The Culture of Telemedicine

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Funded by the U.S. Health Resources and Services Administration (HRSA), the National Consortium of Telehealth Resource Centers (NCTRC) consists of 14 Telehealth Resource Centers (TRCs). As a consortium, the TRCs have an unparalleled amount of resources available to help virtual programs across the nation, especially within rural communities. Each TRC is staffed with telehealth experts to who are available to provide guidance and answer questions. As telehealth continues to gain more visibility and recognition in healthcare, the TRCs will remain positioned to provide assistance for all.
• Virtual Librarians
  • Individual Consultation
  • Technical Assistance
  • Connections with other programs

• Presentations & Trainings
  • Project assessments
  • Updates on reimbursement policy and legislative developments
UMTRC
Website
Facebook
LinkedIn
Telehealth versus Telemedicine

• Sometimes used interchangeably
• Two types of distinctions
  • Telehealth
    • Broader field of distance health activities (CME, etc.)
    • Clinical remote monitoring (usually at home)
    • Education
  • Telemedicine
    • Billable interactive clinical services
• **Asynchronous**
  • Describes store and forward transmission of medical images or information because the transmission typically occurs in one direction in time
  • *Store-and-forward telemedicine*
    • *Pictures, data*

• **Synchronous**
  • Describes interactive video connections because the transmission of information in both directions is occurring at exactly the same period
  • *Live and Interactive Telemedicine*
    • *HIPAA Compliant, Secure real-time audio AND video*
Telehealth is not a service; but a delivery mechanism for health care services

- Live and interactive telehealth services duplicate clinical in-person care
- Some services are made better or possible with telehealth when distance is a barrier
- Reimbursement should be equal to “in-person” care
COVID-19 Resources

Blog
Broadband
Credentialing & Privileging

This toolkit has been created to assist providers with resources for planning.
more»

ILLINOIS COVID-19 RESOURCES
more»

INDIANA COVID-19 RESOURCES
more»

MICHIGAN COVID-19 RESOURCES
more»

OHIO COVID-19 RESOURCES
more»

https://www.umtrc.org/resources/covid-19/
Medicare and state Medicaid programs have relaxed HIPAA rules

- CMS clarified in their Final Interim Rule (released on March 31, 2020) that for telehealth services a “telecommunications system” would mean “multimedia communications equipment that includes, at a minimum, audio and video equipment permitting two-way, real-time interactive communication between the patient and distant site physician or practitioner.”
  - See CCHP Telehealth Coverage Policies in the time of COVID-19
  - [https://www.cchpca.org/resources/covid-19-telehealth-coverage-policies](https://www.cchpca.org/resources/covid-19-telehealth-coverage-policies)

- **See UMTRC COVID-19 Resource Page**
  - [https://www.umtrc.org/resources/covid-19/](https://www.umtrc.org/resources/covid-19/)
  - IL – through electronic or telephonic methods, such as telephone (landline or cellular), video technology commonly available on smart phones and other devices such as FaceTime, Facebook Messenger Video Chat, Google Hangouts video, or Skype, and videoconferencing
    - should not use ‘public facing’ applications like Facebook Live, Twitch, TikTok, or similar applications
  - IN – any real-time, interactive consultation (including telephonic), but not text or email
  - MI – should be audio and visual service delivery; telephonic allowed for up to 30 days after the discontinuation of the emergency, or the 1st of the following month
  - OH – any audio or video non-public facing remote communication product that is available to communicate with patients
    - should not use ‘public facing’ applications like Facebook Live, Twitch, TikTok, or similar applications

- **UMTRC still recommends HIPAA compliant technology**
TTAC Toolkits

http://telehealthtechnology.org/toolkits/
TTAC Toolkits

http://telehealthtechnology.org/toolkits/
Existing Organizational EMR System and Technology

- Epic
- Cerner
- Meditech

- Cisco
- Microsoft
Developing a Telemedicine Program

The Culture of Telehealth

- Assess & Define
- Develop & Plan
- Implement & Monitor

Figure 1: The Plan-Do-Check-Act Cycle

ACT
Implement the Best Solution

PLAN
Identify Your Problems

CHECK
Study Results

DO
Test Potential Solutions

www.MindTools.com
Who Moved My Cheese?

By Spencer Johnson
Personalities on your team

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The characters of *Who Moved My Cheese* mapped to the four PSIU forces of Organizational Physics.
Organizational Physics

The four forces of Organizational Physics: PSIU.

