The CTEC Telehealth Program Developer Kit

A Roadmap For Successful Telehealth Program Development

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The California Telemedicine & eHealth Center (CTEC), a resource center specializing in telemedicine and telehealth program development, responds to hundreds of assistance requests from around the globe. We often hear from organizations interested in starting telehealth programs who think telehealth sounds valuable but need to know what steps to take to get a telehealth program started.

The CTEC Program Developer was designed to answer that need. The genesis of this kit is the implementation methodology developed for the state’s largest telehealth provider, the California Department of Corrections. As the Program Director for this implementation effort, it was necessary to implement a standardized program across the state’s 33 prisons. Using project management fundamentals, a replicable standardized approach was developed to assure consistency of operation and streamlined implementation. This process, now called the CTEC Program Developer, provides a simple step by step approach to telehealth development and implementation.

This approach has been adapted and expanded for use in all types of services settings and applies to both small and large facilities. It provides a standardized approach to traveling the road from initial program interest to program implementation and operation. It also incorporates telehealth best practices and telehealth resource materials to offer a process customized to the telehealth environment.

The goal of the Program Developer is to allow new programs to learn from the experience of others, to reduce trial and error, and most of all to create successfully operating telemedicine programs. It can easily be adapted and customized to the size and formality of your program development.

Many contributors provided support to the development of the materials included in the Program Developer Kit. I would like to express my thanks to Mardell Hall for her assistance in refining the breadth of each step, to Payson Hall from the Catalysis Group, The National Center for Telehealth Law, Ezequiel Sandoval from Infinite Consulting, Vanessa McLaughlin from Edith Forge, Mary DeVany from the Great Plains Telehealth Resource and Assistance Center, and Megan Shull from CTEC.

The Program Developer is a living document that will continue to incorporate new best practices and lessons learned. Materials for the kit are available in print format and many are available online at the CTEC website. We welcome your feedback on using the Program Developer in your program.

Christine Martin
Executive Director
California Telemedicine & eHealth Center
The CTEC Telehealth Program Developer

You want to start your telemedicine program up quickly and you don’t want to learn by trial and error. You want to know when you are on track and when you should make adjustments. The CTEC Program Developer was designed to assist you in developing and implementing telehealth services. This Guide provides overview information on the process and the activities and information you will collect during each of the development phases.

Each of the steps is designed to allow your organization to consider critical aspects of development and to support decision making. The phases and steps are shown below:

Assess & Define
Three steps support assessing the environment and defining the proposed program:

- **Step 1: Assess Service Needs & Environment**
  - Assess service needs
  - Identify potential telehealth opportunities
  - Assess organizational readiness

- **Step 2: Define Program Model**
  - Consider the type of program that will meet needs

- **Step 3: Develop Business Case**
  - Determine the impact of the proposed telehealth program

Develop & Plan
Two steps support fully defining the activities necessary for program implementation:

- **Step 4: Develop and Plan Program & Technology**
  - Create a detailed project plan

- **Step 5: Develop Performance Monitoring Plan**
  - Define monitoring and evaluation mechanisms and program improvement process

Implement & Monitor
The final two steps support implementation and ongoing monitoring:

- **Step 6: Implement Telemedicine Program**
  - Perform all the work required to implement the program

- **Step 7: Monitor and Improve Program (Ongoing)**
  - Collect data
  - Monitor performance
The Steps Can Blend Together

Although the CTEC Telehealth Program Developer presents distinct steps, in actual practice the steps blend together into one process. Information from one step may overlap with another step and information obtained in a later step may require reconsideration of an earlier step.

Every Program Is Unique—Customize the Seven Steps For Your Organization

Telemedicine programs vary significantly in their objectives, size, and complexity. And organizations differ in the way they make decisions. Depending on the organization and the way you make decisions, you may need to develop written reports or simply provide an informal presentation. No matter the size of your program, CTEC recommends that you address each of the components in the Program Developer. Experience shows that programs that follow these guidelines, experience fewer setbacks and greater successes.

Why Not Just Start Implementing

“Measure Twice, Cut Once”

You may wonder why we just don’t start with Step Six: Implement the Program. After all, that’s what you intend to do. Experience has shown that the most successful telemedicine programs take the time to carefully identify and define program needs before beginning. A structured development process allows you to consider decisions and impact before making buying and other costly decisions. The danger of starting with Step Six is that you will be required to make decisions without necessary information and many of your decisions will have to be revisited and revised. These decisions are often costly and time consuming.

You may think that Steps One through Five will take a substantial amount of time, but the length of time required depends on the scope and complexity of the project. A small project may be done very rapidly, while a large project should not be done without careful coordination of tasks and stakeholders. Steps One through Five allow you to draw on the extensive experience of others thus avoiding known pitfalls.

It also allows you to identify and incorporate best practices into your program during the development, rather than making mistakes and having to rework your program as you go along.
Assess and Define

You’ve got to be careful if you don’t know where you’re going, because you might not get there.

- Yogi Berra

One: Determine Needs
Two: Define & Specify Program Model
Three: Define and Develop Business Case

Assess and Define

Steps One, Two and Three, will determine the clinical and community needs that would be supported through the development of a telehealth program. During Assess and Define, a needs assessment is undertaken to collect quantitative data on service level needs. Based on these needs, the type of telehealth program can be defined and a certain level of specificity can be developed about the telehealth program model. During these initial steps, the business case will be considered to determine how the program fits into the business plan of the organization, what revenue streams it may create, how it may be funded for start-up and operation and what secondary sources of revenue may be created from the telehealth program. This is also the time to fully consider the existing market place to determine if there is a market for a new telehealth program.

The first three steps will:

- Identify and document the need and rationale for the envisioned telemedicine program.
- Define the health care or other services your telemedicine program will deliver.
- Describe how the targeted services will be delivered.
- Perform a market analysis to determine if there is a market for the service you are proposing to provide and a willingness and mechanism to pay for it.

Tabs for steps One, Two and Three provide detailed information on activities related these steps.
Develop and Plan

A plan is a list of actions arranged in whatever sequence is thought likely to achieve an objective.

John Argenti, founder
Strategic Planning Society

Develop and Plan

Steps Four and Five are about planning – identifying the work that needs to be done and the steps required to achieve each of the work products. It is easy to think that planning is actually doing the work, but that occurs in Steps Six and Seven. All we want to do now is create detailed plans. In Steps Two and Three of your program development effort, you defined the program model, developed a high-level understanding of what will be required to deliver the targeted services in the proposed way, and developed a business case demonstrating why it makes sense to deliver the targeted services in the proposed way.

In Steps Four and Five you will:

- Use all the information collected in Step Two and Three to create a plan that details all the areas that require work during the implementation.
- Define all the tasks needed to build, test, deploy, and operate the program.
- Determine who will be needed perform the tasks.
- Estimate the hours required to do the work (effort).
- Estimate the timeline for the work.
- Determine if additional staff are required in certain areas.
- Develop a plan to monitor program performance and evaluate the program.

Tabs for Step Four and Five contain detailed information on these activities.
Implement and Monitor the Telehealth Program

Have a plan. Follow the plan, and you’ll be surprised how successful you can be.
Most people don’t have a plan.
That’s why it’s is easy to beat most folks.

Paul “Bear” Bryant, football coach
University of Alabama’s Crimson Tide

Six: Implement the Telemedicine Program
Seven: Monitor and Improve the Program

Implement and Monitor
With your plan in hand, you are now ready to implement your telemedicine program. Steps Six and Seven, allows an organization to use the written plans developed in Steps Five and Six to implement the new or expanded program. Because there is a written plan, the implementation team and executive management will be able to fully monitor progress and provide assistance and support if challenges arise. With the written plan, the team can monitor actual efforts to anticipated time, cost and use of resources.

In addition, ongoing monitoring of the program described in step seven, uses performance indicators to assess the impact of the program.

During Steps Six and Seven you will:
• Put into action the plans, decisions, and approaches identified in Step Four.
• Begin monitoring the program using the approach identified in Step Five.

Tabs for Steps Six and Seven contain detailed information on these activities.
Telehealth Program Developer
Step by Step Checklist

This checklist highlights the areas that will help you identify important factors to consider during each of the seven steps. If you answer no or unsure for any question, further work should be done to address the question.

Assess Service Needs & Environment

1. You know what healthcare services are not currently available to patients.
2. You have identified and prioritized activities suited for telehealth.
3. You have identified the assumptions and constraints for implementing a telehealth program.
4. You have decided on the top reasons for developing a telehealth program, based upon your needs assessment results.
5. You have determined that there is willingness and desire to pay for the fulfillment of the need.

Define and Specify Program Model

1. You know which services will be offered to meet the identified patient needs.
2. You have identified the mode of service delivery.
3. You have determined who will provide the service and where will they be located.
4. You have identified the organizational model that best suit your patient needs.
5. You have identified any constraints based on your organization, for example federally qualified health center rules.
6. You know the general technological features & functions that are needed to deliver the target services in the proposed way.
7. Of the choices of technology, you have selected the one most appropriate for your program.
8. You have identified any additional human resources needed and where will they be located.
9. You have identified any additional facility-related resources are needed and where will they be located.
10. You have identified any legal, legislative or regulatory constraints that your organization would need to consider when developing your telehealth program.
11. You have determined your program’s implementation approach (i.e., phased, pilot project, demonstration project)?

Yes No Unsure
Develop Business Case

1. You have determined approximate start up and operating costs for your telehealth program.
2. You have determined how the benefits of telehealth relate to the mission of your organization and the needs of the community.
3. You have identified the payer mix.
4. You have obtained financial commitment to implement and sustain your telehealth services.
5. You know the approximate expected cost reductions (e.g., providers who no longer travel to remote clinics).

Plan Program and Technology

1. You have identified the activities or steps that you will undertake to achieve your telehealth objectives.
2. You have developed a plan that you will need for managing the work involved in establishing a telehealth program.
3. You have identified who in a leadership position in the organization will be involved in your program and what their role will be.
4. You have identified members of your telehealth team and their roles and responsibilities.
5. You have developed a communication strategy to promote your telehealth services.
6. You have developed policies and procedures for operation of the program.
7. You have a suitable space for telehealth.
8. You have determined how appointments will be scheduled.
9. You have determined how referrals will be made.
10. You have identified the type of training needed and who needs to be trained.
11. You have developed clinical referral guidelines.
12. You have determined how telehealth will be integrated into clinic operations.
13. You have identified the detailed attributes of hardware, software, and telehealth (i.e., bandwidth, product standards, and product features).
14. You have defined the necessary service level and support agreements.
15. You have identified the interoperability and scalability requirements.

16. You have identified the existing organizational resources that can be used to meet specified requirements (e.g., existing network, hardware, equipment).

17. You have identified the types of approvals or authorizations required to assign existing resources to the telehealth services.

18. You know the organization’s procurement policies and procedures.

**Develop Performance Monitoring Plan**

1. You have developed an approach to measure, track, and achieve your targets for telehealth volume and utilization.

2. You have developed a plan to measure success in achieving your project goals, objectives and outcomes.

3. You have determined how you will know what impact telehealth has made in your organization.

4. You have identified data collection methods for obtaining the needed data.

5. If the performance objectives are not being met, you have developed a process or identifying and implementing the necessary changes.

6. You have determined how the program improvements will be defined, planned, implemented, tested, and managed.

**Implement the Telehealth Program**

1. You are monitoring project schedules and determining if deliverables are being met.

2. You are identifying risks and mitigating when necessary.

3. You have implemented your communication plan.

4. You have determined how needed program modifications are identified and managed.

**Monitor & Improve Program**

1. You can determine if the program is meeting its objectives.

2. You can identify what changes are needed to ensure that the program meets its objectives.
Using This Kit

Successfully building a telehealth relies on a number of critical skills including technology, clinical, and operational skills as well as program development and, often overlooked, project management skills. The CTEC Program Development Guide has been developed to bring together a project management process designed specifically for telehealth to allow new, operating and expanding programs to easily assess their current position, identify needed activities and actions, and move toward implementation or enhanced service delivery.

This kit contains a variety of materials to assist you

The Program Developer Guide that contains information on the major implementation activities, materials that have been developed to provide detailed information on a variety of telehealth topics, and templates that can be used to produce a variety of reports, worksheets and assessments. All of these materials have been developed using nationally recognized best practices for telehealth.

Volume One of the Kit contains the Program Developer Guide along with guides and templates that related to these tasks. Volume Two of the Kit contains a wide variety of general use guides and templates.

The CTEC website has additional information that is updated regularly and also provides critical information to support your program development.

Training videos to support these steps are available through the CTEC website.

A complete listing of the materials as of this printing is found in the Library of Resources.

Development Is Not Completely Linear

Although the steps presented here are in sequential order, keep in mind that steps often loop back on each other as more information is obtained. Sometimes you may gather information that is used in an immediate step as well as in a later step. Your development is unique to you; however the seven steps provides a foundation that covers the necessary analysis and decision points.
Guideposts

Throughout this guide you will find icons that are guideposts for action and activity. Each of the Guideposts is shown below:

In a nutshell: Provides a summary of the information in the guide.

Tools: Lists the various tools that will assist during the step

Before you move forward: Experience has shown that certain actions or inactions can seriously impact the quality or timeliness of your development. This guidepost alerts you to consider a critical factor before moving forward.

Get some additional information or direction: Lists or directs you to additional information.
This matrix contains a high level summary of the questions to answer for each of the steps, the products and activities associated with each step, and a listing of CTEC Guides, Video and Tools to support programs development efforts. New materials are released regularly. Check the CTEC website for new products and sign up for our emails to be alerted to new offerings.

**Step 1: Determine Program Need**

<table>
<thead>
<tr>
<th>Questions to Answer</th>
<th>Products and Activities</th>
<th>Program Developer Guides / Videos / Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>• What might telemedicine do for my organization?</td>
<td>• Perform Organization Readiness Assessment</td>
<td>• Program Developer Guide</td>
</tr>
<tr>
<td>• Is my organization ready and willing to support telemedicine development?</td>
<td>• Organizational Readiness Assessment Report</td>
<td>• Assessing Organizational Readiness Guide</td>
</tr>
<tr>
<td>• What resources need to be allocated for initial planning?</td>
<td>• Approval to Proceed</td>
<td>• Organizational Readiness Video</td>
</tr>
<tr>
<td>• What are the unmet healthcare needs of our existing and potential patients?</td>
<td>• Allocation of resources</td>
<td>• Organizational Readiness Assessment Template</td>
</tr>
<tr>
<td>• Which of these needs may be met using telehealth?</td>
<td>• Perform Needs Assessment</td>
<td>• Organizational Readiness Summary and Approval Template</td>
</tr>
<tr>
<td>• What provider related needs or opportunities might be met with telehealth?</td>
<td>• Needs Assessment Report</td>
<td>• Predictors of Success Video</td>
</tr>
</tbody>
</table>

**Step 2: Define Your Program Model: Preliminary Definition and Scope**

<table>
<thead>
<tr>
<th>Questions to Answer</th>
<th>Products and Activities</th>
<th>Program Developer Guides / Videos / Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>• What services have you decided to provide?</td>
<td>• Kick Off Meeting</td>
<td>• Charter Template</td>
</tr>
<tr>
<td>• How will the services be provided?</td>
<td>• Preliminary Program Charter</td>
<td>• Sample Kickoff Meeting Agenda</td>
</tr>
<tr>
<td>• What is the proposed scope of the program?</td>
<td>• Preliminary Program Proposal</td>
<td>• Project team composition checklist</td>
</tr>
<tr>
<td></td>
<td>• Telemedicine Program Model</td>
<td>• Best Practices for Step Two</td>
</tr>
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<td></td>
<td>• Preliminary Technology Assessment</td>
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</tbody>
</table>
Step 3: Detailed Analysis of the Program Model: Detailed Analysis: Cost, Service Delivery, Technology and Business Analysis

<table>
<thead>
<tr>
<th>Questions to Answer</th>
<th>Products and Activities</th>
<th>Program Developer Guides / Videos / Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>• What is the estimated demand for the service?</td>
<td>• Market Analysis</td>
<td>• Reimbursement Guide</td>
</tr>
<tr>
<td>• What service and technology estimates/assumptions are being used for the cost projections?</td>
<td>• Business Case Report</td>
<td>• FQHC Reimbursement Guide</td>
</tr>
<tr>
<td>• What is the financial model associated with the proposed program?</td>
<td>• Clinical Services Requirements and Implementation Approach / Strategy</td>
<td>• Telecommunications Discount Guide</td>
</tr>
<tr>
<td>• How will the program be funded or supported – initially / ongoing?</td>
<td>• Technology Requirements and Implementation Approach / Strategy</td>
<td>• FQHC Reimbursement Video</td>
</tr>
<tr>
<td>• How will the program impact the organizations financial position?</td>
<td>• Site Readiness Assessment</td>
<td>• Market Analysis Video</td>
</tr>
<tr>
<td>• Is the program sustainable?</td>
<td>• Updated Program Charter</td>
<td>• Marketing Guide</td>
</tr>
<tr>
<td>• Will the program create revenue in another area of the organization?</td>
<td>• Approval To Proceed</td>
<td>• Marketing Templates</td>
</tr>
<tr>
<td>• Will the program require subsidy from the organization?</td>
<td>• Staff plan</td>
<td>• Sample Consent Form</td>
</tr>
<tr>
<td>• Is there a demonstrated return on Investment?</td>
<td></td>
<td>• Provider selection template</td>
</tr>
<tr>
<td>• What are the clinical program requirements?</td>
<td></td>
<td>• Roles and Responsibilities Video</td>
</tr>
<tr>
<td>• What are the operational program requirements?</td>
<td></td>
<td>• Roles and Responsibilities Guide</td>
</tr>
<tr>
<td>• What are the technology requirements?</td>
<td></td>
<td>• Technology Guide</td>
</tr>
<tr>
<td>• How will the technology requirements be met?</td>
<td></td>
<td>• Site Readiness Assessment Worksheet</td>
</tr>
<tr>
<td>• What implementation approach will be used?</td>
<td></td>
<td>• Best Practices for Step Three</td>
</tr>
</tbody>
</table>
### Step 4: Create A Detailed Plan: Add the Specifics

