir, Program Manager
Maryland Health Care Commission
March 2019
Who we are

Role of the Center for Health Information Technology and Innovative Care Delivery within the Maryland Health Care Commission:

- Advance health information technology (health IT) statewide by promoting optimal adoption and use, identifying challenges, and raising awareness through outreach activities

- Identify challenges to health IT adoption and use, and formulate solutions and best practices for making health IT work

- Balance the need for information sharing with consumers’ desire for strong privacy and security protections
Overview

- MHCC funded telehealth projects
  - Key lessons learned
  - Project examples
  - Current projects
Definitions

- **Telemedicine** defined as:
  
  “The use of medical information exchanged from one site to another via electronic communications to improve a patient’s clinical health status.”

- **Telehealth** defined as:
  
  “A broader definition of remote healthcare that does not always involve clinical services, ATA uses the terms in the same way one would refer to medicine or health in the common vernacular.”
How Can Telehealth be Used in Care Delivery?

**Telehealth Modalities**

- Remote patient monitoring
- Live video (synchronous)
- Mobile health (mhealth)
- Store-and-forward (asynchronous)
Examples of Telehealth Use Cases

Emergency Services
- Tele-stroke
- EMS telemedicine

Safety
- Telemedicine for correctional health care
- In home telemonitoring and after hours care

Specialty Care Access
- Tele-ICU
- Psychological consults in rural areas
Telehealth: a promising and practical solution

Quality
- Improve access to specialists
- Improve clinical outcomes
- Engage patient in their care

Cost
- Reduce unnecessary ED utilizations
- Prevent avoidable transfers
- Reduce travel costs

Satisfaction
- Increase access to care when patients need it the most
- Provide care in the most comfortable environment
MHCC Telehealth Demonstration Projects
Value of Telehealth Grants

- Demonstration grants have assessed effectiveness of telehealth for the prevention, management, and treatment of a variety of health care conditions in a variety of settings.
- Challenges and successes are shared with subsequent grantees to help inform:
  - Best practices and other industry efforts
  - Policies to support greater diffusion of telehealth
  - Design and implementation of telehealth programs across the State
Lessons Learned
Selecting Program Objectives and Measures

• **WHY:** Identification of SMART project objectives prior to implementation helps define monitoring intervals of the project elements

• **HOW:** Be specific to the practice and patient population; measurable; achievable, and time-bound; and
  • Include objectives on clinical outcomes, improved workflows, communications, care coordination, patient/provider satisfaction, etc.

• *Example:* Grantee collected baseline data twelve months prior to project implementation to guide formulation of objectives for the program
Ongoing Program Evaluation

- **WHY:** Monitoring progress towards objectives helps identify areas where protocols and processes need to be adjusted
- **HOW:** Incorporate data collection into an existing workflow to support evaluation of the project
- **Example:** Grantee utilized information available through the State-designated health information exchange (HIE) and their EHRs to monitor patient records and adjust clinical care plans accordingly
Technology Selection

• **WHY:** Selecting technology that is targeted to meet the needs of the target patient population is crucial to project success.

• **HOW:** Assess technology functionality (e.g., data tracking, collection, sharing) against defined criteria aligned with the organization’s and project’s goals;
  - Conduct weekly technology check-ins;
  - Coordinate with IT staff from each entity; and
  - Ensure ability of IT staff to support entity when needed.

• **Example:** Nursing home grantee partnered with a hospital to obtain additional IT support.
Technology Integration

• **WHY:** Integration of the telehealth system with the practice’s electronic system can improve existing workflows

• **HOW:** Develop organizational protocols for technology implementation; and
  • Customize the technology for the practice to optimize use and increase provider satisfaction

• *Example:* Grantee established bi-directional data exchange between the telehealth platform and the existing EHR system to create efficiencies

• *Example:* One grantee surveyed providers to understand and address their needs
Staff Training

**WHY:** Providing staff opportunities to test and use the telehealth equipment creates comfort and build skills, an important component to conducting successful telehealth encounters.

