The CTRC Program Developer Kit

A Roadmap For Successful Telehealth Program Development

CALIFORNIA TELEHEALTH RESOURCE CENTER

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Introduction

The California Telehealth Resource Center (CTRC), 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 CTRC Program Developer was designed to answer that need. The genesis of this is kit is the implementation methodology developed for the University of California schools and hospitals, as well as the safety net clinic referring partners throughout the state. It was necessary to implement a standardized program across the state. Using project management fundamentals, a replicable standardized approach was developed to assure consistency of operation and streamlined implementation. This process, now called the CTRC 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 roadmap to traveling the road from initial program interest to program implementation and operation. It also incorporates telehealth best practices and 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.

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 online at the CTRC website. We welcome your feedback on using the Program Developer in your program.

California Telehealth Resource Center

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Introduction and Overview

You want to start your telemedicine program 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 CTRC 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:

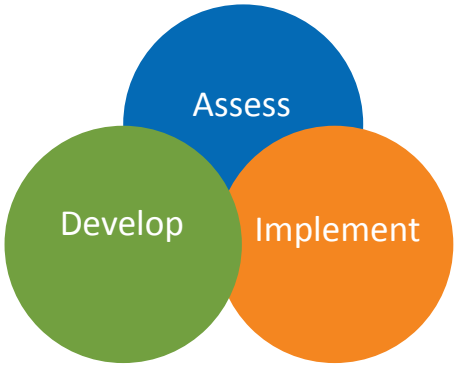
Step 6: Implement Telemedicine Program

- Perform all the work required to implement the program

Step 7: Monitor and Improve Program (Ongoing)

The Steps Can Blend Together

Although the CTRC 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, CTRC 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.

These steps also allow 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

Four: Develop Detailed Program & Technology Plan

Five: Develop Performance Monitoring Plan

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 Steps 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 Steps 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, allow 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 Step Four and Five 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	Yes	No	Unsure
1. You know what healthcare services are not currently available to your patents.	☐	☐	☐
2. You have identified and prioritized activities suited for telehealth.	☐	☐	☐
3. You have identified the assumptions and constraints for implementing a teleheath 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	Yes	No	Unsure
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 they are 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 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).	☐	☐	☐

Develop Business Case

	Yes	No	Unsure
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

	Yes	No	Unsure
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/marketing 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.	☐	☐	☐

	Yes	No	Unsure
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

	Yes	No	Unsure
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 of identifying and implementing the necessary changes.	☐	☐	☐
6. You have determined how program improvements will be defined, planned, implemented, tested, and managed.	☐	☐	☐

Implement the Telehealth Program

	Yes	No	Unsure
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

	Yes	No	Unsure
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 program 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 CTRC 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.

This Kit contains the Program Developer Guide along with guides and templates that related to these tasks. Also included are a wide variety of general use guides and templates.
The CTRC 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 CTRC website - www.caltrc.org

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

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.

CTRC Telehealth Program Developer
Summary and Resource Matrix

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 CTRC Guides, Video and Tools to support programs development efforts. New materials are released regularly. Check the CTRC website for new products and sign up for our emails to be alerted to new offerings.

Step 1: Determine Program Need

Questions to Answer	Products and Activities	Program Developer Guides / Videos / Tools
• What might telemedicine do for my organization? • Is my organization ready and willing to support telemedicine development? • What resources need to be allocated for initial planning? • What are the unmet healthcare needs of our existing and potential patients? • Which of these needs may be met using telehealth? • What provider related needs or opportunities might be met with telehealth?	• Perform Organization Readiness Assessment • Organizational Readiness Assessment Report • Approval to Proceed • Allocation of resources • Perform Needs Assessment • Needs Assessment Report	• Program Developer Guide • Assessing Organizational Readiness Guide • Organizational Readiness Video • Organizational Readiness Assessment Template • Organizational Readiness Summary and Approval Template • Predictors of Success Video • What Is telemedicine Video • Typical Visit Video • Technology Overview video • Telemedicine Applications video • Needs Assessment Guide • Needs Assessment Template • Needs Assessment Video • Best Practices for Step One

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

Questions to Answer	Products and Activities	Program Developer Guides / Videos / Tools
• What services have you decided to provide? • How will the services be provided? • What is the proposed scope of the program?	• Kick Off Meeting • Preliminary Program Charter • Preliminary Program Proposal • Telemedicine Program Model • Preliminary Technology Assessment • Approval To Proceed • Allocation of resources	• Charter Template • Sample Kickoff Meeting Agenda • Project team composition checklist • Best Practices for Step Two