<table>
<thead>
<tr>
<th>Questions to Answer</th>
<th>Products and Activities</th>
<th>Program Developer Guides / Videos / Tools</th>
</tr>
</thead>
</table>
| • What are the tasks needed to implement the program?  
  • Clinical Services  
  • Operational  
  • Technology  
  • Human Resources  
  • Physical Environment  
  • What are possible challenges and how will we handle problems?  
  • How will the work be organized?  
  • How will we communicate with stakeholders? | • Clinical Services Implementation Plan  
• Technology Implementation Plan  
• Communication Plan  
• Budget | • Training Guide  
• Training Templates  
• Competency skills template  
• Sample Duty Statements  
• Room Design Guide  
• Best Practices for Step Four |

### Step 5: Develop Performance Monitoring Plan

<table>
<thead>
<tr>
<th>Questions to Answer</th>
<th>Products and Activities</th>
<th>Program Developer Guides / Videos / Tools</th>
</tr>
</thead>
</table>
| • How will overall program performance be monitored and assessed?  
  • What data will be need to be collected?  
  • How will the data be collected?  
  • How will program modifications and modifications be identified and implemented? | • Program Monitoring Plan  
• Quality Improvement Process | • Performance Indicators and Data Elements Matrix  
• Best Practices for Step Five |

### Step 6: Manage the Implementation of the Program

<table>
<thead>
<tr>
<th>Questions to Answer</th>
<th>Products and Activities</th>
<th>Program Developer Guides / Videos / Tools</th>
</tr>
</thead>
</table>
| • Are project schedules being met?  
  • Are risks being identified and mitigated?  
  • Is a communication plan in place?  
  • Is work being done in a quality manner?  
  • Do any tasks need revision?  
  • Are any needed program modifications being identified and managed?  
  • Is the program ready for operation? | • Project Management Reports  
• Program deliverables | • Sample Clinical Protocols  
• Video Etiquette/Procedures  
• Completion Checklist  
• Patient Informating and Consent Materials  
• Best Practices for Step Six  
• Dermatology Guide  
• Diabetic Retinopathy Guide |
### Step 7: Begin Service; Ongoing Program Monitoring and Improvement

<table>
<thead>
<tr>
<th>Questions to Answer</th>
<th>Products and Activities</th>
<th>Program Developer Guides / Videos / Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Is the program meeting its objectives?</td>
<td>• Data analysis reports and/or presentation</td>
<td>• Patient Satisfaction Survey</td>
</tr>
<tr>
<td>• What program changes would ensure that the program meets its objectives?</td>
<td>• Improvement logs and data collection documents</td>
<td>• Best Practices for Step Seven</td>
</tr>
<tr>
<td>• What challenges or improvements have been identified?</td>
<td>• Implemented improvements and changes to the program</td>
<td></td>
</tr>
</tbody>
</table>
CTEC Telehealth Program Developer Kit

Library of Resources

A variety of tools and reference materials will be available in paper and electronic media depending on the product. Some will be available in the Kit (paper format).

Additional information is planned for availability on the CTEC website.

Toolkit Resources

Volume I:

Guides On Program Development and Operations
  - Telehealth Program Developer Guide
  - Best Practices for Telehealth Programs
  - Organizational Readiness Guide
  - Needs Analysis Guide
  - Compendium of Performance Indicators and Data Elements
  - Market Analysis & Marketing

Videos
  - Telemedicine Overview
  - Technology Used in Telemedicine
  - A Live Interactive Telemedicine Visit
  - Attributes of Successful Telemedicine Programs
  - Assessing Organizational Readiness
  - Conducting a Telemedicine Needs Assessment
  - Market Analysis
  - FQHC Reimbursement Models
  - Patient Site Staff Roles and Responsibilities
  - Remote Clinician Staff Roles and Responsibilities
  - Telemedicine Room Design and Set-Up
  - What Every Telemedicine Presenter Needs to Know

Tools and Templates
  - Program Developer –Step Completion Checklist
  - Organizational Readiness Assessment Template
  - Organizational Readiness Assessment – Summary of Findings Template
  - Preliminary Technology Assessment - Template
  - Needs Analysis Worksheet
  - Program Charter – Template
Business Case Template
Program Plan Checklist
Project Plan Template
Performance Monitoring – Data Selection Template
Performance Monitoring – Identifying Data Sources – Template
Project Implementation Status Report – Template

Volume II: Resources (partial list)

Program Development and Operations Guides
Telehealth Technology and Telecommunications Overview Guide
Video Tips and Etiquette
Telehealth Reimbursement Guide
FQHC / RHC Reimbursement Guide
Promoting Your Program
Roles and Responsibilities
Training The Program and Organization Staff

Tools and Templates
Provider Selection Template
Sample Clinical Protocol Format
Sample Patient Satisfaction Surveys
Sample duty statements
Site Readiness Assessment Template
Staffing Plan Templates
Competency Skills Assessment Template

CTEC Website Resources

Guides On Clinical Programs
Diabetic Retinopathy Program Guide
Dermatology Program Guide

Policy Guides
Optimizing Telehealth In California: A Agenda for Today and Tomorrow
If You Bill It They Will Come

National Telehealth Reimbursement Scan
Inventory of California Telehealth Programs
The CTEC Telehealth Program Developer
Seven Steps to Successful Telehealth Program Development

The Seven Steps

This section contains the detailed information on each step along with specific program guides and templates to create the analysis, assessments, and written reports to document findings decisions and progress. This section also contains the questions that should be answered during the step, the activities that should be undertaken, and the products that should be produced.

Each tab covers an individual step with the materials related to that step included in the Tab. There are a variety of other reference materials that cover multiple steps and will be needed as you work on each individual step. These materials are found in Volume II of the CTEC Telehealth Program Developer Kit or can be found online at the CTEC website.

**Assess and Define:** Three steps support assessing the environment and defining the proposed program.

- **Step 1:** Assess Service Needs & Environment
- **Step 2:** Define Program Model
- **Step 3:** Develop Business Case

**Develop and Plan:** Two steps support fully defining the activities necessary for program implementation.

- **Step 4:** Plan Program & Technology
- **Step 5:** Develop Performance Monitoring Plan

**Implement and Monitor:** The final two steps support implementation and ongoing monitoring.

- **Step 6:** Implement the Telemedicine Program
- **Step 7:** Monitor and Improve Program (Ongoing)
Step One
Assess Service Needs & Environment

<table>
<thead>
<tr>
<th>Questions to Answer</th>
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<tbody>
<tr>
<td>• What are the unmet healthcare needs of our existing and potential patients?</td>
<td>• Needs Analysis &amp; Report</td>
</tr>
<tr>
<td>• Which of these needs may be met using telehealth?</td>
<td>• Organizational Readiness Assessment &amp; Report</td>
</tr>
<tr>
<td>• What provider related needs or opportunities might be met with telehealth?</td>
<td>• Preliminary Technology Assessment &amp; Report</td>
</tr>
<tr>
<td>• Are there any major organizational or technologies barriers that should be</td>
<td>• Learn about telehealth</td>
</tr>
<tr>
<td>addressed before starting development?</td>
<td>• Engage stakeholders</td>
</tr>
<tr>
<td>• Is telehealth in line with organization mission, strategic plan?</td>
<td>• Read the CTEC Best Practices Guide</td>
</tr>
</tbody>
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Telehealth programs usually get started because there are unmet healthcare needs that might be addressed by providing telehealth – technology enabled healthcare from a distance. Perhaps your community needs medical specialty services or clinicians need more access to continuing education. Perhaps you have heard that home monitoring of chronic disease patients reduces hospital and emergency department admissions. Telehealth has many applications and uses, so a first task is to determine what your community needs and how telehealth could address those needs.

In the initial step of program development you will explore telehealth, identify service needs that might best be met with a telehealth application, and take a look at your organization to assess if there are any barriers that might hinder successful implementation.

It is often useful to bring a team together early in the assessment process to assure that all stakeholders are involved in performing the research and developing recommendations about the program.

In a nutshell: During Step One you will:
• Identify and assess unmet clinical, educational or administrative needs
• Assess your organizational readiness
• Perform a preliminary technology assessment
• Identify potential telehealth opportunities
• Learn about telemedicine
Activities

1. Assess Organizational Readiness

Knowing if your organization is ready to take on the challenges and embrace the opportunities of implementing a telemedicine program is an essential component of Step One. The best time to assess readiness is before you begin development and implementation. Identifying any serious barriers early will allow opportunity to address before the project is impacted.

Tools for this Activity:
- Organizational Readiness Assessment - Video
- Organizational Readiness Assessment - Guide
- Organizational Readiness Assessment - Template
- Organizational Readiness Assessment – Summary of Results

2. Analyze Needs: Identify & assess unmet clinical, educational and administrative needs

This step may seem simple but the success of your program will, to some extent, depend on the research and effort you have placed on really identifying unmet needs. It is easy enough to say “we need dermatology” but successful programs go further and identify what level of service is needed and why it is a current need. Whether you are a large health system developing a provider network or a single rural health clinic, an analysis of need of the population you intent to serve with telehealth is.

In a nutshell: Determine the current capacity to provide services and the current need for those services. Don’t rely completely on perceived needs. Collect data. It will be important as you develop your service.
First, decide on the scope or extent of your analysis. Will your analysis focus on the patients and providers in your clinic or will it look at needs within the community that are currently not being addressed.

Second, decide what data you will collect, where this data might exist, and how you will get the data. Billing records, referral records, surveys and interviews with clinicians and patients, public health data, needs assessments of other agencies, interviews with community leaders are all great ways to collect information. The idea is to find out what is needed and then to quantify this need so you can create measurable program goals and objectives. This analysis also assures that there is an adequate need for services before you make decisions about the program design and model.

Third, determine what current services are, what you want them to be and the difference between the two – it’s often call the gap or a gap analysis.

Fourth, prioritize the needs – there may be more needs or opportunities to use telehealth than you think you can start all at once.

Fifth, identify any major barriers that would impact the ability to move forward with the needed services.

Tools for this Activity:
Needs Assessment - Guide
Needs Analysis - Worksheet

Put It In Writing!

Even if the needs analysis is not a highly detailed or formal report, it is strongly recommended that the results be developed into a written format. Later in the development you will need to review your original assumptions and decisions.

3. Preliminary Technology Assessment

You and your IT staff will want to do an initial assessment of your connectivity and network so you can determine if there are major barriers or improvements that will be needed as you look at the type of services you would like to provide.
4. Learn about telehealth

This is a great time to begin learning about telehealth – how it works, different applications, what equipment is used, what resources are available – everything and anything. This kit and the CTEC website have short videos on many introductory topics as well as reference guides in many areas. Many other websites and organizations have great information as well. CTEC staff can help you find resources for your areas of interest. See Tab : Resources for a complete listing of Program Developer Resources.

This is also a good time to consider attending a training program, enrolling in an online program or bringing some training to your organization. Volume II contains training resources.

5. Read the Best Practices

The Best Practices Tab has a compendium of lessons learned by other telehealth programs which can be most helpful to you during development.
Have you covered everything?

Take a look at the Step One Checklist. You may see some things to consider before you move on.

### Assess Service Needs and Environment Checklist

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. You know what healthcare services are not currently available to patients.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. You have identified and prioritized activities suited for telehealth.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. You have identified the assumptions and constraints for implementing a telehealth program.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. You have decided on the top reasons for developing a telehealth program, based upon your needs assessment results.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. You have determined that there is willingness and desire to pay for the fulfillment of the need.</td>
<td></td>
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</tbody>
</table>
Organizational Readiness Tools

The following tools may be of assistance in performing an organizational readiness assessment:

1. The Organizational Readiness Guide that assist in looking at key factors for successful program initiation.

2. The Organizational Readiness Assessment Template has the questions you want to answer to determine if your organization is ready to begin telehealth development.

3. Organizational Readiness Assessment Summary Template transfers the answers from the Assessment template to a summary document that can be used to present your findings to an oversight or governance body.

Funded with generous support from The California Endowment
Assessing Organizational Readiness
Is Your Organization Ready for Telehealth?

Determining organizational readiness is an initial step an organization should take to assure that a new telehealth program will be fully adopted and utilized.

Telehealth offers healthcare organizations new and effective systems for delivering healthcare and, in many instances, allows organizations to reach far beyond current service offerings and think creatively about delivery models. Implementing a telehealth program is an organizational change, and like all change it’s about people. Technology is a cornerstone of telehealth programs; however, successfully implementation requires the ability to manage change.

Telehealth Programs don’t always begin as a result of an organization’s strategic planning process. In many cases, an individual within the organization takes an interest in telehealth and begins to promote that idea to others. Ideally, an organization embraces telehealth and makes optimal use of the technologies, but unfortunately there are programs that did not adequately or accurately assess the current position of the organization prior to starting a telehealth program and as a result end up with expensive equipment sitting idle in a closet.

How do you know if your organization is ready to take on the challenges and embrace the opportunities of implementing a telehealth program? The best time to assess an organization’s readiness for change is before you begin implementation. The importance of assessing your organization’s readiness for change cannot be underestimated.

What exactly is organizational readiness and why is it important?

Organizational readiness – the willingness and ability of an organization to shift from its current way of operating.

Organizational readiness is becoming aware of the current state of an organization in the context of going somewhere new. Organizations that successfully implement a telehealth program have the internal ability and willingness to move in a new direction. Willingness focuses on the desire of the organization and its employees to change and embrace new ways of working. Ability focuses on having or acquiring the skill sets necessary to successfully implement a change. Assessing organizational readiness will identify any major challenges that could delay or prevent your new program’s successful start-up. Organizational strengths can be leveraged to assist in program development and acceptance.

Experts estimate that 50 percent of all change efforts fail because leaders do not sufficiently assess organizational readiness for change.
Performing a Readiness Assessment

Performing an evaluation of organizational readiness does not have to be time consuming, and in many cases can be easily accomplished in a day. This assessment may be as simple as reviewing the steps in the guide to assure that critical areas have been considered or as detailed as a written presentation for executive management. The level of formality depends on your organization’s needs and culture. No matter how extensive the review, the assessment or organizational readiness is a critical component of a successful telehealth program.

Describe the desired program and how it would change the existing organization.

The first task in assessing organizational readiness is to identify the desired new program. Develop a short paragraph that specifically describes the action or program that the organization is considering. While this may seem rather basic, it will assure that all stakeholders have the same vision.

Some examples might be:
- For a clinic: Implement a telehealth program that allows medical specialty services to be provided at a clinic using remote specialists.
- For a hospital: Implement a telestroke program that provides telehealth neurology consults for emergency department patients experiencing stroke symptoms.
- For a provider: Expand the existing practice to provide dermatology services to new and existing patient referral.

Determine how the proposed project would align with the Current Organization.

The second task in assessing organizational readiness is to determine how the existing state of the organizations relates to the desired new program. It is desirable to assess the alignment of the proposed project with the organization’s current vision, mission, and strategic plan. Consider the following questions to determine your organization’s readiness to take on the proposed new program.

1. Does the proposed project align with the organization’s current vision, mission, and strategic plan?
   - Does the project support the organization’s vision of its desired future?
   - Does the project align itself with the organization’s belief of who it is, what it does, and how it serves?
   - Does the project support the organization’s approach to achieving its goals and objectives?
2. Is the proposed project consistent with the organization’s values and culture?
   - Is the project consistent with the organization’s guiding principles?
   - Does the project align with the organization’s existing beliefs, assumptions, and expectations?
   - Does the organization’s culture support innovation and clinical technology applicants?

3. Are resources available to begin development of the proposed project?
   - Is funding available for the initial planning activities?
   - Is there staff available to work on the project?
   - Are there leadership groups in place to foster support?

4. Does the proposed program have a champion?
   - Is there a clinical champion for the project?
   - Is there an administrative champion for the project?
   - Are there leadership groups in place to foster support?

5. Do stakeholders support the program?
   - What perceptions do stakeholders have about the proposed program?
   - Are stakeholders educated about the proposed program?

6. Who has authority over the proposed program?
   - Who has to approve the project?
   - Are they supportive of the project?

7. Are there potential opportunities or barriers to initiating the program?
   A SWOT Analysis can be beneficial in assessing organizational readiness for implementing a new program. SWOT identifies an organization’s strengths and weakness and may identify any areas that need change in order to move forward. It identified opportunities that will contribute to success and the treats or barriers that may inhibit success.
   - What are the organization’s strengths?
   - What are the organization’s challenges or weaknesses?
   - Where are the organization’s business opportunities?
   - Are there any barriers to the organization’s success?

8. Is your organization technology ready?
   Performing a preliminary technology assessment can assist in identifying barriers to program success. Describe and direct reader to location:
After the Assessment: Summarize findings, address possible challenges or deficiencies, obtain support and approval

Answering the questions above will give you a good idea about whether your organization is fully ready to undertake a new program implementation. If not fully ready, the assessment will give you a clear picture of what specific areas require attention before proceeding, such as obtaining support from stakeholder groups. After making any necessary organizational adjustments or changes, reviewing the assessment worksheets again will help ensure that you are ready to move forward.

When there is agreement that the organization is ready to move forward, a structured program development process can be extremely beneficial in keeping your implementation on track with a minimum of problems.
Needs Analysis Tools

The following tools that may be of assistance in performing a needs analysis.

1. **Needs Assessment – Areas to Consider and Data Sources**, contains a variety of questions that might be pertinent to your needs analysis and suggests some possible data sources.