**HOW:** Hold educational training meetings;

- Develop online on-demand videos based on staff needs; and
- Provide ongoing retraining opportunities to maintain continued use and competencies with the technology.

*Example:* Grantee conducted trainings by the project mentor/champion to increase engagement and offer guidance on the technology.
Patient Engagement

Patient acceptance and relationship building

- **WHY:** Educating patients and families increases acceptance and willingness to use telehealth
- **HOW:** Engage within the community in order to build trust;
  - Include patient’s family members; and
  - Introduce the technology early to allow patients to become acquainted/comfortable

Patient readiness

- **WHY:** Identify which patients are best suited to benefit from the intervention
- **HOW:** Develop enrollment criteria for telehealth program to identify good candidates
- **Example:** One grantee implemented a screening tool that incorporated clinical (e.g., age, duration of symptoms) and social (e.g., education, income) determinants of health
Patient Training with the Technology

• **WHY:** Training through simulations tailored to the patient’s needs creates comfort and understanding of the process

• **HOW:** Provide ongoing education and technical support to patients to ensure continued engagement and use of the technology in their home; and
  
  • Ensure that the patient has a trusted single point of contact for clinical and technical issues

• *Example:* Assign a case manager to review clinical data, determine follow up care, and consult with patients and physicians directly
Internet Connectivity

• **WHY:** Identify connectivity issues early to allow team to implement strategies

• **HOW:** Assess connectivity within intended project environment (e.g., patient home) prior to deployment
  - Ensure back-up connectivity options or adjustments when needed
  - Generate alerts to clinical or IT staff when patient connectivity is lost

• *Example:* Require patients in their homes to be connected to WiFi instead of through mobile connectivity like 4G when conducting a video call
MHCC Grants Underway
Medication Management and Reconciliation (MM&R)

- Awarded to the University of Maryland Quality Care Network (April 2018)
- Demonstrate the impact of telehealth to optimize medication-related services in care delivery for patients in rural Maryland with chronic obstructive pulmonary disease (COPD)
- Project aims:
  - Improve quality and completeness of medication lists
  - Improve medication adherence and patient self-management
  - Reduce ER and hospital utilization
Medication-Assisted Treatment (MAT) for Opioid Use Disorders

- Awarded to Mosaic Community Services, Inc. (May 2018)
- Increase access to MAT to underserved Maryland residents with opioid dependence by connecting a Baltimore area prescriber to a new addiction recovery site in Montgomery County
- Project aims:
  - Optimize MAT with buprenorphine to expand treatment services
  - Establish telehealth capabilities and protocols for MAT
  - Establish referral network in Montgomery County
School-Based Teletherapy for Special Education Services

- Awarded to Charles County Public Schools (January 2019)
- Expand access to special education services for eligible students in Charles County via teletherapy
- Project aims:
  - Evaluate impact of teletherapy in expanding access to speech services
  - Identify best practices for teletherapy in schools
  - Assess effectiveness of teletherapy in assisting students to meet Individualized Education Program (IEP) goals
Contact and Publications

Reports

- Adoption of Telehealth – Office-Based Physicians (2018)
- Comprehensive Care Facilities: Adoption of Health Information Technology (2018)
- Health Information Technology: An Assessment of Maryland Acute Care Hospitals (2018)
- Remote Patient Monitoring Telehealth Grants: Brief and Final Reports (March 2017)
- Long Term Care and Hospital Telehealth Project Grants: Brief and Final Reports (April 2016)

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- Visit MHCC Telehealth website for more
Appendix
Maryland Telehealth Adoption

Hospital Telehealth Implementation Status
n=42

- Under development: 10%
- Pilot phase: 10%
- Implementation phase: 24%
- Optimization phase: 40%
- Mature Phase: 17%

