Clinical Design for Telemedicine Services

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Alaska Tribal Health System

- Voluntary affiliation of 30 Alaskan tribes and tribal organizations providing health services to 150,000 Alaska Natives/American Indians
  - Each is autonomous and serves a specific geographical area
  - Mix of independent EHR systems and shared Cerner instances
- Alaska Native Medical Center provides primary and tertiary care
- Serves as the tertiary/specialty hospital for all regions (entire state)
Alaska Native Health Care System Referral Pattern & Telehealth Network

Same Scale Comparison - Alaska Area to Lower 48 States

- Approximately 200 telemedicine access locations
- 30 hubs for care
- 6 hospitals
- 9 community health centers
Telemedicine
Clinical Services Provided
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Needs from the Patient’s Perspective

- I can’t make it out of my house...
- I can get to the clinic, but can’t handle the travel
- I have weekly appointments with my speech therapist and it’s a four hour drive one way
- What happens if I have an emergency and can’t get off the island due to weather?
- I am seriously ill and would like for my family to all be able to meet with my providers. They live in three different states.
Needs from the Consulting Provider & Staff’s Perspective

- **Provider**
  - I’m worried about follow up care
  - Meeting standard of care is very difficult as the patient cannot get to see me as often as is recommended
  - It would be nice to “take a look” at the patient when another provider calls me for advice
  - I’d like to meet with my remote staff regularly and discuss patient care issues
  - I found this great new piece of technology I’d like to use

- **Clinic Staff**
  - I’m worried about follow up care
  - I can call the patient, but it’d be nice to actually see them take their inhaler medication
  - I need frequent contact with a subset of my patients
Needs from the Organization’s Perspective

- CIO: we need to keep our technology systems secure, reliable and as standardized as possible
- CEO: we need to expand our services both in total number and in volume, we need to ensure our services are marketable
- CMO: standards of care for my patient cannot change based on location
- CFO: we need to ensure we include revenue cycle discussions in any service creation or expansion. We also need to make sure there’s a market to warrant the work.
Needs from the Patient’s Health Care Organization

- **Providers & Clinic Personnel:**
  - I know this is good for my patient, but I need to make sure I have the time, space and personnel to support it.
  - I’d like to learn more about how to best care for my patient.

- **Leadership**
  - We need to keep our community relationships strong. Expanding services offered in our town will help.
  - We need to ensure that our reimbursement is sufficient for the services we are offering.
Needs

- Define the need in specific terms (use all perspectives)
  - What is the clinical or service need?
  - Is there a demand for it? EHR queries, billing queries, surveys, complaints, requests, clinic backlogs, etc.—pretty common to have no hard data....
  - Where is it needed?
  - How urgent is it?
  - Why is it important?
  - What else is out there that could meet this need?
  - Is there a bigger need?
  - History of success and/or failure meeting this or similar needs?
Initial Leadership Discussion

- Administrative, Clinical and Technical Leadership

- Discussion:
  - Clearly define and verify the need statement(s)
  - Explore possible solutions (high level)
  - Funding
  - Set the overall scope
  - Create a rough timeline
  - List key players in planning and development

- Set up initial project planning meeting for identified key players
• Meet with all key players to discuss
  • Services Plan
  • Technology Plan
  • Timeline details
Service Plan

- What service?
- Where?
- Who will be involved?
  - Direct to patient or to another health care facility?
- How should it be provided?
  - Live with patient present or not?
  - Are there established protocols to follow?
- When? 24/7 or scheduled or on demand?
- Why? What’s in it for all participants?
Service Plan

- Scheduled Appointments
- On Demand, Store & Forward, Scheduled Appts
- mHealth, Remote Monitoring, On Demand

- Patient at home or on mobile device
- Patient in health care facility
- "Rural" provider in health care facility

Consulting provider in clinic, ED, on call, etc.
Technology Plan: Store & Forward

- Primary uses: Dermatology, ENT, Radiology
- Advantages: no scheduling required, minimal technical support
- Challenges: limited assessment
Technology Plan: Video

- Primary Uses: specialty clinic follow up, behavioral health, group therapy, direct to consumer, urgent care

- Advantages: can assess non verbal cues and discuss treatment plan with the patient

- Challenges: scheduling, need for IT and clinical support at both ends, still need a way to share medical records that pertain to the visit if not on a shared EHR
Technology Plan: Video

- Scheduling options and considerations
  - Back to back video appointments or mixed in with in person appointments?
  - Do we want a special room to do video visits, or just equip the clinic rooms?
  - How do I ensure I have a private place to meet by video if it’s an on demand type service?
- How will we communicate?
  - Who contacts the patient?
  - How do the clinics sync schedules?
Technology Plan: Remote Patient Monitoring

- **Primary Uses:** Home telehealth, telemetry, smart homes
- **Advantages:** Can collect data from patient’s day to day environment and track trends
- **Challenges:** need to track and have a plan for responding to problems and potential emergencies, often relies on patient to collect and submit data
Technology Plan: mHealth

- **Primary Uses**: prevention, fitness, chronic disease management
- **Advantages**: it can travel along with the patient (wearable devices or smart phone apps) or it travels with the provider (phone based devices)
- **Challenges**: what do we do with all that data?
Technology Plan

- What technology makes the most sense based on clinical need?
- What model is best? (Ease of use, durability, clinical clarity, etc.)
- Will it work with other stuff? With our EHR? With our other telehealth equipment?
- Can we support it now and in the long term? (Cost and human resources)
- Can we afford it? (initial cost, ongoing licenses, service contracts, disposables, replacements)
- Will it “JUST WORK”?