2. **The Guide To Performing A Formal Needs Assessment**, provides details on the tasks involved in creating a large scale needs assessment. Some organizations might require this level of discovery and analysis. It can be simplified as described in Step One for smaller studies. The information, however, can be very useful to consider.

3. **The Needs Assessment Worksheet** is a template that contains key questions to consider as you analyze your unmet needs and space for you to document any thoughts or answers.
Needs Assessment
Inquiries Topics

There are many ways to collect data on community needs and resources. Provided below are sample data that may be collected in determining your community needs and identifying services that may be provided via telehealth. Also included are suggestions on how to locate the data for each of the data collection recommendations. Please keep in mind that this is not an exhaustive list, and it should be modified or adopted to meet your organizational needs.

Demographic and Socioeconomic

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Possible Data Sources</th>
</tr>
</thead>
</table>
| **Age Analysis:** Compare the county and state percentage age distributions and describe how the county age distribution is different from the state. | 1. CDC National Center for Health Statistics http://www.cdc.gov/nchs/  
3. State health department |
| **Race/Ethnicity Analysis:** Compare county and state distributions and describe how the county distribution is different from the state? Do you have any racial/ethnic group needing special consideration? | 1. CDC National Center for Health Statistics http://www.cdc.gov/nchs/  
3. State health department |
| **Socio-Cultural-Demographic Features:** Identify any unique features of your county that may increase risks of health problems for members of your community (i.e. poverty, high unemployment). | 1. US Census Bureau http://quickfacts.census.gov/qfd/index.html  
2. State health department |

Health Status

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Possible Data Sources</th>
</tr>
</thead>
</table>
| **How does your county compare with the rest of the state on chronic disease indicators?** | 1. CDC Data and Statistics http://www.cdc.gov/DataStatistics/  
2. CDC Behavioral Risk Factor surveillance Survey http://www.cdc.gov/brfss/index.htm  
3. State Health Department |
| • Coronary Heart Disease Mortality Rate  
• Cerebrovascular Disease Mortality Rate  
• Hospitalization Rate for Diabetes  
• Hospitalization Rate for Asthma |  |
| **What is the percent of the population with behavioral risk factors?** | 1. CDC Data and Statistics http://www.cdc.gov/DataStatistics/  
2. CDC Behavioral Risk Factor surveillance Survey http://www.cdc.gov/brfss/index.htm  
3. State Health Department |
| • Cigarette smoking  
• Hypertension  
• Hypercholesterolemia  
• Diabetes mellitus  
• Physical activity  
• Family history of hypertension  
• Family history of hypercholesterolemia  
• Family history of diabetes mellitus |  |
<table>
<thead>
<tr>
<th>Question</th>
<th>Possible Data Sources</th>
</tr>
</thead>
</table>
| Are there any special populations with chronic disease problems (i.e. race, migrant workers)? | • CDC Data and Statistics  
http://www.cdc.gov/DataStatistics/  
• CDC Behavioral Risk Factor Surveillance Survey  
http://www.cdc.gov/brfss/index.htm  
• State Health Department |
| What conditions drive your re-admission rates?                           | • Review your hospital/clinic re-admission records to identify those conditions that patients are most commonly readmitted for.                           |
| Are there any diseases or diagnoses that you have found to be particularly difficult to manage locally? | • Review your hospital/clinic service data to identify diseases or diagnoses that are commonly referred out to other sites for service provision |

**Service Availability**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Possible Data Sources</th>
</tr>
</thead>
</table>
| Are there any special problems your community faces that restrict access to care (i.e. location, hours of operation, and lengthy wait for next appointment)? | 1. Survey community members to identify any restrictions to access to care at your site.  
2. Facilitate focus group interviews with community members to identify any restrictions to access to care at your site.  
3. Review your hospital/clinic scheduling records to identify services that have longer wait times for the next available appointment. |
| What percentage of your population lacks health insurance coverage?           | 1. State health department  
2. US Census Bureau  
http://quickfacts.census.gov/qfd/index.html  
3. Medicare and Medicaid reports |
| What specialty services are needed but not available in your community?       | 1. Review your hospital/clinic service data to identify clinical services are available and not available at your site.  
2. Review your hospital/clinic referral records to identify services that are regularly transported out.  
3. Review health status data collected to determine additional services that may be needed in your community.  
4. Survey your target population to identify services they need, but are not available. |
| Are there any populations not served by language-specific or culturally knowledgeable service providers? | 1. Review county demographic information to identify specific populations located in your service area.  
2. Review your hospital/clinic records to identify those populations that are in your service area, but not served by language-specific or culturally knowledgeable service providers |
Are there any gaps between healthcare service needs and available resources?

Compare identified healthcare service needs to your community’s available resources.
- Service needs can be identified through review of hospital/clinic service records, referral records, demographic and socio-economic data, and feedback received from patients or others in the community.
- Available resources can be identified through asset mapping – identification of local resources in the community.

Where does the demand for healthcare services regularly exceed local resources?

- Review your hospital/clinic referral patterns to identify services that are regularly referred out to other sites or regularly referred to your site.
- Review your hospital/clinic scheduling patterns to identify services that have long wait times for seeing the provider (helps to determine any provider shortages).
- Review your hospital/clinic scheduling patterns to identify types of services scheduled.

### Referral Patterns

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Possible Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are your predominant referral patterns?</td>
<td>- Review your hospital/clinic referral patterns to identify the type of services that are regularly referred out to other sites or referred to your site.</td>
</tr>
<tr>
<td></td>
<td>- Identify where the services are referred to or from and why they are referred (service is not available at all at your site; service is available, but no appointments are available in the near future; service is not available at a distant patient site).</td>
</tr>
<tr>
<td></td>
<td>- Review your hospital/clinic scheduling patterns to identify services that have long wait times for seeing the provider (helps to determine any provider shortages).</td>
</tr>
<tr>
<td></td>
<td>- Review your hospital/clinic scheduling patterns to identify types of services scheduled.</td>
</tr>
<tr>
<td>Do you currently refer patients to other sites?</td>
<td>- Review your hospital/clinic referral patterns to identify the type of services that are regularly referred out to other sites and how often referral are made for each service.</td>
</tr>
<tr>
<td>What diagnoses/healthcare services are commonly referred or transported out?</td>
<td>- Review your hospital/clinic referral patterns to identify the type of services that are most commonly referred out to other sites.</td>
</tr>
</tbody>
</table>
Does your organization have existing referral relationships with distant sites or specialty services?  

- Review your hospital/clinic referral patterns to identify the type of services that are regularly referred out to other sites and how often referral are made for each service.

What diagnoses/healthcare services are commonly referred or transported out?  

- Review your hospital/clinic referral patterns to identify the type of services that are most commonly referred out to other sites.

- Survey community members to identify where they go to receive healthcare services that are not available locally.

- Facilitate focus group interviews with community members to identify where they go to received healthcare services that are not available locally.

Are healthcare providers in your organization currently traveling to other communities/organizations to provide care?  

- Review your hospital/clinic referral patterns to identify the type of services that are regularly referred to your site.

Are there healthcare providers traveling to your organization from another community/organization to provide care to patients?  

- Review your hospital/clinic service data to identify services that require healthcare providers in your organization to travel to a different location to provide care.

Are there healthcare providers traveling to your organization from another community/organization to provide care to patients?  

- Review your hospital/clinic service data to identify services that require a healthcare provider from another site to provide care to patients in your service area.

---

Administrative/Educational Events

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Possible Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are there any educational events that currently involve travel time and expense, but do not require in-person attendance?</td>
<td></td>
</tr>
</tbody>
</table>

- Review the schedule of educational events attended by staff at your site to determine if any involve travel, but do not require in-person attendance.  

- Survey staff to gather additional data on educational events that involve travel, but do not require in-person attendance.  

| Is there an interest in accessing educational events (ground rounds/CME) offered at other sites that have videoconferencing capabilities? |  

- Survey staff to determine if there is an interest in access educational events offered at other sites.  

| Are there meetings and events that currently take place at your organization that involve travel to another location, but do not require in-person attendance? |  

- Review the schedule of meetings and events that take place at your organization that involve travel to another location, but do not require in-person attendance.  

- Survey staff to gather additional data on meetings and events that involve travel, but do not require in-person attendance.
## Payer Mix

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Possible Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>How many unique patient visits does your site receive per year?</td>
<td>• Review your hospital/clinic service data to identify the number of patients served.</td>
</tr>
<tr>
<td>What is the payer breakdown for those visits?</td>
<td>• Review your hospital/clinic billing data to identify the payer mix for the patients your site serves.</td>
</tr>
<tr>
<td>• Medicare</td>
<td>• State Health Department</td>
</tr>
<tr>
<td>• Medi-Cal</td>
<td>• Medicaid reports</td>
</tr>
<tr>
<td>• Commercial/Private Payer</td>
<td>• State Health Department</td>
</tr>
<tr>
<td>• CMS P</td>
<td>• Medicare reports</td>
</tr>
<tr>
<td>• Self pay</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>What is the Medicaid spending by county for the region you serve?</td>
<td>• State Health Department</td>
</tr>
<tr>
<td>What is the Medicare spending by county for the region you serve?</td>
<td>• State Health Department</td>
</tr>
</tbody>
</table>

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Guide to Performing A Formal Needs Assessment

Introduction

When rolling out telehealth programs to deliver healthcare at a distance, it is particularly tempting to begin development efforts by looking at the newest telehealth equipment and deciding to implement a program. However, for best results, you should first conduct a needs assessment.

What is a Needs Assessment?

A needs assessment is a process used to identify the health care needs of a community. Needs assessments collect and analyze data to determine the current level of service availability, the desired level of service availability and the gap between the two. With data driven need identification, your organization's clinical, executive, administrative, and other key stakeholders are better able to evaluate the rationale for developing the envisioned telemedicine program. A needs assessment can be summarized in a single page or in a volume depending upon our requirements and resources.

Conducting a needs assessment provides many benefits, including:

- Clear understanding of community need
- A foundation for program development
- Clear objectives and shared expectations among stakeholders
- Improved coordination of services and rational allocation of resources
- The ability to evaluate program effectiveness
- Information for the marketing analysis and business plan

The needs analysis, market analysis, and business model development are interrelated activities. Organizations may wish to combine needs assessment activities market research and analysis activities.
There are many ways to conduct a needs assessment. For simplicity, we are providing one framework that you may adapt. The size and scope of your envisioned telemedicine program will determine how formal or comprehensive your needs assessment will be.

Don’t worry if you get part way through and find yourself amending previous activities. This is not a linear process. It is as interactive and dynamic as your services are likely to be.

The following table summarizes the activities of a needs assessment.

<table>
<thead>
<tr>
<th>Steps</th>
<th>Activities</th>
<th>Using this step you will</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define the Scope</td>
<td>Identify your assessment’s scope</td>
<td>Determine how much of the community’s unmet needs you can handle. Are you going to limit your analysis to some specific telemedicine application area or some targeted illness or a particular geographic location?</td>
</tr>
<tr>
<td>Data Collection</td>
<td>Identify your assessment approach</td>
<td>Identify what information you will consider to establish possible needs and opportunities. Consider what analysis methods will be used and, if looking at new information, determine how data will be collected. Who will do this work?</td>
</tr>
<tr>
<td>Gap Analysis</td>
<td>Identify your current and desired states</td>
<td>Describe the current patient, health care services, and provider environment (i.e. what your organization does now) and identify the new or augmented patient, health care services, and provider environment that will be supported by telemedicine programs (i.e. what you want to do) in the future.</td>
</tr>
<tr>
<td></td>
<td>Identify the Gap</td>
<td>Define the difference between what you currently do and what you envision doing. Explain what is needed to bridge the “gap” by describing all new or expanded clinical services, the anticipated telemedicine delivery model and high-level technology, provider and other requirements.</td>
</tr>
<tr>
<td>Potential Barriers</td>
<td>Identify barriers</td>
<td>Describe obstacles and challenges to achieving the desired state. What additional steps you must take to achieve your objectives? Can you take those steps?</td>
</tr>
<tr>
<td>Services Priorities</td>
<td>Assign priorities</td>
<td>Rank the new or expanded clinical services and other objectives in priority order. If subsequent analysis or occurrences determine it is not feasible to implement all services or it is not feasible to implement all at once, the priorities will help identify which services to pursue.</td>
</tr>
<tr>
<td>Next Steps</td>
<td>Summarize and present results</td>
<td>Pull together the results of your needs assessment and present them to key stakeholders. Seek permission or buy-in for continuing with the program development effort.</td>
</tr>
</tbody>
</table>
Task 1: Defining the Scope

The initial task in the needs assessment process is to define the scope. In most cases it is done to determine how telemedicine might best meet the unmet needs of the community.

Questions to consider during this step include:

- Whose needs will be assessed? Some or all of the existing patient population? Some or all of a projected (potential) new patient population? Providers (e.g., continuing education requirements)? Some or all of your organization (e.g., main hospital and clinics)?
- Which types of healthcare services will be evaluated? Primary care? Specific types of specialty care?
- How extensive will the needs assessment be?
- What kind of resources will be available to conduct the needs assessment?

Task 2: Identify Assessment Approach

In this task, you will identify how you will structure and conduct your assessment. Your approach should describe your preliminary assumptions about what specific information you will consider and how you will gather it.

Information, or data, will be at the heart of your needs assessment. You may gather new data to consider in your analysis and you may need to also look at information previously gathered by others.

Provided in the table below is an overview of the major sources of information that may contribute to your needs assessment activities.

<table>
<thead>
<tr>
<th>Class</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary data</td>
<td>Original or new data that you expect to collect and analyze in the course of your assessment. Examples of primary data include: results from patient surveys; notes from a focus group conducted to gather information on needed healthcare services; etc.</td>
</tr>
<tr>
<td>Secondary data</td>
<td>Information that has already been collected which you can analyze or reference in your needs assessment. Secondary data can exist in previously analyzed form or raw data form (that you can do additional analysis upon). Examples of secondary data would include the health history information the hospital maintains on its clients.</td>
</tr>
<tr>
<td>Qualitative data</td>
<td>Information or facts presented in a narrative format and that generally cannot be presented numerically and cannot serve as the basis for statistical analysis. Interview data is an example of qualitative data.</td>
</tr>
<tr>
<td>Quantitative data</td>
<td>Information presented in numerical terms and that can serve as the basis for some statistical analysis. An example would be results of a survey where respondents can only select from among a fixed set of responses.</td>
</tr>
</tbody>
</table>
Questions to help establish your needs assessment approach:

- What existing (secondary) information is available?
- What new information (primary data) is needed? Where and how will you gather that information?
- How will the needs assessment process be coordinated and monitored?
- How will data be analyzed?
- When, how, and in what form will results be presented?
- Who will do this research?

Data Gathering Tools
Assessment tools commonly used to gather the information for a needs assessment include:

- Focus group interview -- Qualitative method of conducting in-depth interviews with a small number of people whose discussion is planned and facilitated by a moderator.
- Public issues forum – Qualitative method of collecting information from large groups of community members.
- Secondary data analysis – Pre-existing information that is collected without having direct contact with the subject of the research.
- Survey – Quantitative method involving data collection from a sample of individuals selected from a target population.
- Individual interviews – A conversation designed to help gather information about a person’s assumptions/perceptions.
- Asset mapping – Cataloguing local assets/resources to meet organizational or community objectives.

Task 3: Identify Current and Desired State
During this task you define how the organization currently performs, and then how you desire it to perform. Your current state evaluation will generally focus on the healthcare services your organization currently provides along with how the provided services are delivered, the numbers and types of providers, and other characteristics of support services, staff, and equipment. The desired state evaluation will identify the supplemental services, delivery capability, providers and other resources that can be supported by telemedicine.

Questions to help generate ideas about the current and desired states include:

- What types of healthcare services are offered by the organization; where, how and when are those services delivered?
- What healthcare services require residents of your region to travel? Which of these services are amenable to being delivered via telemedicine?
Task 4: Identify the Gap

In this task, the difference -- or gap -- between the current state and the desired state is described and measured. Here is where you identify the requirements that must be met. A telemedicine gap analysis identifies:

- The new or extended healthcare services that must be provided in order to reach the desired state.
- How the new or extended services will be delivered using a telemedicine model.

It may be appropriate for you to identify specific resources and to confirm their availability/willingness to participate in the manner envisioned within the proposed telemedicine program (e.g., a specific clinic, hospital or physician).

The gap analysis should identify general technology requirements, not specific equipment models or vendors. Typically clinical and information technology staff will collaborate in order to identify the general technology requirements. For instance, if a new or revised health service will provide secondary cardiology care to remote patients, the gap analysis might state that technology must support: “live” interactive cardiology consult; the ability to measure blood pressure, pulse rate, and body weight in the patient’s home; the capability to perform EKGs and portable x-rays at the client home or a remote client site and store; or the means to forward the results and images. From these requirements, information technology staff can establish general telecommunication and network requirements.

Task 5: Identify Barriers

Once you have identified needed services and whether telehealth could be an appropriate solution, the next task is to identify potential barriers to implementing the healthcare services via telemedicine. Examples of barriers you might identify include:

- Financing (lack of capital, budget constraint, etc.)
- Lack of personnel
- Lack of particular skills
• Lack of knowledge of the implementation process
• Inadequate IT support

Identifying barriers may result in specifying additional requirements or recognizing that the desired state must be revised.

**Task 6: Summarize & Present Results**

The next task is to rank the telemedicine program components and the associated requirements in priority order. Which among the proposed services are the most important for your organization to provide? For each of the highest priority services identified, what are the essential elements of the service that must be supported—

Priority ranking provides important information. If later analysis or emerging financial, business or other factors determine that the envisioned program cannot be implemented in its entirety or must be implemented in phases over time, the priorities assigned in this step will help determine what parts of the program should be implemented and when.