Hospital Telehealth Adoption
n=42

- 2012: 46%
- 2013: 61%
- 2014: 64%
- 2015: 77%
- 2016: 88%

Annual Growth Rate: 19 Percent

Maryland Telehealth Adoption

Office-Based Physician Telehealth Adoption

<table>
<thead>
<tr>
<th>Year</th>
<th>Adoption Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>5%</td>
</tr>
<tr>
<td>2014</td>
<td>6%</td>
</tr>
<tr>
<td>2015</td>
<td>7%</td>
</tr>
<tr>
<td>2016</td>
<td>7%</td>
</tr>
</tbody>
</table>

2013 (N=8,126)  2014 (N=7,965)  2015 (N=8,241)  2016 (N=8,034)

Skilled Nursing Facilities Telehealth Adoption

<table>
<thead>
<tr>
<th>Year</th>
<th>Adoption Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>3%</td>
</tr>
<tr>
<td>2015</td>
<td>11%</td>
</tr>
<tr>
<td>2016</td>
<td>7%</td>
</tr>
<tr>
<td>2017</td>
<td>5%</td>
</tr>
</tbody>
</table>

2014  2015  2016  2017

Note: Variation between 2015 and 2016 largely attributed to one chain discontinuing its telehealth program.

Integrated Telehealth at Kaiser Permanente: Why it Makes Sense

Jeanine Maier, MBA, CCE
Executive Director of Consumer Engagement, Kaiser Permanente

Katie Wilson, RD
Manager of Telemedicine and Mobility, Mid-Atlantic Permanente Medical Group
Kaiser Permanente: Widespread and Aligned

National Telehealth Strategy...  ...Executed Locally
**Kaiser Permanente Mid-Atlantic States (KPMAS)**

*Integrated Care Delivery System:*

- KP MAS includes areas in Maryland, Virginia and the District of Columbia
- Nearly 800,000 members
- 71,000 Medicare members
- Over 66,000 Medicaid members
- More than 1,500 Mid-Atlantic Permanente Medical Group primary and specialty care physicians
- More than 8,300 employees
- 30 medical facilities (five full-service hubs)
- 24 hours / 7 days / 365 days care available
- Core hospitals at which MAPMG physicians directly care for members
Kaiser Permanente Value Strategy

\[ V(\uparrow) = \frac{Q(\uparrow)}{C(\downarrow)} + \frac{PPE(\uparrow)}{C(\downarrow)} \]

KPMAS: Highest Rated Plan in the Region for 2019
Clinical Contact Center Integral System Hub

**KPMAS Clinical Contact Center Operations Drive Value Equation**

- 24/7/365 Nurse Advice and Primary Care appointing
- 7am – 7pm, Monday-Friday Specialty Care appointing
- Percentage of total appointments booked online: >12%
- Percentage of Primary Care appointments booked online: >25%
- 2018 Total Call Volume handled by Clinical Contact Center: >6.5 M

**Connecting Members to Right Care, Right Place, Right Time**
Achieving Value Through Virtual Care at KPMAS

Leveraging the Benefits of an Integrated Care Delivery System to:

- Drive convenience for our members
- Optimize care coordination
- Provide the right care at the right place at the right time
Video Visit on the Rise in Integrated System

- Direct booking rolled out for Psychiatry
- Video visits introduced in Pediatrics; Urgent Care hours extended
- Online and Clinical Contact Center booking improvements

Video Visit Volume per Membership (1000s)

- Q1 2016: 3.27
- Q2 2016: 4.42
- Q3 2016: 5.17
- Q4 2016: 5.66
- Q1 2017: 5.52
- Q2 2017: 6.31
- Q3 2017: 7.82
- Q4 2017: 8.33
- Q1 2018: 9.12
- Q2 2018: 9.32
- Q3 2018: 12.61
- Q4 2018: 14.00
KP Telehealth: Driving Member Convenience