- Helpful Resource: National Telehealth Technology Assessment Resource Center
Design Principles for Service and Technology Plan

- Focus design on meeting the patient care need
- Match processes with the real world – unless the real world truly needs to get fixed
- Set standards / promote consistency
- Should always have a back up plan
- Avoid slowing down clinical workflow
- User helps should be targeted
- Your clinical design (including technology plan) should fit in the context of the surrounding environment(s)
- First impressions are critical
- Start simple (grow as you learn)
- Minimize technology demands on clinical providers
• Create a timeline with clearly defined milestones
• The amount of time to start a new project is almost always underestimated
• Don’t jump to solutions too fast
• Provide weekly communication regarding progress and next steps
On Demand to ED
- Need
- Service plan – everything in place, just adding video
- Technology plan I: iPad to desktop
- Technology plan II: iPad to iPad
- Technology plan III: iPad to iPad on wheels
Service and Technology Planning Example

- Behavioral Health Inpatient Follow Up
  - Need
  - Service plan
  - Technology plan
Service and Technology Planning Example

- Palliative Care Direct to Patient Home
  - Need
  - Service Plan
  - Technology Plan
Service and Technology Planning Example

- Collaboration with Partner Organization
  - Need – telemedicine services in primary care
  - Services plan
  - Technology plan
Service and Technology Planning Example

- ECHO – another way to meet needs
  - Catchment area needs
  - Primary care – meet needs without overwhelming
  - Targeting greatest areas of need
  - Force multiplication
Parameters

- Organizational climate
- Organizational capabilities
- Market analysis
- Finance
- Regulatory environment
Organizational Climate (all sites)

- Interest
- Motivation
- Readiness (SWOT)
- Do the vision and mission of each organization involved align?

- Example: village roll out of video services
Organizational Capabilities (all sites)

- Support
  - IT
    - Administrative/leadership
    - Clinical
- Communication
  - Progress (include everyone!)
  - Scheduling
  - Medical records
  - Telehealth systems
- Connectivity
- Clinical Service Capabilities (staffing and skill mix)
- Space
- Examples
  - Palliative Care home technology support
  - New audiology equipment & skill set of users
  - Ultrasound
Market Analysis

- Telehealth policy and law
- Patient flow
  - Will it work?
  - Who will be impacted with extra time demands?
- Reimbursement/patient payer mix
- Budget and sustainability
- Demand
- Competition
What is your objective? Increase profit? Increase market share? Break even? OK to shift the budget so you can “lose” money in a certain area?

Revenue
- Reimbursement
- Referral streams
- Contracts
- Program and user fees

Expenses
- Clinical and non-clinical personnel
- Clinical expenses
- Telecommunication expenses
- Equipment and fees
Regulatory Environment

- Number of regulatory issues to assess based on your project
  - Interstate Nurse Licensure Compact
  - Licensing, credentialing and privileging for all provider types
  - Prescribing
  - Malpractice
  - Security and privacy
  - Reimbursement

- Know your resources
  - Center for Connected Health Policy (National Telehealth Resource Center)
  - Center for Telehealth and e-Health Law
  - Centers for Medicare & Medicaid Services
  - American Telemedicine Association
  - National Telehealth Technology Assessment Resource Center
  - 12 Regional Telehealth Resource Centers
  - National Council of State Legislatures
  - Federation of State Medical Boards (telemedicine guidelines)
• Nursing licenses and coverage (outside organizations)
• Interstate Nurse Licensure Compact
  • National Council for State Boards of Nursing model proposed 1997
  • Need for nurses whose care crosses state borders: nurse call centers, telehealth consultations, air transport, etc.
• Currently discussing increased requirements

Our Mission
The Nurse Licensure Compact advances public protection and access to care through the mutual recognition of one state-based license that is enforced locally and recognized nationally.

Map downloaded 3-15-17 https://www.ncsbn.org/nurse-licensure-compact.htm

PT, EMS and Psychology now also discussing state compact agreements
Physician licensing
- Primarily driven by the patient’s location
- 18 states have enacted physician licensing portability (compacts) and 8 others have started the process
- Still need separate license, but process is expedited

Physician Credentialing and privileging
- Care provided to a patient who is seen in another health care organization
- Applies within a state as well as between states

Contracts

Ancillary providers
- Work with medical staff offices
- Check state and federal regulations/guidelines
- Reimbursement varies depending on the specific service
Online prescribing issues:
- Patient provider relationship
- Adequate physical exam
- Accuracy of self reported history
- State board requirements
- Controlled substances – need a telemedicine exception in place or cannot prescribe until you/covering provider conduct at least one in person evaluation. Some exceptions for DEA registered facilities with DEA registered provider.
- Need to look at medical practice laws and at pharmacy laws
Malpractice
- Check current malpractice insurance to see if telehealth is covered and if it extends to any applicable states where patients are seen
- # of cases increasing, but still a very small percentage of malpractice claims
- Most related to communication issues
- Few cases where it was determined telehealth should have been done and was not...