**Task 7: Summarize and Present Results**

The outcome of each task of your needs assessment should be documented in a format that pulls together all of the information obtained during the needs assessment.

If formal approval of the needs assessment is required prior to proceeding to the next phase of developing your telemedicine program, this presentation provides the opportunity for securing this approval. At a minimum, the presentation provides an opportunity to explain the rationale for the envisioned telemedicine program and to solicit stakeholder support and buy-in. We recommend that you secure organizational support and buy-in at the end of each program development phase.
Organizational Readiness Assessment Template

Identify the Anticipated or Desired Change

Write Your Program Description

Determine how the proposed project would align with the Current Organization

1. Does the proposed project align with the organization's current vision, mission, and strategic plan?

<table>
<thead>
<tr>
<th>Yes</th>
<th>Minimal Change Needed</th>
<th>Significant Changes Needed</th>
<th>Major Barrier</th>
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   Aligns with Organizational Vision / Mission
   Aligns with Strategic Plan

Actions Required to Become Fully Ready / Comments:

________________________________________________________________________
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2. Is the proposed project consistent with the organization’s values and culture?

Alignment with Organizational Values & Culture

Actions Required to Become Fully Ready / Comments:

3. Are resources available to begin development of the proposed project?

Resource Availability

Actions Required to Become Fully Ready / Comments:

4. Does the proposed program have a champion?

Identified Champion

Decision Makers Interest

Support for Initiative

Actions Required to Become Fully Ready / Comments:
5. Do stakeholders support the program?

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<tr>
<th>Stakeholder program perceptions</th>
<th>Yes</th>
<th>Minimal Change Needed</th>
<th>Significant Changes Needed</th>
<th>Major Barrier</th>
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<td>Stakeholder program education</td>
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Actions Required to Become Fully Read / Comments:

6. Who has authority over the proposed program?

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<th>Program Authority</th>
<th>Yes</th>
<th>Minimal Change Needed</th>
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Actions Required to Become Fully Read / Comments:

7. What does the SWOT analysis reveal about organizational successes and potential barriers?

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<tr>
<th>Internal Factors (skill sets, strengths, weaknesses)</th>
<th>Yes</th>
<th>Minimal Change Needed</th>
<th>Significant Changes Needed</th>
<th>Major Barrier</th>
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<tr>
<td>External Factors (opportunities, challenges)</td>
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Actions Required to Become Fully Ready / Comments:

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# Organizational Readiness Assessment Summary

*Use this template if an Executive Summary of the Readiness Assessment is desired.*

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<tr>
<th>Date:</th>
<th>Organization:</th>
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<tr>
<td><strong>Description of Desired Initiative:</strong></td>
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**RATE READINESS FACTORS**  Record all of your answers from the organizational readiness assessment in the appropriate boxes below.

<table>
<thead>
<tr>
<th>Alignment with Organizational Vision / Mission</th>
<th>Yes</th>
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<tr>
<td>Alignment with Strategic Plan</td>
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<tr>
<td>Alignment with Organizational Values /Culture</td>
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**Overall Rating**

**List of Actions Required to Become Fully Ready:**

**Recommendation:**

--- Move Forward Now --- Make Necessary Changes --- Reassess in -- months --- Not appropriate
Needs Assessment Worksheet

Define the Purpose

1. What is the purpose and scope of your needs assessment?

Data Collection

2. What data are you going to collect?

3. What tools will you use to gather the data?
GAP Analysis

4. What is the current state of your organization? (i.e. healthcare services your organization currently provides, how those services are delivered, number and type of providers, available local resources). What are the unmet community and market needs?

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

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__________________________________________________________________________

5. What is the desired state of your organization? (i.e. supplemental services, delivery capability, providers and other support that is needed). What community needs can telemedicine support?

__________________________________________________________________________

__________________________________________________________________________

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__________________________________________________________________________
6. What is the gap between your current state and your desired state? Are there new or extended health care services that must be provided in order to reach the desired state?

7. How can telemedicine be used to help reach the desired state?

Potential Barriers

8. Are there any potential barriers to implementing a telemedicine program? (i.e. financing, training, lack of technical support)
9. Based on these barriers, what revisions will you need to make to your desired state to allow for any barriers that are perceived unavoidable?


Service Priorities

10. Now that you have identified the desired state and the services that can be enhanced using telehealth, rank your service needs by priority.

1.
2.
3.
4.
5.
9. Based on these barriers, what revisions will you need to make to your desired state to allow for any barriers that are perceived unavoidable?


Service Priorities

10. Now that you have identified the desired state and the services that can be enhanced using telehealth, rank your service needs by priority.

1.
2.
3.
4.
5.
Step Two
Define & Specify Program Model

<table>
<thead>
<tr>
<th>Questions to Answer</th>
<th>Products and Activities</th>
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<tbody>
<tr>
<td>What services have you decided to provide?</td>
<td>Develop program goals and objectives</td>
</tr>
<tr>
<td>How will the services be provided?</td>
<td>Develop preliminary service description</td>
</tr>
<tr>
<td>What is the proposed scope and implementation strategy?</td>
<td>Develop preliminary telehealth delivery model</td>
</tr>
<tr>
<td>What technology model will you use?</td>
<td>Identify implementation approach</td>
</tr>
<tr>
<td>Do you have authority, support &amp; resources to move forward?</td>
<td>Create program charter</td>
</tr>
</tbody>
</table>

Everyone loves Step Two! Step Two identifies the specific clinical services your telemedicine program will target and the telemedicine program model that will be used to deliver those services. You will identify the services you want to target, any geographical boundaries, what form of telemedicine you will implement and the most appropriate program model for your particular organization. During Step Two you gather information and consider what the program would look like and how it can be structured as an integral and valued strategic organizational element. You will also consider your implementation approach – pilot, one service only, limited sites, etc.

In this step you will review your prioritized list from the needs assessment, and then research the types of telemedicine that might address these needs. You will then collect some very preliminary application cost data for various telehealth models to explore which might work for you. This step blends into Step Three where the information from Step Two will be expanded to create a business model, business case and more detailed cost estimates.

At the completion of this Step, you will have a high-level understanding of what is needed clinically, technologically, and organizationally in order to deliver the targeted telemedicine services in the proposed way.

In a nutshell: During Step Two you will:
- Decide on the type of services to be provided – prepare a preliminary program description
• Decide of the type of telehealth program that best works for your application –
  prepare a preliminary program model description
• Consider assumptions, constraints, opportunities
• Create high level cost estimates
• Create a written proposal or Program Charter

Some organizations bring together a small group to define the program and technology model while others may be ready to bring a larger team together at this point in the development.

As you continue to develop and define the specifics of the program during subsequent steps, the preliminary decisions may need to be revisited and revised.

**Activities**

1. **Develop program goals and objectives**

   Measurable goals based on your decisions about service needs will assist you in identifying the scale of the program, equipment needs, estimating workload associated with the new program, and creating a basis for program evaluation.

2. **Develop a preliminary service and program description**

   The program proposal describes the type of service that will be provided:
   • Proposed telehealth services;
   • Alternatives considered and reasons for proposed solution;
   • High-level description of the program model to be adopted, the rationale, and how it would be incorporated into existing service delivery;
   • High-level description of what is required in order to support the identified program model. This description will include general technology requirements (e.g., live interactive, store and forward); specific types of health care providers; specific sources of services (e.g., city hospital); and
   • Preliminary costs associated with supporting the programs high-level requirements (e.g, space, staff).

   The service and program description documents your research and recommended decisions. It can be a standalone report, can be incorporated into the preliminary telemedicine delivery model or may be part of a Program Charter.

**Tools for this Activity:**

• Simple Charter
• Charter Template
• Kick Off Meeting Template
3. Develop a preliminary telehealth delivery model

A Telemedicine Program Model defines the choice of telehealth, selecting the most appropriate model for your situation and service selection. The preliminary telemedicine program model includes:

- The telemedicine delivery method proposed for providing the service; (e.g. live interactive with a telemedicine system on a clinician’s desktop);
- High-level requirements of the telemedicine system and equipment including requirements for interoperability, network and storage capability and available support for IT; and
- Preliminary cost estimates for technology components of the proposed program.

The telehealth delivery model documents your research and recommended decisions. It can be a standalone report, can be incorporated into the preliminary service and program description or may be part of a Program Charter.

Tools for this Activity:
- Step Two Program and Technology Description Checklist
- Program Charter Template

4. Develop implementation approach

Consider the best approach for implementation – a small pilot with limited service provision followed by expansion, a limited number of sites initially, one type of telehealth (e.g. live interactive) followed by another application (e.g. provider education). Many programs find small steps useful others find larger implementations successful. Decisions are often based on available resources, risk tolerance of the organization, time available, and the opinions of champions and decision-makers.

5. Create a Charter or other written report

Many find it very helpful to develop a Charter to document the information that has been gathered to date. Charters contain background on the reason telehealth is being considered, information on the problem, desired solutions, assumptions, constraints, desired timeframes, approvals and other critical information. A Charter assures that important initial decisions are well documented prior to moving on to the detailed planning for the program.

Tools for this Activity:
- Program Charter – Template
- Program Charter - Sample
Have you covered everything?

Take a look at the Step Two Checklist on the following page. You may see some things to consider before you move on.

**Define & Specify Program Model Checklist**

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>1. You know which services will be offered to meet the identified patient needs.</td>
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<tr>
<td>2. You have identified the mode of service delivery.</td>
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<td>3. You have determined who will provide the service and where will they be located.</td>
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<td>4. You have identified the organizational model that best suit your patient needs.</td>
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<td>5. You have identified any constraints based on your organization, for example federally qualified health center rules.</td>
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<td>6. You know the general technological features &amp; functions that are needed to deliver the target services in the proposed way.</td>
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<td>7. Of the choices of technology, you have selected the one most appropriate for your program.</td>
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<td>8. You have identified any additional human resources needed and where will they be located.</td>
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<tr>
<td>9. You have identified any additional facility-related resources are needed and where will they be located.</td>
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<td>10. You have identified any legal, legislative or regulatory constraints that your organization would need to consider when developing your telehealth program.</td>
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<td>11. You have determined your program’s implementation approach (i.e., phased, pilot project, demonstration project)?</td>
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</table>
I. Background and Problem Statement

Give any background information that will help explain how the project came to be.

Describe the reasons for initiating the project, specifically stating the clinical and/or business problem. Explain why the project is needed. If applicable, include details of why existing services are inadequate. The subsequent needs analysis (if not already performed) would provide more information. This is what appears to be driving the project.

II. Project Description and Scope

Provide a description of the project, defining the project scope, being careful to note boundaries and limitations. The project scope should be clearly detailed so that all parties involved are very aware of exactly what the project includes as well as what it doesn’t. As more detail about the project is developed, the scope may need revision. The Charter would also be revised.

Clearly state all goals and quantitative objectives for the project.
Project Scope

Provide a description of the project scope, being careful to identify boundaries and limitations. The project scope should be clearly detailed so that all parties involved are very aware of exactly what the project includes as well as what it doesn’t. As more detail about the project is developed, the scope may need revision. The Charter would also be revised.

<table>
<thead>
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<th>Project Includes:</th>
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Assumptions

Describe any project assumptions related to need, clinical services, business, technology, resources, scope, expectations, or schedules.

Constraints

Describe any project constraints being imposed in areas such as schedule, budget, resources, and technology to be employed.
List the project’s preliminary major milestones and deliverables with the planned completion dates for delivery. This list will be expanded and revised during Phase II – Program Development.

<table>
<thead>
<tr>
<th>Milestone/Deliverable</th>
<th>Planned Completion Date</th>
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III. Governance and Oversight

Provide a list of names identifying the major parties involved in the project, such as project sponsors, stakeholders, and eventual project owners. In addition, be sure to identify the role of each individual listed so that there is no confusion concerning responsibilities later down the line.

Identify team members and Summarize roles and responsibilities for this project.

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<tr>
<th>Team Member</th>
<th>Responsibility</th>
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</table>
Sponsorship and Ownership

Identify who has authority for the project including any external oversight bodies and organizational policies.

IV. Reference Materials

Documents
List any related documents or other resources that could be helpful in understanding various aspects of the project, such as the scope and need.

Terminology
Use this section to identify any special terms related to the project that will need to be known to anyone related to the project.

Approvals

Approval of the Project Charter indicates an understanding of the purpose and content described in this deliverable. By signing this deliverable, each individual agrees with the direction and outlined details of the project and agrees to move forward with the project.

<table>
<thead>
<tr>
<th>Approver Name</th>
<th>Title</th>
<th>Signature</th>
<th>Date</th>
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V. Approvals and Revision History

Keep track of changes to the Charter

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Description</th>
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</table>
I. Background and Problem Statement

Hospital In The Woods will be receiving telemedicine equipment for use in their facility through grants awarded by the State Rural Health Office and a private foundation. The grant funding also provides funding for a part time telemedicine coordinator. Hospital In The Woods formed a telemedicine committee to look at how telemedicine might benefit their organization. The committee is meeting on a monthly basis.

Hospital In The Woods is a small Joint Commission accredited 25-bed critical access not-for-profit hospital located in Anywhere, CA. The rural location of Anywhere is a serious barrier to receiving specialty care especially during winter months when travel is severely restricted due to snow levels. Anywhere is designated as a rural HPSA area for Medicare.

NIH sees a potential need for oncology, rheumatology, cardiology, dermatology and possibly psychiatry services. Over 150 specialty referrals are made monthly.

Payer mix Medicaid 35%, Medicare 25%, Un insured 18%, Commercial 22%. There are concerns that Medicaid and Medicare payer mix may limit reimbursement.

II. Project Description and Scope

Implement outpatient oncology services at the Hospital In The Woods Rural Health Clinic. Initial implementation will be providing Oncology services to patients at this facility.

This project will undertake the activities and tasks required to implement services, including equipment procurement, develop of work flows, clinical and operational policies and procedures, business model development, clinical service provision, billing and scheduling, staffing, service coordination and performance monitoring.

Hospital In The Woods is working with the CTEC Center for Applied Telehealth to coordinate necessary work, create a business model and a training manual for telemedicine billing.
Project Goals and Objectives

Improve Access to Clinical Service
Provide 10 telemedicine oncology consults per month. Reduce travel for patients and wait times for visits.

Maximize Administrative Efficiency and Revenue
Reduce facility revenue lost when patients are required to obtain services outside the hospital/clinic. Optimize reimbursement with availability of current reimbursement schedules.

Build A Program Foundation That Will Allow for Expansion and Sustainability
Assess the impact of telehealth at 3 months, 6 months and one year. Prepare business model for expanded services. Identify grant opportunities for further funding of Telehealth.

Project Scope

Project Includes:
- Development of Oncology outpatient services provided from the Rural Health Clinic
- Development of program operations including policies procedures and clinical coordination
- One patient site
- Identifying Oncology provider for telehealth service delivery
- Working with local clinicians to engage them in Telehealth

Project Does Not Include:
- Implementation of other clinical specialties until oncology is operational
- Wireless applications
- Any additional patient sites

Assumptions

- Begin providing services in January 2012
- Equipment and peripherals to be procured in a timeframe that supports service startup
- Adequate broadband is available for live interactive telehealth
- Remote oncology service provider is interested in telemedicine
- All grant funds are approved and received as expected
- Current staffing will support development efforts and activities

Constraints

- Two grants are only source of funding
- Current staff will be required to perform implantation tasks in addition to current workload
III. Governance and Oversight

IV. Reference Materials

- Project Scope of Work
- CTEC Scope of Work
- CTEC Organizational Readiness Assessment Template
- CTEC FQHC / RHC Reimbursement Guide
- Grant Applications and Award Documents
V. Approvals and Revision History

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</table>

Document changes to the Charter and subsequent revision approvals.

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Description</th>
</tr>
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</table>
Telehealth Kickoff and Planning Meeting Template

2 - 4 hours is usually a sufficient time to for a kick off meeting

Purpose: To begin development of a plan to implement appropriate telehealth technology

Attendee List:

- Project Sponsor
- Director of Information Technology
- Chief Executive Officer
- Chief Operating Officer
- Chief Medical Director
- Clinic Manager
- Chief Financial Officer
- Director of Nursing
- 
- 

- Bring Team Together
  - Welcome and Introductions
  - Objectives of Meeting

- Overview of Telehealth

- Applying A Development Process

- Predictors of Success

- Consider Organizational Readiness
  - Assessments

- Development of a Charter

- Create a Development Plan
  - Review Needs and Possible Opportunities
  - Identify Implementation Team
  - Identify Information Needed

- Identify Next Steps
Step Three

Develop Business Case

<table>
<thead>
<tr>
<th>Questions to Answer</th>
<th>Products and Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• What is the proposed scope of the program?</td>
<td>• Market Analysis</td>
</tr>
<tr>
<td>• What is the estimated demand for the service?</td>
<td>• Business Case Report</td>
</tr>
<tr>
<td>• What service and technology estimates are being used for the cost projections?</td>
<td></td>
</tr>
<tr>
<td>• What is the financial model associated with the proposed program?</td>
<td></td>
</tr>
<tr>
<td>• How will the program impact the organizations financial position?</td>
<td></td>
</tr>
<tr>
<td>• Is the program sustainable? What is the sustainability model?</td>
<td></td>
</tr>
<tr>
<td>• Will the program create revenue in another area of the organization?</td>
<td></td>
</tr>
<tr>
<td>• Will the program require subsidy from the organization?</td>
<td></td>
</tr>
<tr>
<td>• Is there a demonstrated Return on Investment?</td>
<td></td>
</tr>
<tr>
<td>• Is the organization willing to implement if there is not a revenue positive or neutral program design?</td>
<td></td>
</tr>
<tr>
<td>• Will grants be required for program initiation?</td>
<td></td>
</tr>
</tbody>
</table>

Step Three assists with evaluating the service demand, cost, benefits, risks and other elements of the proposed telemedicine program and assists with consolidating the outcomes into a business case report.