Step 3: Detailed Analysis of the Program Model: Detailed Analysis: Cost, Service Delivery, Technology and Business Analysis

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

Step 4: Create A Detailed Plan: Add the Specifics

Questions to Answer	Products and Activities	Program Developer Guides / Videos / Tools

• 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

Questions to Answer	Products and Activities	Program Developer Guides / Videos / Tools
• 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

Questions to Answer	Products and Activities	Program Developer Guides / Videos / Tools
• 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 Informing and Consent Materials • Best Practices for Step Six • Dermatology Guide • Diabetic Retinopathy Guide

Step 7: Begin Service; Ongoing Program Monitoring and Improvement

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

Assess Need

Step One

Assess Service Needs & Environment

Questions to Answer	Products and Activities
• What are the unmet healthcare needs of our existing and potential patients? • Which of these needs may be met using telehealth? • What provider related needs or opportunities might be met with telehealth? • Are there any major organizational barriers that should be addressed before starting development? • Is telehealth in line with your organization's mission and strategic plan?	• Needs Analysis & Report • Organizational Readiness Assessment & Report • Preliminary Technology Assessment & Report • Learn about telehealth • Engage stakeholders • Read the CTRC Best Practices Guide

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 technology applications
- Learn about predictors of success and best practices
- Begin to engage stakeholders - bring a team together

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 necessary.

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 your current services are, what you want them to be and the difference between the two – it's often called 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 Assessment - 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.

Tools for this Activity:

Preliminary Technology Assessment Template

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 CTRC 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. CTRC staff can help you find resources for your areas of interest.

This is also a good time to consider attending a training program, enrolling in an online pro-gram or bringing some training to your organization.

Tools for this Activity

CTRC Resource Library - www.caltrc.org

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.

Tools for this activity

Best Practices Compendium - See Best Practices Section

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

	Yes	No	Unsure
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 teleheath 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.	☐	☐	☐

Organizational Readiness Tools

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

1. The ***Organizational Readiness Guide*** that will assist you 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. The ***Organizational Readiness Assessment Summary*** 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.

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, successfull 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 patients.

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 organization 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 applicantions?

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?
- Ar e 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.

TECHNICAL NEEDS ASSESSMENT

Do you have internet access in your clinic exam rooms?*	Yes	No	Unsure
All Rooms	☐	☐	☐
Some Rooms	☐	☐	☐
Via Wall Jack	☐	☐	☐
Via Wireless	☐	☐	☐

Do you have internet access in the room you use for conferences and staff meetings?*	Yes	No	Unsure
All Rooms	☐	☐	☐
Some Rooms	☐	☐	☐
Via Wall Jack	☐	☐	☐
Via Wireless	☐	☐	☐

Do you receive your broadband from the California Telehealth Network (CTN)?*	Yes	No	Unsure
All Rooms	☐	☐	☐
Some Rooms	☐	☐	☐
Via Wall Jack	☐	☐	☐
Via Wireless	☐	☐	☐

If you currently have telemedicine equipment at your facility, please specify below:*

- ☐ Live Video
- ☐ Store and Forward
- ☐ No Equipment

VIDEO EQUIPMENT SPECS

Video conferencing equipment type: _____

Is your unit high definition or standard? _____

Monitor Size: _____ Is the unit wall mounted or on a mobile cart? _____

Can it easily be moved from one room to another? ☐ Yes ☐ No

Do you have peripheral equipment that is to be used with the unit? (ex: Dermscope, Otoscope, Stethascope)
If so, please list all: _____

STORE AND FORWARD

What Specialties Do You Utilize?_____

Software Used? _____ Camera Used?_____

Do you have an EHR? ☐ Yes ☐ No ☐ Implementing Currently

Please list the brand: _____

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. ***The 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 Organizational Readiness Assessment Template*** 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

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

Characteristics	Possible Data Sources
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/ 2. Henry J. Kaiser Family Foundation http://www.statehealthfacts.org/compare.jsp 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/ 2. Henry J. Kaiser Family Foundation http://www.statehealthfacts.org/compare.jsp 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

Characteristics	Possible Data Sources
How does your county compare with the rest of the state on chronic disease indicators? • Coronary Heart Disease Mortality Rate • Cerebrovascular Disease Mortality Rate • Hospitalization Rate for Diabetes • Hospitalization Rate for Asthma	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
What is the percent of the population with behavioral risk factors? • Cigarette smoking • Hypertension • Hypercholesterolemia • Diabetes mellitus • Physical activity • Family history of hypertension • Family history of hypercholesterolemia • Family history of diabetes mellitus	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

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

Characteristics	Possible Data Sources
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 knowledgably 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

Characteristics	Possible Data Sources
What are your predominant referral patterns?	• 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. • 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). • 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.
Do you currently refer patients to other sites?	• 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.