**Member Profile**
- Almata Baldwin, 71 y.o.
- Cancer survivor on maintenance medications for Diabetes
- Lives alone in Bethesda, MD; not currently driving
- Her son – 40 y.o. single father with a full-time job, also a KP member – lives in Alexandria, VA

**Almata’s Virtual Care Story**
- Receives care from PCP via Video Visit; got a courtesy tech check to prep her before her first Video Visit
- Son joins her Video Visits; PCP can share screen with the Baldwins to show Almata’s blood glucose trends
- PCP accesses same EMR and message app as oncologist for care coordination, patient safety
- PCP receives just-in lab alerts on iPhone; uses Cortext out-of-network to notify Baldwins; sends new OHA via same-day RX delivery

**Similar Virtual Care Stories**
“Video visits are VERY convenient…I’m on a maintenance drug so I can just login from home to check in. We are able to talk and address any issues.”

60% Percent of Survey respondents indicating that they would have seen their provider in person if a Video Visit had not been available
KP Telehealth: Optimizing Care Coordination

**Member Profile**

- Malinda Perry-Russet, 35 y.o. new, first-time mother
- History of depression and anxiety
- Has used Video Visits now for over one year to receive care from Psychotherapist
- Symptoms of depression seem to be worsening

**Malinda’s Virtual Care Story**

- Used KP app to book a follow-up therapy Video Visit with her own/known Psychotherapist
- Psychotherapist noted symptoms of post-partum depression; referred Malinda to Psychiatrist for Medication Management
- Psychiatrist used Cortext-out-of-network to notify Malinda of an immediate Video Visit opening due to a cancellation; Malinda can be seen immediately
- Psychiatrist sends secure message to Malinda’s OB/GYN and PCP to provide care update

**Similar Virtual Care Stories**

"Super convenient since I just had a baby."

- 100% Percent of physicians with KP-issued iPhones
- 135K Average number monthly secure patient-care Cortext messages sent from provider to provider
KP Telehealth: Right Care, Right Place, Right Time

**Member Profile**
- Barry McIntosh, 25 y.o.
- HDHP member; experienced severe flu-like symptoms while camping in National Park
- Contemplates going to local ER, but calls Clinical Contact Center for advice
- He is triaged to nurse advice and offered a Video Visit

**Barry’s Virtual Care Story**
- Urgent Care Video Visit scheduled just 30 minutes later
- Barry connected to Video Visit via smartphone
- Physician able to review symptoms and physical appearance and diagnoses Barry with the flu
- Advised Barry to use kp.org to schedule Video Visit with PCP if does not improve within certain period of time
- EMR shows Barry is behind on several vaccines, including flu; message sent to PCP

**Similar Virtual Care Stories**
- “This was my first time doing this and it won’t be my last. It makes appointments that aren’t an emergency very easy and convenient.”

96% Percent Video Visit survey respondents reporting Video Visit was effective at resolving reason for visit
Integrated Telehealth at KPMAS Makes Sense

Leveraging the Benefits of an Integrated Care Delivery System to...

- Drive convenience for our members
- Optimize care coordination
- Provide right care at the right place at the right time
Eric Weintraub, M.D.
Associate Professor of Psychiatry
Director Division of Addiction Research and Treatment
University of Maryland, School of Medicine
Rural Demographics

• Rural areas cover 97% of US land but contain less than 20 percent of population, 60 million

• 9 percent or 5 million individuals live in totally rural counties,

• Older (51 vs 45)

• Less likely to have college degree (19.5% vs. 29%)