This step brings together the information and analysis done during the needs assessment and the preliminary program development, and adds a financial and market analysis to determine the business model for the program and how the proposed telehealth program would financially impact the organization.

A clear understanding of the proposed program’s financial impact is necessary along with consideration of the risks associated with the implementation and decisions on the business model. Developing a business model that supports program sustainability has been a challenge for many telemedicine programs. In many cases, the program may provide beneficial access to care without supporting the organizations bottom line. This may be perfectly acceptable given an organization’s mission and other sources of revenue. However, it is preferable to know the financial impact before proceeding.

The business case development looks at the estimates for service delivery, the costs to develop and operate the program and any sources of revenue or fiscal impact, positive or negative to describe the overall impact of the program on the program’s financial picture. A market analysis during this step of the development will determine if there is an effective demand or market for the proposed service.
Sometimes it is assumed that since there is a need for the service that there is automatically a demand for the service. It is important to determine what purchasing power is available to obtain or pay for the fulfillment of the identified need with telehealth. If purchasing power or revenue to support the program can not be identified, there may not be a good business cases for the program. A Market Analysis explores whether there is a desire, willingness and the means to obtain or pay for the service.

The formality and level of detail presented in the Business Case Report depends primarily on:
- The scope of the proposed telemedicine program. Is this an extension to an existing telemedicine program or is it the first implementation of a telemedicine program? Large programs and first time implementations benefit from a formal and detailed business model and business case report.
- The audience for the Business Case Report (i.e., a Board of Directors, a granting agency, a bank, a venture capitalist) and the information they require.

### Activities

1. **Business Case Report (sometimes called a business plan):**

   A Business Case Report correlates with elements of a market analysis, a strategic plan, an operational/management plan, a financial plan, an environmental scan and information from the needs analysis and preliminary program proposal.

   The Business Case Report generally contains:
   - Description of the need for the telemedicine program (using the work products created during Step One, *Determine Needs*);
   - Description of how the proposed program aligns with the organization’s existing mission, lines of business, and/or strategic plans;
   - Description of the market and demand for the service;
   - Cost estimates;
   - A fiscal analysis and Return on Investment (ROI) calculated for the telemedicine program;
   - Description of how program development and implementation will be structured and managed;
   - Description of how the program will be promoted;
   - Description of how the ongoing operation’s will be managed and what resources are needed (including financial);
   - Projected fiscal impact of the program on the organization’s and
   - Evaluation of risks and constraints.

### Tools

Market Analysis Guide
Market Analysis Template
Have you covered everything?

Take a look at the Step Three Checklist on the following page. You may see some things to consider before you move on.

Develop Business Case Checklist

1. You have determined approximate start up and operating costs for your telehealth program.
   - [ ] Yes
   - [ ] No
   - [ ] Unsure

2. You have determined how the benefits of telehealth relate to the mission of your organization and the needs of the community.
   - [ ] Yes
   - [ ] No
   - [ ] Unsure

3. You have identified the payer mix.
   - [ ] Yes
   - [ ] No
   - [ ] Unsure

4. You have obtained financial commitment to implement and sustain your telehealth services.
   - [ ] Yes
   - [ ] No
   - [ ] Unsure

5. You know the approximate expected cost reductions (e.g., providers who no longer travel to remote clinics).
   - [ ] Yes
   - [ ] No
   - [ ] Unsure

End With A Review!

Include a critical review at the end of each program development step so stakeholders and decision-makers can evaluate results obtained thus far and make informed decisions about continuing to invest time and resources further developing the telemedicine program as currently envisioned. Whether a decision about moving forward requires the formal approval of a board or the informal consensus of your program development team, including a critical review at the end of each step better ensures the organization makes a conscious decision about further program development. Of equal importance, these reviews and decision-points also provide opportunities to secure organizational engagement and buy-in for the emerging telemedicine program.
Market Analysis Guide

Market Analysis: Assessing the Market for Telehealth Services

People often think of marketing as advertising - the ads you see on billboards, in newspapers, on television or the internet. Or you might think of a sales person pitching their latest invention or discovery on an infomercial. But marketing is much more.

Marketing efforts should begin when the service or program is being defined and developed. Once the product, customers, and external environment have been clearly defined, you can begin to develop the materials and activities to promote, communicate and educate your consumer groups.

Marketing should answer two important questions:

1. Is there a market for the proposed service or program?
2. What strategies and activities will best promote, market, educate, and inform customer groups about the program or services?

Answers to these questions can be obtained by performing two distinct activities:

**Market Analysis** and **Program Marketing and Promotion**. Market analysis determines if there is a market for the service you are proposing to provide, while Program Marketing and Promotion identifies and implements strategies, materials, and activities that promote, educate, and inform customers about your service or program.

This Guide will assist in the development of your program’s marketing component. It provides a variety of tools and templates geared to guide you through the critical elements of performing a market analysis and implementing promotional strategies and efforts.

The value and importance of market analysis cannot be overemphasized, it can be the difference between the success and failure of your program. Market analysis is a picture, described in words and data, that provides information to better define your program, determine what needs it fills for your customers, and assess the demand for the service. It identifies how a new program provides value to your customers, determines if the program is competitive in the marketplace, pinpoints how best to engage key customers, and assures that there is a sustainable model for service delivery.

Marketing research and analysis activities should be incorporated into needs analysis and business plan development. A market analysis uses information derived from a needs analysis to assist in defining a program or service that meets needs. The identification and analysis of customers, service/product alternatives, competitive organizations and services, and internal organizational factors are used as part of the overall business plan.
One of the most common errors new telehealth programs make is to assume that since there is a need for the service that there is automatically a demand for the service. Need and demand are quite different. A community may need increased availability of medical specialty providers and telemedicine may be an optimal approach for providing these services. But demand asks what purchasing power is available to obtain or pay for the fulfillment of that need. If there is no purchasing power or revenue to support the program, there is not what is called effective demand. Effective demand means there are a desire, willingness, and the means to obtain or pay for the service. Effective demand does not always require a positive return on investment or revenue generation but it does require some sustainable means to pay for the program.

For example,

- A telemedicine service may not be independently self-sufficient but is seen as such a significant benefit and in such alignment with the organizational mission that a decision is made to operate telehealth through subsidies by other departments. If that is going to be the case, it is important to understand that early on.
- Telemedicine services may be part of an overall business strategy where telehealth may not be independently sustainable, but when combined with other services may bring in customers or revenue to another area of the health system.
- The telehealth program creates efficiencies in other areas and the cost of creating and operating the telemedicine program outweighs the cost in efficiencies gained in other areas.

Looking for these opportunities during your program’s development is important and warrants further consideration.

**Developing a Market Description**

Market analysis begins with a description of your program and how it fits into the organization and the marketplace. This description will become the project’s vision and guiding document. The description should include the following information:

1. Describe the proposed telehealth program.
2. Explain why your organization wants to establish the program. What is the need for the program?
3. Describe where your proposed program fits into the organizational structure.
4. Describe what makes your program unique or special.

The **Telehealth Program Market Description** template located at the end of this Guide will assist in preparing the Market Description. A sample of the completed template is shown below.
Telehealth Program Market Description (Sample Form)
Good Health Medical Center

1. Describe the proposed telehealth program.

The proposed telehealth program will allow Good Health Medical Center to provide orthopedic specialty services via telemedicine to the Rural Community Health Center. Currently approximately 20 patients per month are driving over 250 miles from the general vicinity of the Rural Community Health Center. It is estimated that 85% of these visits could be performed by telemedicine. Good Health and Rural Community have not worked together in the past, but Rural Community is very excited about working with Good Health.

2. Explain why your organization wants to establish the program. What is the need for this program?

Good Health Medical Center’s mission includes working with rural and underserved areas. This proposed program would extend the reach of Good Health to an area that does not have adequate access to specialists. It is estimated that the program costs will be absorbed by the increase in revenue from diagnostic tests and other services provided to these patients at Good Health.

It has been determined that there is an unmet need for orthopedic services in the rural area serviced by Rural Community Health Center.

3. Describe where your proposed program fits into the organizational structure.

The new program will become part of Outpatient Clinical Services and will be under the direction of the Director of Nurses and the Outpatient Medical Director. Outpatient Clinical Services reports to the VP Patient Services.

4. What makes your program unique or special?

Currently, no rural telemedicine programs are available in the geographic region served by Rural Community Health Center. The proposed program will used established practices for telemedicine outpatient medical services; however, these services will be unique to the area served.

Identifying Key Customers

Knowing your customers is one of the most important pieces of marketing and service development. In telehealth there are a variety of customers, both internal and external to an organization. Customers may include providers and clinical staff, patients, sponsors, administrators, and payers and insurers. Often clinical staff is your primary customer, since they will use the service and refer patients to the service. Important key customers might include:

1. Providers and clinical staff that need to provide services via telemedicine or refer patients for telemedicine services.
2. Consumers, patients who need services, parents, spouses, and others that assist in decision making about service offerings and care provision.
3. Sponsors, both internal and external, that support the development of the service or program.
4. Administrators who have additional motivations for starting or not starting new programs.
5. Governing agencies who may need to be engaged to see the value of the new program or that you
would like to support your program through coverage or reimbursement. For example, oversight
agencies.
6. Payers and insurers who either self insure for health care benefits to their employees or who provide
insurance coverage for groups or individuals.

The *Market Analysis Key Customer* template located at the end of this Guide will assist in identifying key
internal and external stakeholders. A sample of the completed template is shown below.

### Key Customer Identification
**(Sample Form)**

**Good Health Medical Center**

Name of Project: Telehealth Orthopedic Services

<table>
<thead>
<tr>
<th>Key Customers</th>
<th>Internal</th>
<th>External</th>
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</thead>
<tbody>
<tr>
<td><strong>Clinical Staff</strong></td>
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<tr>
<td>Good Health Medical Director</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Good Health Orthopedic Chief of Staff</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Good Health Orthopedic Specialists</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Rural Community Health Medical Director</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Rural Community Clinic staff</td>
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<td>x</td>
</tr>
<tr>
<td><strong>Administrators</strong></td>
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<td></td>
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<tr>
<td>Good Health Chief Operating Officer</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Good Health Chief Information Officer</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Rural Community Clinic Director</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Rural Community Clinic Information Technology Director</td>
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<td></td>
</tr>
<tr>
<td><strong>Patients</strong></td>
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<td></td>
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<tr>
<td>Rural Health cardiology patients</td>
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<td></td>
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<tr>
<td><strong>Sponsors</strong></td>
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<tr>
<td>Local Farm Cooperative</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Rural Hospital Women’s Auxiliary</td>
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<td>x</td>
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<tr>
<td><strong>Payers / Insurers</strong></td>
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<tr>
<td>Medicare</td>
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<td>Medicaid</td>
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<td>BC/BS</td>
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<tr>
<td><strong>Governing / Oversight Agencies</strong></td>
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<tr>
<td>JCAHO</td>
<td>x</td>
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<td>State Health Dept.</td>
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</tbody>
</table>

**Analyzing Customer Need**

Once the stakeholder groups have been identified, consider the program from their point of view. What
does each group need and what value does your program provide? Is this program responsive to those
needs? Do any adjustments need to made? Are similar services available and are they successful? How
is this service unique?
Some of the questions you can ask about your customers and potential partners:
- Do your internal customers see this as a revenue generating service or a cost of doing business?
- Do your internal customers understand and agree if the program is designed to generate business, rather than generate revenue?
- Are your internal customers agreeable to having a loss leader or fully subsidized program?
- Are your internal customers willing to consider telehealth a cost of doing business like IT or accounting?
- What other things will your internal customers need to operate the program (i.e. location of telemedicine units, telemedicine coordinator)?
- What services do your external key customers need?
- What value will this program add to your internal customers?
- What value will this program add to your external customers?
- What would the key customers expect from the program or service?
- What would your external customers pay for this service?
- What is the anticipated number of services that are needed?
- Is there an effective demand for your service?
- What business model would support operation of this service?
- Are there external organizations that would like to partner with you?
- Can they provide any part of the sustainable model?

This is a good time to consider doing some market research – interviewing your key customers, doing surveys or perhaps focus groups can make sure that you really know what your key customers want and value. It is also a good way to educate them, to determine if they have any serious concerns or if they are will to be of assistance to the program development effort.

The *Internal Customer Analysis and the External Customer Analysis* templates located at the end of this Guide will assist with considering the program from the customers’ perspective.

**Assessing Organizational Readiness**

Assessing your organization is another key component of a market analysis. While telehealth programs are exciting, time should be taken to determine if telemedicine is a good fit for the organization and if this is the right time to consider it. Consider the organization’s values and cultural norms, as well as its mission. The most successful telemedicine programs are aligned with the organization’s vision, mission and strategic plan. For assistance with organizational readiness, please refer to the CTEC companion publication, *Assessing Organizational Readiness*.

**Identifying and Analyzing Competing Programs**

Identifying any competing programs or services is another crucial aspect to consider when developing a market analysis. It is important to understand your competition as you enter the market with a new product or service. When examining your competition consider what services they currently offer in the marketplace. Also take the time to examine their level of success. You will need to learn about your competitors place in the market. Some key questions to answer include:
- Is your proposed service or program currently available in the market?
- Are there existing services that would compete with your proposed program?
- What organizations are providing these services?
- What is their level of success with this service?
- How long have they been delivering this service?
- Is the competing program well known? Is it well regarded?
- If successful, what has led to their success?
- What are their weaknesses?
- What is their business model?
- How many patients do they see a year? If unknown, can you provide a good estimate?
- Will you be competing for the same customers? Will you need to capture competitor’s existing customers to be successful?
- How will your program compete with other programs?
- Is there room for your program to enter the marketplace and become successful?
- How will your program be different or unique?

The *Identifying and Analyzing Competitive Programs* template located at the end of this Guide will assist in describing the competitive marketplace.

**Determining Service Charges**

The last step in market analysis is to review the program’s overall marketability. Based on all the information that has been gathered, examine the program’s concept to determine its value and what your customers will be willing to pay for this new service or program. If charges are based on program operating costs, anticipated charges should be reviewed during the planning process and updated as more complete and specific costs are identified.

The *Service Charges Summary* template located at the end of this Guide will assist in examining charges for program services.
Market Analysis Worksheet

Telehealth Program Market Description

Organization Name:
Date:
Project Name:

1. Describe the proposed telehealth program. What is the need for this program?

2. Explain why your organization wants to establish the program.

3. Describe where your proposed program fits into the organizational structure.

4. What makes your program unique or special?

5. What is your proposed business model: revenue generating, cost of doing business (part of regular operating expense), loss leader (generates income from referral services), fully subsidized program or other business model?
# Market Analysis Worksheet

## Market Analysis Key Customer Identification

Organization Name:  
Date:  
Project Name:  

<table>
<thead>
<tr>
<th>Key Customers</th>
<th>Internal</th>
<th>External</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Staff:</td>
<td></td>
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<td></td>
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<tr>
<td>Patient Types:</td>
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<tr>
<td>Sponsors / Supporters:</td>
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<tr>
<td>Payers / Insurers:</td>
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<tr>
<td>Governing / Oversight Agencies:</td>
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<tr>
<td>Others:</td>
<td></td>
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</tr>
</tbody>
</table>
Market Analysis Worksheet

Internal Customer Analysis

Organization Name:
Date:
Name of Project:

1. What value does this program provide to internal stakeholders?

2. What are the needs of internal customers?

3. Is this program responsive to customer needs?

4. What will internal customers need to operate this program?

5. Are internal customers agreeable to the proposed business model?

6. Is there support for or concerns about the program from internal customers? How could these be leveraged or mitigated?
Market Analysis Worksheet

External Customer Analysis

Organization Name:
Date:
Project Name:

1. What services do your external customers need?

2. Is the program responsive to external customer needs?

3. What value will this program add to your external customers?

4. What would the external customers expect from the program or service?

5. Would your external customers pay for this service?

6. Are there external organizations that would like to partner with you and contribute to the sustainability of the project?
Market Analysis Template

Identifying and Analyzing Competing Programs

Organization Name:
Date:
Name of Project:

1. Is your proposed service or program currently available in the market?

2. Are there existing services that would compete with your proposed program?

For each existing program that may compete with the proposed program complete the following.

1. Organization providing these services:

2. Services they provide:

3. Level of success with this service:

4. Length of time delivering this service:

5. Is the competing program well known? Is it well regarded?

6. If successful, what has led to their success?

7. Strengths and weaknesses of competing program:

8. Business model:

9. Patients seen per year (If unknown, can you provide a good estimate):

10. Will you be competing for the same customers? Will you need to capture competitors existing customers to be successful?

11. How will your program be different or unique?

12. How will your program compete with other programs?

13. Is there room for your program to enter the marketplace and become successful?
Market Analysis Worksheet

Cost of Service Summary

Organization Name:
Date:
Project Name:

1. Is there an effective demand for your program? Describe.

2. Will your business model include a change for services?

3. What will you charge and why?

4. Will the market accept this cost?
Step Four

Plan Program and Technology

<table>
<thead>
<tr>
<th>Questions to Answer</th>
<th>Products and Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• What are the clinical program requirements?</td>
<td>• Detailed Program Implementation Plan</td>
</tr>
<tr>
<td>• What are the operational program requirements?</td>
<td>• Detailed Technology Implementation Plan</td>
</tr>
<tr>
<td>• What are the technology requirements?</td>
<td></td>
</tr>
<tr>
<td>• How will these requirements be met?</td>
<td></td>
</tr>
<tr>
<td>• What tasks will be required to create and implement all clinical, operational and technical functions?</td>
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</tr>
</tbody>
</table>

Step Four creates two major products. Step Four identifies the detailed programmatic and technical requirements necessary for delivery of the targeted services and creates a comprehensive project plan. This information will be used to procure services and equipment and to staff the program.