Developing a Telemedicine Program

- Assess & Define
- Develop & Plan
- Implement & Monitor

Figure 1: The Plan-Do-Check-Act Cycle

ACT
Implement the Best Solution

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Identify Your Problems

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Study Results

DO
Test Potential Solutions

www.MindTools.com
Access & Define

- Assess Service Needs & Environment
  - Do you have a telehealth champion?
  - Is there a corporate willingness to invest in a telehealth program?
    - What healthcare services are not available
    - Identify and prioritize telehealth appropriate services
    - Identify telehealth program assumptions and constraints
Lean / Six Sigma

- Lean 7 Deadly Wastes
  - Overproduction
  - Waiting
  - Transport
  - Motion
  - Over-processing
  - Inventory
  - Defects

- Six Sigma
  - Define
  - Measure
  - Analysis
  - Improvement
  - Control

https://tallyfy.com/lean-vs-six-sigma/
Ultimate Goal of Lean/Six Sigma

- Eliminating Waste
- Creating Efficient Processes

Define and Specify Program Model
- Where are the patients?
  - Which services meet patient needs?
  - What technology is needed?
- What is the best organizational model?
  - Human resources?
  - Facility related resources?
  - Who will provide the service?
    - Existing providers/3rd party contract?
- Legal or regulatory constraints?
- Implementation approach?
  - Phased/pilot?
5 Whys

Problem: Ran through a red light.

Why? Late for work.

Why? Woke up late.

Why? Alarm clock broke.

Why? Didn't check if it worked.

Why?Forgot to do it last night.

https://kanbanize.com/lean-management/improvement/5-whys-analysis-tool/
Develop a Business Case

- Community needs
  - Community Health Needs Assessment (CHNA report)
  - Focus groups

- Organizational mission
  - Does the proposed telehealth program fit the mission and the need?

- Obtain financial commitment for implementation and sustainability
  - Outgoing Costs
    - Start-up and operating costs
  - Incoming Revenues
    - Identify the payer mix
  - Is the project sustainable?

- Track program savings
  - Scheduling
    - No more physician travel to rural sites
    - Patient travel miles saved
    - Effect on the local economy (labs/ancillary)
    - Effect on the environment (carbon dioxide footprint)
The characters of *Who Moved My Cheese* mapped to the four PSIU forces of Organizational Physics.
## Business Perspectives

### Who moved my cheese

- Monitor, sense and evaluate surrounding business changes, threats and opportunities
- Use available resources, strength and limitation to address the situation changes to organisation advantage
- Revamp strategies to adapt to external situations and remain competitive
- Address employees resistance to changes

### I moved your cheese

- Innovation, entrepreneurship, creativity, problem solving, and business growth
  - Ability to challenge accepted notions,
  - Reshape the environment
  - Play by a different set of rules
- By analysing assumptions about the limitations and discover how to overcome them.
- Change the ‘game’ to your design and not affected by the changes
Plan Program and Technology

- Work Plan Objectives
  - Identify personnel Roles and Responsibilities
    - Team Lead
    - Team members
  - Communication / Marketing Strategy
    - Local newspaper add
    - TV commercials
    - Direct Mail
    - Social Media
  - Policies and Procedures
    - Clinical Referral Guidelines
    - Scheduling
  - Process integration
    - Process training for staff
    - Equipment training for staff
• Work Plan Objectives (cont’d)
  • Clinical telehealth space
    • Patient room
    • Broadband access
    • Hardware and software needs
  • Support
    • Service Level Agreements for broadband (2hr/4hr)
    • Maintenance Support Agreement software/hardware
  • Interoperability and scalability
    • EMR integration
    • Interfaces with existing equipment and IT network (firewalls)
  • Organizational Approval
    • Authorization to assign personnel/other resources
    • Authorization for procurement
• Outcomes
  • What need do you propose to meet?
    • Project Goals
    • Project Objectives
    • Project Outcomes
  • Patient volumes and utilization
    • Measure
    • Track
    • Achieve
Outcomes (cont’d)
  • Impact Tracking
    • Data collection methodology
    • Are volume / quality / clinical objectives being met?
      • If not, then what?
      • Course correction process
      • Course correction implementation
  • Program improvements
    • Define
    • Plan
    • Implement
    • Test
    • Manage
## Sample Work Plan

<table>
<thead>
<tr>
<th>Goal</th>
<th>Strategies &amp; Objectives</th>
<th>Activities</th>
<th>Responsibility</th>
<th>Time Period</th>
<th>Outcomes &amp; Process Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>What do you want?</td>
<td>How are you going to get there?</td>
<td>What are the steps?</td>
<td>Who is going to do it?</td>
<td>How long will it take?</td>
<td>How do you know if you achieved your goal?</td>
</tr>
<tr>
<td>Reduce ED wait times for psych consults</td>
<td>Provide telepsych services in the ED</td>
<td>Find a space</td>
<td>Team Lead</td>
<td>By 3rd Quarter 2020</td>
<td>1) By the end of 3rd Quarter 2020, we will see 20 patients via telepsych</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Invest in video technology</td>
<td>Team member A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hire a psychiatrist</td>
<td>Team member B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Implement & Monitor