• Lower poverty rates (11.5% vs 14%)
# Rural and Urban Substance Abuse Rates

*(ages 12 and older, unless noted)*

<table>
<thead>
<tr>
<th>Substance</th>
<th>Non-metro</th>
<th>Small metro</th>
<th>Large metro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol use by youths aged 12-20</td>
<td>37.8%</td>
<td>35.3%</td>
<td>34.3%</td>
</tr>
<tr>
<td>Binge alcohol use by youths aged 12 to 17 (in the past month)</td>
<td>5.5%</td>
<td>4.9%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Cigarette smoking</td>
<td>28.5%</td>
<td>24.1%</td>
<td>20.5%</td>
</tr>
<tr>
<td>Smokeless tobacco use</td>
<td>8.5%</td>
<td>5.0%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Marijuana</td>
<td>11.2%</td>
<td>13.2%</td>
<td>15.0%</td>
</tr>
<tr>
<td>Illicit drug use</td>
<td>14.2%</td>
<td>17.3%</td>
<td>19.4%</td>
</tr>
<tr>
<td>Misuse of Opioids</td>
<td>4.0%</td>
<td>4.4%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Cocaine</td>
<td>1.1%</td>
<td>1.8%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Crack</td>
<td>0.2%</td>
<td>0.3%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Methamphetamine</td>
<td>0.7%</td>
<td>0.6%</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

Source: Substance Abuse and Mental Health Services Administration (SAMHSA), [Results from the 2016 National Survey on Drug Use and Health: Detailed Tables](https://www.samhsa.gov/data/sites/default/files/NSDUH2016 DetailedTables.pdf).
Rural Overdose Deaths

• In 2006 rates for rural areas surpassed those of urban areas

• 2015: rural rates 17/100,000, urban rate 16.2/100,000

• Majority of overdose deaths occur at home, long EMT transport times, lack of public access to EMT, increased number of basic EMT’s who cannot give naloxone. CDC 2017
• 1999-2014 Increasing death rates in middle ages whites 45-54
• Impacting whites without college degrees
• Worsening labor market
• Suicides
• Overdoses
• Alcoholic liver disease
Medication Assisted Treatment

“Access to medication-assisted treatment can mean [the] difference between life or death.”

Michael Botticelli, October 23, 2014 Director, White House Office of National Drug Control Policy
Barriers to Medication Assisted Treatment in Rural Areas

• Geography/transportation/weather

• Health workforce shortages

• Stigma

• Lack of insurance coverage

• Privacy issues/lack of anonymity
Barriers to Methadone Tx in Rural Areas

• Lack of methadone programs/less than 5% in rural areas

• Methadone programs are highly regulated and require frequent attendance and daily dosing early in treatment

• Long travel time/high transportation costs

• Long wait lists
Barriers to Buprenorphine Tx in Rural Areas: Availability

• Less than 3% of US physicians are waivered
52.5% of US counties have at least one waivered provider.

• 60.1% of rural counties have no waivered providers (down from 67% in 2012).

• Many waivered providers treat many fewer patients than the maximum allowed or none at all
Andrilla et al 8/17.
Causes of Rapid Rise in Opioid Overdose Increase in prescription opioid availability. Significant increase in supply of heroin and decrease in cost. Increased availability of high potency synthetic opioids such as fentanyl.
Map of U.S. Buprenorphine Providers
Barriers to Buprenorphine Tx in Rural Areas: Provider Factors

All

1. Time constraints
2. Diversion concerns
3. Lack of mental health, psychosocial support

Non-Prescribers

1. Lack of patient need
2. Resistance from practice partners
3. Lack of specialty back up for complex cases
4. DEA
5. Administrative/infrastructure
   Andrilla et al, 2017
6. Lack of confidence
   Rosenblatt et al 2015
Telehealth

• ICT’s: Internet and communications technologies

• Real Time: videoconferencing, chat, texting

• Asynchronous: secure e-mails, webinars, “store and forward”
Types of Telehealth

- **Live videoconferencing** - synchronous video, live two way, utilizes audiovisual communications

- **Store and forward** - asynchronous - transmission of recorded health history

- **Remote patient monitoring (RPM)** - medical data from a patient that is transferred to clinician in another location for monitoring

- **Mobile of mHealth** - use of smart phones and tablets and apps to support healthcare
Telehealth for MAT

• Direct patient care model
• Hub and Spoke collaboration model
• Use of RPM
• Use of Mobile Apps
Tele MAT Studies

• Zheng/WVU - Videoconferencing for buprenorphine and group counseling, 100 patients, non-inferior to in-person care for average time to 30 and 90 days abstinence and for 90 and 360 days retention rates.