Step Four adds more detail to the information collected in Step Two. In this step, all the information about the clinical program and requirements, the technical requirements, and operational models are defined in greater detail.

In a Nutshell: Step Four creates the detailed task lists that will be used during your program’s implementation (Step Six). At the end of Step Four you should have:

- A complete description of equipment specifications, clinical requirements, operational and staffing requirements
- A complete task list for implementing each of the areas.
- An Implementation Plan that includes assigned tasks, assigned resources, preliminary timelines, and schedules.
- Definition of the approach that will be used in implementing the program

Activities

1. Detailed Program Implementation Plan

A detailed program implementation plan should be developed for the clinical services, operational, and administrative portions of the telehealth program. The detailed Program Implementation Plan will include:
• a detailed description of the clinical services, operational requirements, estimated volumes and other requirements.
• a complete listing of the tasks required to achieve implementation of the program including staffing, clinical services, site coordination, operations, room preparation, training, and marketing and communication.
• preliminary timelines, schedules and estimates of required effort and resources

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2. Detailed Technology Plan

The Technology Plan will include:
• Detailed technical requirements and specifications for all technology components, defined requirements for service level agreements, list of targeted products, services, and vendors (including projected one-time and continuing costs).
• A complete listing of tasks necessary to implement and operate all technology components of the telemedicine program.

Toole: Volume II Reference Materials

If, in completing Step Four, you find that the information is substantially different than the originally projected approach, the Business Case developed in Step Three may need to be revisited and revised.
Have you covered everything?

Take a look at the Step Four Checklist. You may see some things to consider before you move on.

### Plan Program and Technology Checklist

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>You have identified the activities or steps that you will undertake to achieve your telehealth objectives</td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>You have developed a plan that you will need for managing the work involved in establishing a telehealth program</td>
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<tr>
<td>3</td>
<td>You have identified who in a leadership position in the organization will be involved in your program and what their role will be.</td>
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<td></td>
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</tr>
<tr>
<td>4</td>
<td>You have identified members of your telehealth team and their roles and responsibilities.</td>
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<td></td>
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</tr>
<tr>
<td>5</td>
<td>You have developed a communication strategy to promote your telehealth services.</td>
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</tr>
<tr>
<td>6</td>
<td>You have developed policies and procedures for operation of the program.</td>
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<tr>
<td>7</td>
<td>You have a suitable space for telehealth.</td>
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</tr>
<tr>
<td>8</td>
<td>You have determined how appointments will be scheduled.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>You have determined how referrals will be made.</td>
<td></td>
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<tr>
<td>10</td>
<td>You have identified the type of training needed and who needs to be trained.</td>
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<tr>
<td>11</td>
<td>You have developed clinical referral guidelines.</td>
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<tr>
<td>12</td>
<td>You have determined how telehealth will be integrated into clinic operations.</td>
<td></td>
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</tr>
<tr>
<td>13</td>
<td>You have identified the detailed attributes of hardware, software, and telehealth (i.e., bandwidth, product standards, and product features).</td>
<td></td>
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</tr>
<tr>
<td>14</td>
<td>You have defined the necessary service level and support agreements.</td>
<td></td>
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</tr>
<tr>
<td>15</td>
<td>You have identified the interoperability and scalability requirements.</td>
<td></td>
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</tr>
<tr>
<td>16</td>
<td>You have identified the existing organizational resources that can be used to meet specified requirements (e.g., existing network, hardware, equipment).</td>
<td></td>
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</tr>
<tr>
<td>17</td>
<td>You have identified the types of approvals or authorizations required to assign existing resources to the telehealth services.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>18</td>
<td>You know the organization’s procurement policies and procedures.</td>
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</tr>
</tbody>
</table>
Step Five

Develop Performance Monitoring Plan

<table>
<thead>
<tr>
<th>Questions to Answer</th>
<th>Products and Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• How will regular program performance be monitored and assessed? What data elements are required? How will they be collected? What management reports will be produced? • How will the program be evaluated? On what criteria? Using what methodology? • How will program modifications and improvements be identified and implemented?</td>
<td>• Performance Monitoring Plan  • Evaluation Plan  • Quality Improvement Process</td>
</tr>
</tbody>
</table>

Step Five identifies how the telemedicine program will be monitored and evaluated to determine if it is successfully meeting program objectives.

During Step Five you will decide what data you need to collect in order to assess progress and achievement of objectives, determine how you will collect the necessary data, develop report formats, and develop a schedule for monitoring and reporting program performance. The information gathered about the program will be used to identify and implement program improvements throughout the life of the program (see Step Seven).

Don’t Overlook This Plan

While the Performance Monitoring Plan could be considered as part of Step Four, it is often overlooked until the program is operating and the data necessary for an adequate evaluation has not being collected. Because of the importance of evaluation and monitoring, it has been separated into a distinct step.

During Step Five, the process for reviewing performance, identifying improvements, and implementing changes should be identified and documented. As with any program, modifications and enhancements are necessary for optimal performance. Many organizations have formal quality improvement processes that are used to identify and implement improvements. If one is not available, a quality improvement process should be identified and documented during Step Five.
In a nutshell: During Step Five, program evaluation will be addressed. In addition to making decisions on formal evaluation efforts, routine program performance monitoring will be considered. At the end of Step Five you should have:

- Selected performance indicators, corresponding data elements, data collection mechanisms, and a plan for developing and implementing the performance monitoring process.
- Determine what type of program evaluation may be desired or required and developed implementation plans for the evaluation activities.
- Developed process for reviewing performance monitoring data and evaluating and implementing improvements in the program.

Activities

1. **Performance Monitoring Plan**

   A detailed program implementation plan should be developed for the clinical services, operational, and administrative portions of the telehealth program. The detailed Program Implementation Plan will include:

   - Tools: Performance Monitoring Indicators Matrix

2. **Quality Improvement Process**

   The Quality Improvement Process should provide written documentation on the manner in which the program will implement quality improvement. It should document the improvement structure, reviewing performance, submitting improvement suggestions, and monitoring implementation of improvements.

   **Data Collection Should Start Immediately**

   Data collection does not have to be difficult especially when it is designed into work flows and operational processes. It can, however, become very daunting and time consuming when the data has to be retrieved after the program has begun. Gathering data and reporting on performance will assist your program in obtaining organizational support, funding, and further expansion of services. Remember to match your data design with the baseline data collected during the needs assessment.
Revised to include data elements or aggregated data elements. Also includes column to consider core, desirable or remove. Decisions would be impacted by the aggregated data element matrix.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Data Elements/Aggregated Data Elements</th>
<th>Purpose / Value</th>
<th>Outpatient Services</th>
<th>Chronic Disease Home Monitoring</th>
<th>eICU</th>
<th>ED Services</th>
<th>Administrative Services</th>
<th>Educational Services</th>
<th>Selected Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Performance</td>
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</tr>
<tr>
<td>1. Percent of all health services / encounters performed using telehealth: total and by specific service type.</td>
<td>• Non telehealth services/ encounters total number total by service type • Services provided / obtained through telehealth: total number total by service type</td>
<td>Indicates overall use of telehealth in the facility – total and by specific service types.</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>2. Telehealth services provided: total and by type</td>
<td>• Completed telehealth encounters: total number total by service type</td>
<td>General overview of telehealth use</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>3. Clinical services provided: total and by type</td>
<td>• Clinical service encounters: total number total services by type total hours of service</td>
<td>General overview of clinical services.</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>4. Administrative services provided: total and by type</td>
<td>• Administrative service usage: total number total services by type, total participants, total hours</td>
<td>General overview of administrative services. Types could include: o Administrative meetings o Community / business non-health meetings o Commercial conferencing services</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>5. Educational services provided: total and by type</td>
<td>• Educational services provided: total number total number by type, total attendees, total hours</td>
<td>General overview of educational services. Types could include: o Education for health professionals (degree or</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>Indicator</td>
<td>Data Elements/Aggregated Data Elements</td>
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<td><strong>Outpatient Services</strong></td>
<td><strong>Chronic Disease Home Monitoring</strong></td>
<td><strong>eICU</strong></td>
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<td><strong>Educational Services</strong></td>
<td><strong>Selected Indicators</strong></td>
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<td>X</td>
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<tr>
<td>6. Clinical versus non clinical uses, in percent.</td>
<td>- <strong>Clinical encounters</strong>: total</td>
<td>General indicator of service use</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td></td>
<td>- <strong>Non-clinical encounters</strong>: total</td>
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<tr>
<td>7. Percent of requested telehealth services / encounters that were</td>
<td>- <strong>Telehealth encounters requested</strong>:</td>
<td>May identify telehealth provider shortages or long wait times. May identify scheduling operations problems.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>successfully scheduled.</td>
<td>total number of requests</td>
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<td>total number by type</td>
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<td></td>
<td><strong>Telehealth encounters scheduled</strong>:</td>
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<td>total number scheduled</td>
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<td>total number scheduled by type</td>
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<tr>
<td>8. Percent of scheduled telehealth encounters completed.</td>
<td>- <strong>Telehealth encounters scheduled</strong>:</td>
<td>Alerts to low completion rates. May be affected by (partial list): provider availability, technical problems, patient site staffing, patient no show</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td></td>
<td>total number scheduled</td>
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<td>total number scheduled by type</td>
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<td><strong>Telehealth encounters completed</strong>:</td>
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<td></td>
<td>total number completed by type</td>
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<tr>
<td>9. Percent of scheduled telehealth encounters not completed: total, by</td>
<td>- <strong>Telehealth encounters scheduled</strong>:</td>
<td>Alerts to low completion rates. Reason codes could include:</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>type, and by specific reason.</td>
<td>total number scheduled</td>
<td>o Provider not available</td>
<td></td>
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<tr>
<td></td>
<td>total by type</td>
<td>o Patient failed to appear</td>
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<tr>
<td></td>
<td><strong>Telehealth encounters not completed</strong>:</td>
<td>o Patient presenter unavailable</td>
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<tr>
<td></td>
<td>total number completed</td>
<td>o Participants not available</td>
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<tr>
<td></td>
<td>total number by type</td>
<td>o Patient refused service</td>
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<tr>
<td></td>
<td>Not completed by specific reason</td>
<td>o Required workup/ tests results or other clinical data not available</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Indicator</td>
<td>Data Elements/Aggregated Data Elements</td>
<td>Purpose / Value</td>
<td>Outpatient Services</td>
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<td>Selected Indicators</td>
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<tr>
<td>10. Percent of encounters that are started but can not be completed: total and by reason.</td>
<td>• Telehealth encounters started</td>
<td>Alert to low completion rates. Reasons could include:</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Total by type</td>
<td>o Patient refused after visit began</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>• Telehealth encounters started ut not completed: Total by reason</td>
<td>o Presenter of provider call away during visit</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Total by type</td>
<td>o Required work/up test results not available</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Total by reason</td>
<td>o Technical/equipment problem</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>11. Percent of patient refusals: total and by reason.</td>
<td>• Scheduled telehealth encounters:</td>
<td>Monitors refusal rates and reasons for refusal. Reasons could include:</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Total scheduled by type</td>
<td>o Uncomfortable with technology</td>
<td></td>
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<tr>
<td></td>
<td>Total by type</td>
<td>o Unsure that technology is effective</td>
<td></td>
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<tr>
<td></td>
<td>Total by reason</td>
<td>o Want to see doctor in person</td>
<td></td>
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</tr>
<tr>
<td>12. Completed encounters impacted by a technical issue: percent of total completed encounters and percent by reason.</td>
<td>• Encounters completed: Total completed</td>
<td>Monitors types of technical situations that are impacting operations. By capturing the reasons, performance improvement measures can be implemented. Reasons could include:</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td></td>
<td>Total by type</td>
<td>o Dropped calls</td>
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<tr>
<td></td>
<td>• Encounters with technical issue reported Total by specific reason</td>
<td>o Poor video quality</td>
<td></td>
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<td></td>
<td>Total by specific reason</td>
<td>o Poor audio quality</td>
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<td></td>
<td></td>
<td>o Diagnostics not working</td>
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</tr>
<tr>
<td>13. Scheduled encounters cancelled or not completed due to technical issues: percent of total scheduled encounters and percent by</td>
<td>• Scheduled telehealth encounters:</td>
<td>Monitors types of technical situations that are causing service cancellations. Reasons could include:</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td></td>
<td>Total scheduled by type</td>
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</table>

Performance Indicators
Data Element Matrix
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Data Elements/Aggregated Data Elements</th>
<th>Purpose / Value</th>
<th>Outpatient Services</th>
<th>Chronic Disease Home Monitoring</th>
<th>eICU</th>
<th>ED Services</th>
<th>Administrative Services</th>
<th>Educational Services</th>
<th>Selected Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scheduled telehealth encounters cancelled or not completed due to</td>
<td>• Scheduled telehealth encounters cancelled or not completed due to technical issues:</td>
<td>o No network connection</td>
<td></td>
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<tr>
<td>technical issues:</td>
<td>Total</td>
<td>o Dropped calls</td>
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<td></td>
<td>Total by reason</td>
<td>o Poor video quality</td>
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<td></td>
<td></td>
<td>o Poor audio quality</td>
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<tr>
<td></td>
<td></td>
<td>o Diagnostics not working</td>
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<tr>
<td>Encounter start time</td>
<td>• Encounter start time</td>
<td>This has value for “on demand” telehealth services to identify staffing patterns.</td>
<td></td>
<td>x</td>
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<tr>
<td>Encounter request date</td>
<td>• Encounter request date</td>
<td>Provides information on scheduling system performance and provider availability.</td>
<td></td>
<td>x</td>
<td>x</td>
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<tr>
<td>Encounter scheduled date</td>
<td>• Encounter scheduled date</td>
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<td>x</td>
<td>x</td>
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<tr>
<td>Time encounter requested</td>
<td>• Time encounter requested</td>
<td>Provides information on scheduling system performance and provider availability.</td>
<td></td>
<td>x</td>
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<tr>
<td>Time encounter scheduled</td>
<td>• Time encounter scheduled</td>
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<td>x</td>
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<tr>
<td>Date and time of patient image capture</td>
<td>• Date and time of patient image capture</td>
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<tr>
<td>Date and time of Store and Forward Package Transmission</td>
<td>• Date and time of Store and Forward Package Transmission</td>
<td>Store and forward service type specific. This detects patient site performance issues.</td>
<td></td>
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</tr>
<tr>
<td>Date and time of Store and Forward package transmission</td>
<td>• Date and time of Store and Forward package transmission All services By service type</td>
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<tr>
<td>Date and time of provider response</td>
<td>• Date and time of provider response</td>
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<tr>
<td>Start time of encounter</td>
<td>• Start time of encounter</td>
<td>Provides information on total encounter time at either patient or provider side. Useful for scheduling.</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
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<tr>
<td>End time of encounter</td>
<td>• End time of encounter</td>
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<tr>
<td>Specific service type</td>
<td>• Specific service type</td>
<td></td>
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<td></td>
<td>x</td>
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<tr>
<td>Start time of live video</td>
<td>• Start time of live video</td>
<td>Provides information on time required for different</td>
<td></td>
<td>x</td>
<td>x</td>
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<td>End time of live video</td>
<td>• End time of live video</td>
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<tr>
<td>specific service.</td>
<td>• Service type</td>
<td>specialties / services (without pre and post provider activity. Useful for scheduling, service negotiations.</td>
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<tr>
<td>21. Time required to obtain service telemedicine versus non-telemedicine: total and by specific service.</td>
<td>• Estimated time to in person service delivery&lt;br&gt;Specific Type&lt;br&gt;Service method&lt;br&gt;Date of service telehealth request&lt;br&gt;Date of service telehealth encounter</td>
<td>Indicates relative availability of telemedicine services; ability to impact service scheduling</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>22. Percent of allocated telehealth appointment time used.</td>
<td>• Time allocated to Telehealth appointments&lt;br&gt;Allocated time used for appointments</td>
<td>Measures use of available resources and available resources unused.</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
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<tr>
<td>23. Result of telehealth encounter by reason.</td>
<td>• Total encounters&lt;br&gt;Encounter result by reason</td>
<td>Reasons may include:&lt;br&gt;• Corroborated initial diagnosis/treatment plan&lt;br&gt;• Resulted in definitive diagnosis/treatment plan&lt;br&gt;• Confirmed need for face-face visit with remote provider&lt;br&gt;• Confirmed need for urgent/emergent transport&lt;br&gt;• Avoided need for face to face visit with remote provider&lt;br&gt;• Avoided need for urgent/emergent transport&lt;br&gt;• No change in diagnosis or treatment plan&lt;br&gt;• Changed diagnosis or treatment plan</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</table>