- Implementation
  - 3, 2, 1, GO
  - Communication plans in action
  - Identify and mitigate risks if necessary
  - Identify and manage program modifications

- Monitoring
  - Are deliverables being met in accordance with the project plan?
  - Is the program meeting its objectives
    - If not, what changes are needed
Plan
Do
Check
Act

Figure 1: The Plan-Do-Check-Act Cycle

- **PLAN**: Identify Your Problems
- **DO**: Test Potential Solutions
- **CHECK**: Study Results
- **ACT**: Implement the Best Solution
The Handwriting on the Wall

Change Happens
They keep moving the cheese

Anticipate Change
Get ready for the cheese to move

Monitor Change
Smell the cheese often so you know when it is getting old

Adapt to Change Quickly
The quicker you let go of the old cheese, the sooner you can enjoy the new cheese

Change
Move with the cheese

Enjoy Change!
Savour the adventure and enjoy the taste of the new cheese!

Be Ready to Change Quickly and Enjoy it Again
They keep moving the cheese

From: Spencer Johnson, MD; *Who Moved My Cheese?*
Implementation

- Not as easy as it sounds!
  - Change management theories
  - Work Plan
- Telemedicine room setups
  - The good, bad and the ugly
  - Problem solving solutions
Telemedicine Room Design

- Location / Size
- Placement of equipment & furniture
- Electrical & telecommunications connections
- Lighting, Acoustics, Wall color
Existing Patient Room
Room Location

- In a quiet location
  - Minimize noisy, busy corridors
  - Parking lots
  - Waiting rooms
  - Restrooms
- Microphones are sensitive
- Windows can generate glare
Room Size

- Depends upon service being provided
- Type and size of equipment
- Clinical or patient education
  - Conference seating
- Specialty consultations
  - Exam tables
Existing Patient Room

- Large enough to move around comfortably
  - Exam table
  - Chairs
  - Telemedicine equipment
  - Patient
  - Telepresenters
  - Work surface
  - Phone/computer, etc.
Seeing patients from home in their home

- Privacy
- Webside Manner
- Video Etiquette
- Consent
- Vital Signs
• Remote Clinician Room
  • Room size can be smaller than patient exam room
    • No exam table needed
    • Consider camera viewing area/angle

• Clinical Education Room
  • Classroom setup
  • Writing desk/tables
  • White board
  • Adequate audio and video feeds
  • Size of viewing monitor
    • Should be larger than exam room monitors
Examples
Clean and Uncluttered

An uncluttered background optimizes camera function and improves the view at the remote site. Wires, telephones, fax machines, monitors, computers, peripheral equipment and furniture can contribute to a cluttered and inefficient workspace. Make an effort to arrange and store them in an organized, efficient way.
Camera Positioning & Placement

Both participants should be looking directly at each other, simulating an in-person discussion.
Optimal Lighting

- Diffused soft light source
  - No shadows
  - Depicts colors naturally
- Place a light in front of a patient to reduce shadows
- Avoid backlight from windows or overhead lights
Harsh Directional Lighting

Harsh directional lighting creates shadows and makes it difficult to see facial features.

Diffused lighting creates even lighting.
Impact of Backlighting

- Diffused light placed in front of the patient allows for a more accurate depiction of the colors and features in the image.
- Backlighting from windows and other concentrated light sources can create dark images and shadows.
Impact of Supplemental Lighting

Images taken using only ceiling-mounted fluorescent light fixtures can lack dimension and contrast.

Supplemental lighting enables the subject in the image to stand out against the background.
Impact of Wall Color

A light-colored background makes the image appear too dark.

A dark-colored background makes the image appear washed out or too light.
Don’t do this!
An uncluttered background optimizes camera function and improves the view at the remote site. Wires, telephones, fax machines, monitors, computers, peripheral equipment and furniture can contribute to a cluttered and inefficient workspace. Make an effort to arrange and store them in an organized, efficient way.
Acoustics

- High ceilings and hard surface floors
  - Can create echoes

- External noises
  - from facility HVAC
  - From traffic outside

- Sound dampening
  - Carpet, drapes, acoustic tiles on the ceiling
  - Sound dampening paint
White or light walls can darken faces. A dark wall can lighten faces.

A robin’s egg blue or light gray background works well on all skin tones.
Thank You!

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