• Eibl/Northern Ontario SOM-examined 3,733 patients in 59 clinic sites in Canada, Videoconferencing group had significantly better retention than in-person group.
RYAN HAIGHT, 18, VICODIN
Ryan died from an overdose of prescription drugs he had purchased online. He was only 18.
Ryan Haight Act

• RH Online Consumer Protection Act

• Targets Rogue “Form Only” Online Pharmacies

• Passed in 2008 and took effect in April 2009

• To prevent illegal distribution and dispensing of controlled substances via the internet
Ryan Haight Act

• Telehealth provider is DEA registered practitioner and is registered in his state and every state his or her patients are located.

• All applicable federal and state laws must be followed.

• Live audio video must be used
Ryan Haight Act

• No controlled substance may be delivered, distributed, or dispensed without a “Valid Prescription”

• “Valid Prescription” A prescription issued for a legitimate medical purpose in the usual course of professional practice

• A Prescription issued by a practitioner who has conducted at least 1 “in-person medical evaluation” of the patient

• In-Person Medical Evaluation A medical evaluation that is conducted with the patient in the physical presence of the practitioner
Facing mounting opioid overdoses, Maryland doctor defies federal law

By DAVID PITTMAN

11/15/2017 04:19 PM EST

Share on Facebook Share on Twitter

HAGERSTOWN, Md. — At a 100-bed halfway house on the southern edge of this heroin-ravaged town in the Appalachian foothills, addiction specialists have taken the law into their own hands. It was either that or watch their patients die, they say.

Every Tuesday afternoon for the last two years, psychiatrist Eric Weintraub has spoken through a Skype-like feed from Baltimore with patients in a second floor room of the Wells House. He offers counseling that usually includes prescribing an opioid drug, Suboxone, that removes their need for a fix.
TeleMental Health Sites 2018
Centralized Infrastructure Functions
Maryland Telemedicine Buprenorphine Model

• Develop relationship with a rural treatment center in an area in need of MAT prescribers.

• All programs now receive DEA certification prior to starting clinical program

• All patients receiving MAT by tele are enrolled in treatment program

• Develop SOP’s focusing on clinical communication

• Program Coordinator
Current Telemedicine Buprenorphine Programs

• Wells House Treatment Center- Washington County

• Garrett County Health Department-

• Caroline County Health Department/Mobile Grant

• Life Energy Wellness Clinic-Talbot and Dorchester Counties

• Robert Wood Johnson Clinical Scholars Grant
Wells House

Halfway house in Hagerstown, Maryland
- IOP/OP program
- Many live there but some in own housing
- IOP/OP level of care
- No medical staff

Had M.D. prescribing Suboxone but retired
Wells House: Retention

1 week  98% still in care
1 month  91% still in care
2 months  76% still in care*
3 months  59% still in care*

*at Wells House; those in care elsewhere not known
Wells House: Opiate + UTox

1 week 12%
1 month 11%
2 months 11%
3 months 6%
Program Adaptations

• Increasing flexibility of scheduling
  • Desk-top set-up
  • System compatibility
  • EMR

• E-prescribing

• Expanding medication capabilities (ie. Vivitrol)

• Billing
Future Directions

• Adapting to other clinical models
  • Mobile MAT/ HRSA Grant
  • In-home treatment
  • Integration of telemedicine with Emergency Departments, EMT’s and the criminal justice system

• Enhancement of consultation/supervision capability
  HUB and Spoke Model

• Development of evidenced based standard operating procedures
Next Event: Legislative Update
May 16 @ 5:30 pm - 8:00 pm