Performance Indicators and Data Element Matrix

2012
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Data Elements/Aggregated Data Elements</th>
<th>Purpose / Value</th>
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</tr>
</thead>
<tbody>
<tr>
<td>24. Telehealth services by delivery method.</td>
<td>• Telehealth encounters completed</td>
<td>Provides distribution by delivery method. Methods could include:</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
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<tr>
<td></td>
<td>• Total number by delivery method</td>
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<tr>
<td>25. Percent of patient encounters no subsequent in person encounter was necessary.</td>
<td>• Total number of telehealth encounters</td>
<td>Provides information on how often telehealth visits replaced an office visit?</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
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<tr>
<td></td>
<td>• Total number of telehealth encounters with no subsequent in-person required</td>
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<td>26. Primary diagnosis by service type</td>
<td>• Service type</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
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<tr>
<td></td>
<td>• CPT codes for primary diagnosis</td>
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<td></td>
<td>• CPT codes for secondary diagnosis</td>
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<tr>
<td>Home/Chronic Disease monitoring</td>
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<tr>
<td>27. Improved quality of life scores Aggregate change in quality of life rating; percent improved percent no change, percent decreased.</td>
<td>• Quality of Life scores</td>
<td>Provides improvement in Quality of Life rates through telehealth use. Balances under patient measures provider.</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>28. Physiologic measurements collected by type compared to number indicated in care plan.</td>
<td>• Number physiologic measures scheduled for collection</td>
<td>Non adherence to care plan by type: human and technology.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>• Number physiologic measures collected</td>
<td></td>
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<tr>
<td>29. Percent change in admission and readmission rates.</td>
<td>• Average readmission rate before Telehealth • Average readmission rate after Telehealth</td>
<td>Provides change in inpatient admissions resulting from telehealth use.</td>
<td></td>
<td></td>
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<td>x</td>
</tr>
<tr>
<td>30. Percent change in visits to Primary Care Provider.</td>
<td>• Average PCP visit rate before Telehealth • Average PCP visit rate after Telehealth</td>
<td>Provides reduction in PCP visits resulting from telehealth use.</td>
<td></td>
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<td>x</td>
</tr>
<tr>
<td>31. Average number of in-home care nurse encounters per episode of care for home monitoring telehealth programs.</td>
<td>• Number of in-home nurse encounters • Number of episodes of care</td>
<td>Provides overall utilization on nursing services</td>
<td></td>
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<td>x</td>
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<tr>
<td>32. Nurse contacts per episode of care due to out of range reading NEW</td>
<td>• Nurse contacts for out of range readings • Number of episodes of care</td>
<td>Provides information on out of range readings per episode of care</td>
<td></td>
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<td>x</td>
</tr>
<tr>
<td>33. Average time between in-home nurse interventions compared to non telehealth</td>
<td>• Number of home clinical visits • For telehealth enrollees • For non telehealth enrollees • Number of days between visits • For telehealth enrollees • For non telehealth enrollees</td>
<td>Allows tracking of the length of stable periods</td>
<td></td>
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<td>x</td>
</tr>
<tr>
<td>34. Unplanned telehealth encounters by episode of care</td>
<td>• Number of unplanned telehealth encounters • Number of episodes of care</td>
<td></td>
<td></td>
<td></td>
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<td>x</td>
</tr>
<tr>
<td>35. Average number of nurse encounters per unit of time (hour, shift).</td>
<td>• Number of nurse encounters • Unit of time</td>
<td>Provides productivity information</td>
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<tr>
<td>must_change in mortality rate.</td>
<td>Average mortality rate before Telehealth Average mortality rate after Telehealth</td>
<td>Provides reduction in mortality rate through telehealth use. Requires historical data collection and comparison. A common indicator for effectiveness and cost avoidance</td>
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<tr>
<td>Percent change in ICU length of stay.</td>
<td>Average ICU length of stay before Telehealth Average ICU length of stay after Telehealth</td>
<td>Provides reduction in ICU length of stay that in eICU programs use. Required historical data for comparison.</td>
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<tr>
<td>Percent change in complications.</td>
<td>Average complication rate before Telehealth Average complication rate after Telehealth</td>
<td>Provides reduction in complications in eICU programs. Requires historical data collection and comparison.</td>
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<td>x</td>
</tr>
<tr>
<td>Percent change in complications.</td>
<td>Average length of stay before Telehealth Average length of stay after Telehealth</td>
<td>Provides reduction in overall length of stay in eICU programs. Requires historical data for comparison.</td>
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<td>Emergency Department</td>
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<tr>
<td>Percent of appropriate TPA Percent reduction in overall length of stay delivery in allowable timeframe.</td>
<td>Number of patients presenting with stroke symptoms that are eligible for TPA. Number of patients TPA was administered within the allowable timeframe.</td>
<td>Provides a measure of telehealth impact on delivery of TPA in appropriate cases. Requires historical data comparison.</td>
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| 41. Percent change in time required for triage or evaluation in ED.      | • Time triage or evaluation services requested  
  Total  
  By service type  
  • Time triage or evaluation services provided  
  Total  
  By service type | Provides measure of change in obtaining triage or evaluations and use of ED beds. Requires historical data comparison.                                                                                         | x                   |                                  |      | x           | x                        | x                    | x                    |
| Provider Measures                                                        |                                                                                                                | x                   |                                  |      | x           | x                        | x                    | x                    |
| 42. Practitioners referring patients for telehealth: percent of total practitioners. | • Number of practitioners  
  • Number of practitioners with telehealth referrals | Provides an indicator of the acceptance and use of telemedicine by referring practitioners.                                                                                                             | x                   |                                  |      | x           | x                        | x                    | x                    |
| 43. Percent of providers that indicated overall satisfaction levels of satisfied or above: total and by reason. | • Number of satisfaction instruments collected  
  • Number of responses that indicate satisfied or above: Total responses  
  Total responses by reason. | Identified overall satisfaction and reasons. Reasons could include:  
  o Makes efficient use of time  
  o Integrated into workflow  
  o Presenter knowledgeable  
  o Technology is reliable  
  o Technology is appropriate  
  o Patient comfortable / cooperative | x                   |                                  | x           | x            | x                        | x                    | x                    |
| 44. Percent of providers indicating unsatisfied: total and by specific reason. | • Number of satisfaction instruments collected  
  • Number of responses that indicate unsatisfied or below by reason | Detects provider concerns. Reasons may include:  
  o Technology did not perform as expected | x                   |                                  | x           | x            | x                        | x                    | x                    |
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<tbody>
<tr>
<td>45. Percent of patients for whom Telehealth encounter was deemed appropriate.</td>
<td>• Total encounters&lt;br&gt;• Inappropriate encounter</td>
<td>An indicator of referral pattern behaviors. Detects opportunities for provider education.</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>45. Percent of patients for whom Telehealth encounter was deemed appropriate.</td>
<td>• Number of encounters where provider participated in the encounter&lt;br&gt;• Number of providers that indicated increased understanding</td>
<td>This only applies to patient site providers that participated in teleconsultation. This is a measure of effectiveness and impact.</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>47. Percent of patient sites indicating satisfied or above and by specific reason.</td>
<td>• Number of satisfaction instruments collected&lt;br&gt;• Number of responses that indicate satisfied or above and by specific reason</td>
<td>Identified overall satisfactions and reasons. Reasons could include:&lt;br&gt;• Makes Efficient use of time&lt;br&gt;• Integrated into workflow&lt;br&gt;• Provider knowledgeable&lt;br&gt;• Technology is reliable&lt;br&gt;• Technology is appropriate&lt;br&gt;• Patient comfortable / cooperative</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td>48. Percent of patient site indicating unsatisfied: total and by specific reason.</td>
<td>• Number of satisfaction instruments collected • Number of responses that indicate unsatisfied or below by specific reason</td>
<td>Detects patient site concerns of concern. Reasons my include: o Technology did not perform as expected o Provider site not prepared o Proper video etiquette was not followed o Poor provider presentation skills o Necessary information unavailable o Ineffective use of time o Patient uncooperative</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>49. Percent of providers / presenters that are trained to use the system.</td>
<td>• Number of Telehealth providers / presenters in system • Number that received formal training</td>
<td>Identifies training levels.</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>50. Percent of providers / presenters that demonstrate adequate ability in telehealth service delivery.</td>
<td>• Number of Telehealth providers / presenters in system • Number that demonstrated skill in telehealth service delivery</td>
<td>Direct observation needs to support assessment of skills. Identifies need for additional training.</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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Patient Measures

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<tbody>
<tr>
<td>51. Percent of patients that indicated overall satisfaction levels of satisfied or above.</td>
<td>• Number of patient responses collected • Number of patient responses with satisfied or above</td>
<td>Identifies overall satisfaction.</td>
<td>x</td>
<td>x</td>
<td>x</td>
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</table>
| 52. Percent of patients that indicated they would recommend the telehealth system to a friend or family member. | • Number of patient responses collected  
• Number of favorable patient responses | Identifies overall satisfaction. | X | X | X | X | X | X |
| Cost Benefit | | | | | | | | | |
| 53. Estimated reduction or avoidance in travel costs as a result of using Telehealth system: total, by type of transport, and by payer of transport. | • Total sessions held  
• Total travel miles avoided  
By patients  
By providers  
By payer  
By service type  
• Estimated cost of travel miles  
By patients  
By providers  
By payer  
By service type | This indicator reflects all types of travel cost avoidance – both patient and provider. Should be captured with each appropriate encounter or by use of algorithm. Many programs develop algorithm to identify where provider or patient would have to travel without telehealth, determine mode of transportation and estimates costs of the transportation including: vehicle charges (personal vehicle, ambulance, public transportation, air ambulance), mileage costs, salary costs while traveling, overtime / swing shift cost etc. Payer types may include patient, health system, insurer, government program. | X | X | X | X | X | X |
| 54. Carbon Footprint Impact | • Total travel miles avoided  
• Total reduction in carbon footprint | Provides indicator of the environmental impact | | | | | | | |
<table>
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<tr>
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| 55. Net cost and revenue per telehealth service delivery unit: total and by service type. | • **Net cost of telehealth service delivery**  
Total cost per unit  
Total cost per unit by service type  
• **Net revenue per telehealth service delivery**  
Total revenue per unit  
Total revenue per unit by service type | Provides per unit cost for services provision. Requires work with the organization’s Administration and Finance offices to develop and apply a model. Organization creates model customized to specific application and situation. Data elements could include:  
o cost of equipment,  
o amortization period,  
o cost of development,  
o staffing costs  
o overhead  
o Insurance  
o IT support  
o training  
o cost of provider services, revenues – direct and indirect | x | x | x | x | x | x | x | x | x | x | x |
| 56. Return on Investment. | • **Revenue / Gain from Investment in telehealth**  
• **Cost associated with Investment in telehealth** | Measure to compare the cost of a program with the anticipated gain from the program. Requires work with the organization’s Finance Office to develop ROI model and collect data. | x | x | x | x | x | x | x | x | x | x | x |
<p>| 57. Cost Benefit. | • <strong>List of costs by item</strong> | Overall picture of program | x | x | x | x | x | x | x | x | x | x | x |</p>
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Data Elements/Aggregated Data Elements</th>
<th>Purpose / Value</th>
<th>Outpatient Services</th>
<th>Chronic Disease Home Monitoring</th>
<th>eICU</th>
<th>ED Services</th>
<th>Administrative Services</th>
<th>Educational Services</th>
<th>Selected Indicators</th>
</tr>
</thead>
</table>
| 58. Percent of total revenue generated by telehealth services NEW | • Total revenues  
• Revenue associated with telehealth service.                                                                                           | How telemedicine contributes to the overall revenue of the organization. May be useful to look at gross revenue and net revenue                                                                                     | x x x x x x         |                                 |      |             |                          |                      |                     |
| 59. Percent of services reimbursed: total and service by type | • Total number of telehealth services  
Total  
Total by type  
• Total number of reimbursed services  
Total  
Total by type | Provides telehealth specific information on reimbursement                                                                                          | x x x x x x         |                                 |      |             |                          |                      |                     |
| 60. Percent of total provided telehealth services that are not reimbursed. | • Total number of encounters  
• Total number of telehealth services that were reimbursed  
Total by service type  
Total dollar amount  
• Total number of services not reimbursed (not billed)  
Total by service type  
Total dollar amount | Provides information on the number of unpaid telehealth services.                                                                                   | x x x x x x         |                                 |      |             |                          |                      |                     |
| 61. Comparative cost to put 24 hour internist | • Cost of telehealth on demand internist  
• Cost of 24 hour on-site internist |                                                                                                                                                                                                                 |                     |                                 |      |             |                          |                      |                     |
| 62. Productivity loss avoided | • Estimated hours of work lost due to travel | Requires application of an algorithm to associate time savings with productivity loss reduction.                                                                                                               | x x x x x x         |                                 |      |             |                          |                      |                     |
|                                | • Estimated cost of travel time |                                                                                                                                                                                                                 | x x x x x x         |                                 |      |             |                          |                      |                     |
Have you covered everything?

Take a look at the Step Five Checklist. You may see some things to consider before you move on.

### Develop Performance Monitoring Plan Checklist

<table>
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<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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<tbody>
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</table>
Step Six
Implement the Telehealth Program

### Questions to Answer

- Are project schedules being met?
- Are risks being identified and mitigated?
- Is a communication plan in place?
- Is work being done in a quality manner?
- Do any tasks need revision?
- Are any needed program modifications being identified and managed?
- Are all the deliverables and products required for operation complete?
- Is the program ready for operation?

### Products and Activities

- Project Management Reports
- Project Team Meeting
- Program deliverables

Step Six ensures that everything needed to make the telemedicine program operational is completed. This step starts with ensuring that ALL the tasks required to fully implement the program are defined, scheduled, and assigned a primary resource responsible for task completion. This is the step in which program development particularly benefits from applying project management principles and practices.

Depending on the scope of the telemedicine program, the work that occurs during this step may be managed by a dedicated project manager using formal project management practices to keep the work effort on track. Smaller work efforts may be more informally managed and coordinated. In nearly all cases, it is useful to have a lead person responsible for ensuring the completion and coordination of many different tasks required to implement the program.

A detailed work plan is generally used to record and track progress on these tasks and to highlight dependencies between tasks. Once the work plan is established, focus shifts toward executing that plan in order to complete all tasks required to implement the program while keeping stakeholders updated on status, managing risks and resolving issues encountered. Once the program has moved into operation, the phase focuses on executing the performance monitoring plan and conducting the ongoing program monitoring and evaluation.

Following the plans and specifications established during Step Four, this step ensures that:

- Equipment is purchased/leased and installed;
- Clinical protocols are finalized;
- Contracts are implemented;
- Operational processes and procedures are created or revised and communicated;
- Staff are hired or assigned;
• Staff are trained;
• Facilities are established;
• All aspects of the telemedicine program are tested (to the extent feasible) to ensure that the program is ready to begin delivering the targeted services using the envisioned program model.

Activities

1. Project Management Reports

Step Six manages, monitors, and reports on the implementation of the program. It also includes activities related to evaluating and monitoring risks and issues and communicating progress to stakeholders. A variety of project management tools and reports are available to support the implementation including:

• Implementation plan updates;
• Status reports;
• Communication plans; and
• Test plans.

2. Program Deliverables

During Step Six all project deliverables should be accomplished. Products created during the implementation could include:

• Finalized clinical protocols for new service;
• Executed contracts and agreements;
• Policies and Procedures;
• Patient Informing Materials;
Have you covered everything?

Take a look at the Step Six Checklist. You may see some things to consider before you move on.

Implement the Telehealth Program Checklist

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
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</thead>
<tbody>
<tr>
<td>1. You are monitoring project schedules and determining if deliverables are being met.</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>2. You are identifying risks and mitigating when necessary.</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3. You have implemented your communication plan.</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>4. You have determined how needed program modifications are identified and managed.</td>
<td>□</td>
<td>□</td>
<td>□</td>
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</tbody>
</table>
Step Seven

Monitor & Improve Program

<table>
<thead>
<tr>
<th>Questions to Answer</th>
<th>Products and Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Is data being collected?</td>
<td>• Performance monitoring</td>
</tr>
<tr>
<td>• Are regular performance monitoring reports being produced?</td>
<td>• Improvement logs and data collection documents</td>
</tr>
<tr>
<td>• Are the reports being reviewed by the program team?</td>
<td>• Implement improvements and changes to the program</td>
</tr>
<tr>
<td>• Is the program meeting its objectives?</td>
<td></td>
</tr>
<tr>
<td>• What program changes would improve operation or outcomes?</td>
<td></td>
</tr>
<tr>
<td>• What challenges or improvements have been identified?</td>
<td></td>
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</tbody>
</table>

Step Seven is the ongoing monitoring and evaluation of your program, and the identification, assessment and implementation of program improvements. Step Seven monitors the program to determine if it is achieving the desired clinical and business outcomes. This step also identifies necessary changes or improvements. Once the program is operational, Step Seven will be repeated at intervals described in the Monitoring Plan and will become a part of regular operations.

Activities

1. **Performance Monitoring**

   Data analysis determines whether the outcome was different from what was expected. The results and interpretation of the data analyses should be incorporated in a report and/or presentation format.

2. **Improvement logs and data collection documents**

   Documentation is a critical step in the evaluation process. Collecting data and maintaining improvement logs allows programs to track project deliverables and identify areas for potential improvement.
3. Implement improvements and changes to the program

Based on the analysis of the data, program enhancements and modifications may need to be made. The telemedicine program will need to determine how they plan to implement the changes.

Have you covered everything?

Take a look at the Step Seven Checklist. You may see some things to consider before you move on.

**Evaluate & Improve Program Checklist**

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
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</thead>
<tbody>
<tr>
<td>1. You can determine if the program is meeting its objectives.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. You can identify what changes are needed to ensure that the program meets its objectives.</td>
<td></td>
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</table>
Best Practices for Telehealth Programs

As you begin...Lessons from the field

The experiences of other telehealth programs contain some of the most valuable and important information you can have. This document contains the lessons learned and best practices identified by hundreds of telehealth programs implemented over the past decade. Their experiences provide us with a compass for implementing programs in the most straightforward and cost effective way. These best practices were mined from evaluation reports of telehealth program developments funded by The California Telehealth and eHealth Center. These best practices were then reviewed by a national panel of experts, who both validated and added to this compendium. This compendium is organized by the Seven Steps identified in the CTEC Telehealth Program Developer.

Assess Service Needs and Environment

✓  Best Practice: Assess and confirm your organization’s readiness for telehealth.

It is costly, time consuming and challenging to start telehealth even though it may sound easy. Organizations that perform a formal assessment of readiness have the advantage of identifying potential problems and addressing them early. They also gain a lot of support for the project by engaging people early.

Lessons from the field.....