Example: our first formal patient complaint (travel vs. telemedicine)
Security & Privacy
- Provide for patient privacy and confidentiality with all modalities
- Restrict access to patient data, limit disclosure
- Comply with HIPPAA security rule
  - Use technically secure devices and systems
  - Control access to the facility and equipment
  - Follow policies and obtain training

Example: mobile app
Regulatory Environment

- Reimbursement
  - CMS.gov for Medicare and Medicaid practices
    - CMS 2015 Telehealth Services publication
    - Medicaid: most states have some sort of telemedicine coverage (48 plus D.C. from January 2016 update)
    - Medicare primarily reimburses for live video plus two demonstration projects for store and forward reimbursement
  - Private insurance and parity laws
  - Check resources

- Example: referral request changing to a consult
  - Intent
  - Documentation requirements
  - How does it get into the revenue cycle?
Regulatory Environment

http://www.americantelemed.org/policy-page/state-policy-resource-center
Downloaded 3/14/17
Move on to:
  • Development (detailed requirements)
  • Deployment / Roll Out
  • Follow up
**Develop the Plan (Detailed Requirements)**

- Develop your plan
- Management
  - Reporting structure
  - Interagency agreements
  - Outcome measures
  - IT support
- P&P
  - How services are provided
  - Authorized technology/devices
  - Scheduling
  - Case management
  - Technical support
- Milestone details and dates

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<th>Definition</th>
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<td>Primary THC</td>
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<td>Initial Leadership Kickoff Meeting</td>
<td>ProgDev Director facilitates leadership meeting</td>
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<td>Primary THC</td>
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<td>Initial Project Leadership Meeting</td>
<td>ANMC team identified by name Remote team identified by name</td>
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<td>Remote Leaders Primary THC</td>
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<td>Weekly Meetings (as needed)</td>
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<td>Primary THC</td>
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<tr>
<td>Weekly Formal Communication</td>
<td>Facilitate Weekly Meeting</td>
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<td>Primary THC</td>
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<td>Site Equipment Technical evaluation local site equipment</td>
<td>DocumentLocator/AFHCAN/Documents/Oper/requirements worksheet submission determine equipment, software connectivity be used &amp; verify that it meets specs</td>
<td>SI</td>
<td>THC facilitate discussion THC</td>
</tr>
<tr>
<td>Technical evaluation remote site equipment</td>
<td>DocumentLocator/AFHCAN/Documents/Oper/site survey for organizational network needs remote physical room selection network connections ID'd, equipment installed test connection w/ remote endpoints</td>
<td>SI and IT</td>
<td>THC facilitate with remote IT</td>
</tr>
<tr>
<td>Planning &amp; Workflow Analysis Vidyo accounts</td>
<td><a href="http://home.athc.org/wpcontent/index.cfm/supporttabIT">http://home.athc.org/wpcontent/index.cfm/supporttabIT</a> work orders</td>
<td>ANMC and remote sites—ensure they get set up configure if needed review with clinic staff (usually case THC managers)</td>
<td>THC</td>
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<td>Vidyo room swim lane process diagram</td>
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<td>3 weeks</td>
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*Note: The table above outlines key components of the plan, including milestones, resources, definitions, and lead persons.*
Deploy (Roll Out)

- Ongoing communication
- Equipment
- Workflow analysis
- Access and accounts
- Scheduling
- Room design
- Training for patients and for all involved health care professionals and for IT staff
Follow up

- Measure outcomes
- Run reports
- Analyze the effectiveness and plan for improvements
Know Your Resources

- Center for Connected Health Policy (national resource center)
- Center for Telehealth and e-Health Law
- Centers for Medicare & Medicaid Services
- American Telemedicine Association
- National Telehealth Technology Assessment Resource Center
- Regional Telehealth Resource Centers
- National Council of State Legislatures
- Federation of State Medical Boards (telemedicine guidelines)
• Define your need thoroughly
• Details are important...all of them are potential points of failure
• Complex flow charts can be a double edged sword
• Trifecta: Administration/Technology/Clinical leadership
• Order of events is important during the project:
  • Clinical need must drive technology solution
  • Technology needs to be in place and functional before your roll out
• Stick to your design principles
Design Principles for Service and Technology Plan (Repeated!)

- Focus design on meeting the patient care need
- Match processes with the real world – unless the real world truly needs to get fixed
- Set standards / promote consistency
- Should always have a back up plan
- Avoid slowing down clinical workflow
- User helps should be targeted
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