• Be sure the program “matches the mission/vision”.
• Buying equipment is not the first step.
• You need the proper authority to successfully move forward.
• Knowing and reporting the strengths, weaknesses, opportunities and threats (SWOT) of your organization will help build the case for your program.
• Bringing the major department heads into the process early allows for easier development and acceptance of the program.
• Identify appropriate leadership team members, and bring the team together early.

✓  Best Practice: Perform A Needs Analysis

A needs analysis will help your organization to identify key unmet needs and will help you devise effective strategies and approaches to meet them. It will give you a clear understanding of the nature and scope of the unmet need, provide a sound foundation for planning, help you clarify
objectives and shared expectations, improve coordination of services and resources and provide supporting structure for your program evaluation.

Lessons from the field.....

• Determine the needs you wish to meet, and how you are going to meet them. Invite clinical staff to identify service needs at both host and remote sites at patient and provider sites.
• Ensure the needs analysis is data driven.
• Recognize that the needs analysis is inseparable from the program model and the business case. It lies at the heart of sound telehealth program planning.

Define Program Model

Have a clear understanding of the types of services you wish to deliver and the best and most appropriate Telehealth program model for your particular organization. Identify which services you will target, which geographical regions you will serve, what form of telehealth you will implement.

✔ Best Practice: Develop preliminary goals and objects for service delivery

Measurable goals and objectives will assist in selecting equipment, developing staffing, evaluating performance, creating cost estimates...in every facet of program design and development.

Lessons from the field.....

• Prioritize your service options.
• Be mindful of the size and scale of the program you are creating. Stay focused on the success of your initial few sites. Start small to help guarantee success.

✔ Best Practice: Select the delivery model that best suits your service goals and objectives

Understand the various forms of telehealth currently in use and ensure your choice is suited to the particular specialty services you plan to provide.

• Familiarize yourself with the different types of telehealth, and select the right kind(s) for your particular need. A ‘hybrid’ system, containing elements of each, can prove highly effective, particularly in the delivery of multi-disciplinary care.
• Create high quality, structured and layered training, and plan to provide it on an ongoing basis, at both host and remote sites.
• Keep your model in line with your organization’s vision, mission and strategic plan.
Best Practice: Plan to incorporate Health Information Technology (HIT)

The implementation of electronic medical records and other HIT is taking place at a rapid rate. Telehealth systems should be designed and structured to support health information exchange.

Lessons from the field....

• If your organization is not currently deploying HIT methods and practices, it soon will be expected to at some level. Be mindful of this.
• There are always serious network security and privacy issues and concerns related to HIT, so it is imperative your technical leadership and legal counsel are involved in this planning from the outset.
• Substantial seed funding opportunities are increasingly available to support HIT deployment and integration, often focused on the establishment of high speed (T1 and above) network infrastructure. This same network can form the backbone of your telehealth program.

Best Practice: Grow your champions

Many consider having clinical and administrative champions to lead and sustain the development of your telehealth program vision as the most important factor for success. Champions must be true agents of change within your organization and in positions to garner top level organization attention to obtain financial, technical, personnel and other resources. They must be inspirational figures, who play a key role in creating a professional and nurturing environment in which additional champions will be encouraged and develop.

Lessons from the field....

• Find champions who will enable you to achieve the level of change in attitudes and practice upon which a successful telehealth program depends.
• Ensure your champions are true agents of change, with the vision and passion to bring it about and instill it in others.
• Find equivalent champions at all participating network sites.
• Recognize that your champions are the primary advocates of your program, and that their success depends upon the full support and dedication of the entire team and the wider organization. Help them succeed.

Best Practice: Know your geographic area

It is important to understand the nature and norms of the locations you will be working with remotely. Service expectations can be quite different in different regions, as can medical services purchasing power, reimbursement options and access to other non-Telehealth caregivers.
Lessons from the field.....

- Go visit! There is simply no substitute for taking the time to visit your remote sites, meet your colleagues, and learn firsthand about their lives, patients, local opportunities, challenges and concerns.
- Keep communication between sites direct, clear and simple to avoid basic misunderstandings or clinical errors.
- Be aware that there may be important business and legal considerations to take into account when providing medical services over distance. This is especially true if a telehealth network is being planned that aims to provide service across state lines, or on a national basis.
- Know the ‘political geography’ of any region in which you wish to provide services. Understand the activities and interests of local providers, organizations and other local stakeholders. Their support of your program, and willingness to collaborate with you, may prove to be a deciding factor in creating a successful telehealth outreach program.

**Develop Business Case**

Cost benefits risks and opportunities need to be identified analyzed and consolidated into a comprehensive business case report as part of program development efforts.

- **Best Practice: Perform a market analysis and write a business case report**

  The business case for initial and ongoing resource investment needs to be developed, reviewed and approved. A market analysis to determine market demand for proposed services will assist in assuring sustainability.

Lessons from the field.....

- Be sure you are clear about the effective demand for the services you are considering to provide. There can be great need for a particular specialty service in an area, but not necessarily the demand and/or purchasing power to obtain it.
- View grants as only short term ‘seed funding’. Actively seek long term sustainability from the outset. Grants may be sought to support required program expansion.
- Focus beyond the ‘here and now’. Incorporate growth into the business case report.

- **Identify and develop your revenue opportunities and fiscal estimates**

  Reimbursement is one of the most challenging areas in implementing sustainable telehealth programs. In the long run, programs require reliable and adequate revenue and reimbursementfor clinical services. Programs need to look for opportunities to contract with payers, insurance companies and others to offer cost effective services.
Lessons from the field.....

- A sustainable program may require multiple revenue streams, e.g. hand in hand clinical and educational (CME) services. Ensure your program has a good patient payer mix.
- Learn from other telehealth practitioners about their reimbursement strategies and challenges. Understand general existing reimbursement methods and practices at host and remote sites. Base your program design on what already exists.
- Focus on delivery of services that are known to be sufficiently and reliably reimbursed.
- Rural health clinics and FQHCs have multiple revenue models available, and thorough research needs to be undertaken to identify most appropriate for a particular service type.

**Plan Program and Technology**

✔ **Create a detailed programmatic and technical implementation plan**

The most successful telehealth programs come as a result of careful and detailed planning and the deployment of well considered, integrated and streamlined technologies.

Lessons from the field.....

- Make sure your plan includes detailed information on timelines, deliverables and milestones, and detailed information on technical requirements and potential challenges. the demand and/or purchasing power to obtain it.
- Submit your plan for review by senior leadership and key stakeholders, and invite feedback, comments and open discussion.
- View your plan as a dynamic and living resource, which should be updated periodically as your program grows and programmatic circumstances change.
- Recognize that unforeseen circumstances and factors may influence your initial or ongoing planning. Be flexible in your approach, and able to make quick and effective adjustments to operational schedules and programmatic elements as necessary.

✔ **Best Practice: Get the equipment right**

Select the right equipment for your telehealth application and delivery mode. Video equipment, communication systems, medical devices and software applications are critical equipment components. Obtain good information and advice and learn as much as you can about functionality, features and interoperability. Keep in mind that the best equipment for your program might not necessarily be the most expensive.
Lessons from the field....

- Clearly identify appropriate specifications for your devices, applications and all technical systems.
- Identify trustworthy and knowledgeable sources to guide you in your equipment choices, and to provide ongoing support. Do extensive equipment comparison to identify the best equipment for your program.
- Be mindful that technology advances quickly, and systems and applications will need upgrading and warranty renewals. There can be substantial costs involved. Be sure to budget.
- Test, test, test your equipment and connectivity before announcing or advertising your program.

**Best Practice: Integrate telehealth into your operation.**

Telehealth activities should be designed to complement your standard practices and working methods, not complicate or interrupt them. Telehealth should be integrated alongside your face to face clinical activities. Telehealth examination rooms (both patient and provider sites) should be located in close proximity to the clinical staff.

Lessons from the field.....

- Plan a workflow analysis to reveal how your program fits in with standard clinical practice. Discuss necessary changes with stakeholders.
- Think of the telehealth technology as just another tool for the delivery of normal services, with the only difference being that the patient isn’t in the room.
- Keep it simple.

**Best Practice: Know the Law**

There are a wide range of legal and regulatory issues and requirements that must be understood and complied with when developing a telehealth program. Regulations and laws change frequently. Ensure your organization’s legal counsel is fully informed of your plans well in advance of implementation to allow time for complete legal reviews.

Lessons from the field.....

- Identify the current policies and regulations and determine the impact they may have on your program. Critical legal and regulatory areas to consider include licensure, credentialing, HIPAA and medication prescription.
- Consult with your legal counsel to consider any impacts on your organization and to ensure that you are aware of any new changes in laws and regulations.
- Realize that telehealth law is a rapidly changing area of law. Be sure your legal counsel stays closely in touch with your program expansion and development activities and plans.
Best Practice: Plan for the availability of strong IT support at all participating locations

Having ready access to trained and knowledgeable IT personnel and network support staff is critical to the effective running of your program. During consults or any clinical interaction taking place via the telehealth system, trained and efficient technical staff must be on hand to troubleshoot and make technical adjustments as necessary. Both equipment and network expertise is essential and staff must have appropriate authorizations to make network changes as needed. It is vital that an IT champion is identified and that the IT department is involved to provide authorization and approval of technical plans and strategies.

Lessons from the field.....

- Identify an IT champion.
- Focus on introducing IT personnel at all sites to each other. The better they know one another, the smoother your technical troubleshooting will be.
- Ensure IT personnel are fully versed in your technologies, and are authorized to work directly with network systems and settings at an organizational level.
- Familiarize all IT staff in your and your partner organizations (either working directly with your program or not) with all the systems, applications and network needs. There can be wider IT system dependencies and knock-on effects of telehealth operations that may not be apparent to you or your team until it’s too late.

Best Practice: Plan to appoint a dedicated telehealth program manager

No telehealth program will succeed without a dedicated, trained and efficient manager working in sync with your champions. This individual will help conceptualize and put into place all key operational and clinical elements of your program and will lay the foundation upon which all future development will based.

Lessons from the field.....

- Appoint this individual at the very beginning of your program planning to help you design it.
- Scale this position to the size and scope of your program.
- View this individual as the ‘eyes and ears’ of your clinical and administrative champions. This individual should be directly responsible for all programmatic elements and the design of performance monitoring and evaluation strategies.

Best Practice: Plan for system redundancy for all critical system applications and network

Building redundancy (back up) into your telehealth architecture is a critical part of your program design. Knowing there is backup for critical technical systems and networks will go a long way in instilling confidence in your clinical staff as they undertake their telehealth activities.
Technology can be fickle. Realizing this in advance and planning appropriate back-up for all your mission-critical systems and applications is vital. Don’t wait for your network to go down, without back-up, mid-consult.

Don’t forget to budget for this redundancy, and include it in your business case analysis and plans.

If costs for redundancy are prohibitive, ensure process redundancies are well planned to cover any technical failures.

**Best Practice: Plan for the development of protocols policies and procedures**

Clinical and service protocols should be adapted to the telehealth environment yet, as much as possible, retain content of non-telehealth protocols.

Lessons from the field…..

- Create protocols that are as close as possible to non-telehealth protocols. This will instill far greater comfort and confidence in your caregivers who will not feel they are doing something strange and unusual, and way out of line with their traditional practices.
- Follow standard, recognizable protocols which will lead to consistent clinical results that will be vital for your evaluations and program monitoring.

**Develop Performance Monitoring Plan**

Build systems into your program to measure and analyze program performance. In the planning stage, determine assessment methods and evaluation and strategies, and build a plan to create routine regular performance monitoring. Consider the need for formal evaluation of clinical services and operational or cost impacts.

**Best Practice: Be sure to establish both short and long term performance goals**

It is easy to focus only on the short term when initially implementing your telehealth program. This can be a mistake, as you must recognize that implementing fundamental practices change, takes time and does not happen overnight. Be sure to establish longer term goals as well, that consider clinical, business and financial outcomes several years into the future and movement towards programmatic self sustainability.

Lessons from the field…..

- Long range strategic planning for a telehealth program should be carried out on an ongoing basis and should include the program’s governing board.
- Plan to begin collecting vital program data from the very beginning of your program implementation.
- Determine and communicate your measures of success.
- Things take time. Be realistic in your setting of goals.
Develop an evaluation and monitoring plan

Clearly determine before you begin your implementation, how you will go about evaluating your program and monitoring its performance. Considering what you should monitor, how frequently and by what methods, are critical questions to answer. Evaluation and monitoring should be shared and agreed with your network partners.

Lessons from the field....

- Monitor and evaluate all key elements of the program on a regular and ongoing basis.
- Include a range of topics in your plan, including service usage, patient and provider comfort level with particular technologies, devices and applications and cost savings analysis.
- Be sure to monitor and track ancillary or related services benefiting from your telehealth program activities, e.g. lab and blood tests performed at local clinics, staff and nursing employment etc.

Best Practice: Develop a Quality Improvement Process

A clearly stated quality improvement process is important to any telehealth program. It will assist you in identifying improvements, reacting to changes in circumstances, and assessing unexpected performance.

Lessons from the field....

- Document improvement structure and clarify all improvement activities in your QI process.
- Create a written document.
- Find equivalent champions at all participating network sites.
- Develop and share your QI process before implementing the program.

Implement the Telehealth Program

Best Practice: Apply known principles of successful telehealth room design. Create a convenient and effective care environment reminiscent of a traditional care environment.

The designated telehealth room should be user friendly, well equipped with reliable and appropriate technology, be comfortable for patients and apply basic principles of room design for videoconferencing applications.

Lessons from the field....

- Follow basic and standard rules for the design of your telehealth room. When designing your telehealth room space pay close attention to location, size, equipment, furniture placement, lighting acoustics and wall color.
- Plan carefully and discuss your design ideas with program colleagues and IT personnel.
• Remember to budget for necessary design/remodeling.
• Make sure that any licensing requirements are known and implemented.

(best practice: get the people right)

Any program stands and falls by the people implementing it. In the case of telehealth, appointing and or hiring the right staff at both the patient and the provider sites and clearly defining their roles and responsibilities, is crucial. Whenever possible, dedicated staff should be hired, who fully understand the program’s outreach goals and ambitions. The provision of effective ongoing training and personnel development is immeasurably important. Realize that further telehealth champions can be grown from your staff to lead further growth and the development. Actively nurture them.

Lessons from the field.....

• Identify a coordinator to oversee all daily operational activities of the program – scheduling, billing, technical operations etc. Ideally, this individual should be employed full-time on your program.
• Make sure all staff are technically savvy, knowledgeable about telehealth systems and applications, and are flexible and open to new clinical methods and approaches.
• Create an environment in which staff at both sites can work well together to create a seamless, comfortable, and reassuring clinical atmosphere for the patients.
• Share existent resources, hire additional dedicated personnel, or find staff through outsourcing activities for your program.
• Develop and implement a formal, comprehensive and standardized training regimen for all staff. Training must be ongoing and increase in scope and scale as your telehealth program expands.
• Nurture further telehealth ‘champions’, from all levels of your staff.

(best practice: provide easy to use administrative tools)

It makes good sense to simplify tools and processes for scheduling, billing, program measurement and documentation.

Lessons from the field.....

• Keep administrative systems and methods simple! Medical administration is often complex enough without the added challenge of operating over distance and in unfamiliar administrative environments.
• Ensure administrative staff is well trained and conversant in telehealth methods and practices.
• Determine and communicate your measures of success.
• Carefully document all administrative processes and protocols.
Best Practice: Communicate regularly with your remote partners

The clinicians, nursing staff, presenter, schedulers and other staff at the site remote from you (whether you are a provider or a patient site) are the other half of your program. Ensuring that both ends of the telehealth link are satisfied with the program’s management, administration, billing systems, IT support, problem resolution, coordination, and quality improvement.

Lessons from the field.....

• Consider bringing participating site personnel together quarterly or annually to discuss the program, air grievances and discuss and implement any changes necessary. This will enhance relationships and build support.
• Keep your communication channels open.
• Learn and move the program forward together.

Monitor and Improve Program

Best Practice: Implement your Quality Improvement Process

After assessing the initial performance of your program, taking into account service utilization, provider and patient satisfaction and other key factors, you should begin to implement the QI process you developed during the planning process.

Lessons from the field.....

• Evaluate the strengths and weaknesses of your program on a regular basis.
• Implement new ideas, adjustments and solutions in an organized fashion.
• Ensuring constant quality improvement must be a part of regular operations.

Best Practice: Report regularly

Regularly monitoring your programs performance to identify trends and areas for improvement will allow the program to continuously improve and will provide the data necessary to determine if your program is achieving its objectives and to measure the programs impact in your organization and the community.

Lessons from the field....

• General service utilization reports and quality of service measurements are of primary importance.
• Evaluate your telehealth systems and applications in a clinically appropriate and user friendly manner.
• Undertake ongoing analysis of financial performance. This will form the basis of your business strategy as you move towards self sustainability. Financial analysis should include evaluation of cost and benefits, coding issues, reimbursement, account receivables and network utilization.

☑ Best Practice: Present your outcomes

In the ever expanding and increasingly mainstream field of telehealth, there is tremendous interest from around the country in program experiences and lessons learned. There are numerous opportunities to publish or present your finding and share these experiences with new and long established developers of telehealth program and the wider community. Share what you have learned!

Lessons from the field.....

• Present your outcomes and program developments in a public forum (published or by meeting presentation) at least once per year.
• Involve members of your telehealth team in these positive communication activities. This will help secure buy-in from your staff, and increase passion for the program.
• Join forums for networking purposes, and the sharing of experiences and lessons learned.
• Share existent resources, hire additional dedicated personnel, or find staff through outsourcing activities for your program.
• Share outcomes and successes with non telehealth stakeholders and interested parties, the local communities in which you work, etc.

And last but not least......

Celebrate Your Successes!