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

Characteristics	Possible Data Sources
Are there any educational events that currently involve travel time and expense, but do not require in-person attendance?	• 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

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

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 your 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, 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.

Needs Assessment Summary

Steps	Activities	Using this step you will
Define the Scope	Identify your assessment's scope	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?
Data Collection	Identify your assessment approach	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?
Gap Analysis	Identify your current and desired states	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.
	Identify the Gap	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.
Potential Barriers	Identify barriers	Describe obstacles and challenges to achieving the desired state. What additional steps you must take to achieve your objectives? Can you take those steps?
Services Priorities	Assign priorities	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.
Next Steps	Summarize and present results	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.

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.

Sources of Information

Class	Description
Primary data	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.
Secondary data	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.
Qualitative data	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.
Quantitative data	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.

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 objectiv es.

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 re-sources 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?

- Are there problems or deficiencies in the availability of or access to specific types of health-care services?
- Are there problems you expect to arise in the future due to changes within your organization, your community, the healthcare industry, the economy (e.g., new competition? downsizing)?
- Could you gain a competitive edge or expand the scope of your organization's business by providing new or expanded services or by reaching new clients? How might a telemedicine program help you to take advantage of identified opportunities?
- How might you use telemedicine to leverage the strengths of your organization or region? For instance, if your hospital offers premier cardiac care, how might telemedicine help you build upon that strength?
- Is there a market for the proposed service? Are there willingness, desire, and the means to pay for the service?

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 equipment and/or peripheral devices
- Inadequate telecommunications and IT infrastructure
- 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 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: 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 and how it will accomplish the desired change:

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?

	Yes	Minimal Change Needed	Significant Changes Needed	Major Barrier
Aligns with Organizational Vision / Mission	☐	☐	☐	☐
Aligns with Strategic Plan	☐	☐	☐	☐

Actions Required to Become Fully Ready / Comments:

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

	Yes	Minimal Change Needed	Significant Changes Needed	Major Barrier
Alignment with Organizational Values & Culture	☐	☐	☐	☐

Actions Required to Become Fully Ready / Comments:

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

	Yes	Minimal Change Needed	Changes Needed	Major Barrier
Resource Availability	☐	☐	☐	☐

Actions Required to Become Fully Ready / Comments:

4. Does the proposed program have a champion?

	Yes	Minimal Change Needed	Changes Needed	Major Barrier
Identified Champion	☐	☐	☐	☐
Name:_____ Role:_____				
Decision Makers Interest	☐	☐	☐	☐
Name:_____ Role: _____				
Support for Initiative	☐	☐	☐	☐

Actions Required to Become Fully Ready / Comments:

5. Do stakeholders support the program?

	Yes	Minimal Change Needed	Changes Needed	Major Barrier
Stakeholder program perceptions	☐	☐	☐	☐
Stakeholder program education	☐	☐	☐	☐

Name: _____ Role: _____

Name: _____ Role: _____

Actions Required to Become Fully Ready/Comments:

6. Who has authority over the proposed program?

	Yes	Minimal Change Needed	Changes Needed	Major Barrier
Program Authority	☐	☐	☐	☐

Name: _____ Role: _____

Name: _____ Role: _____

Actions Required to Become Fully Read / Comments:

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

	Ready/Acceptable	Minimal Change Needed	Changes Needed	Major Barrier
Internal Factors (skill sets, strengths, weaknesses)	☐	☐	☐	☐
External Factors (opportunities, challenges)	☐	☐	☐	☐

Actions Required to Become Fully Ready / Comments:

Organizational Readiness Assessment Summary

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

Date:	Organization:
Description of Desired Initiative:	

RATE READINESS FACTORS Record all of your answers from the organizational readiness assessment in the appropriate boxes below.

	Not Ready <----------> Ready				
	Major Barrier	Substantial Barrier	Significant Changes Neded	Minimal Changes Needed	Full Support
Alignment with Organizational Vision / Mission					
Alignment with Strategic Plan					
Alignment with Organizational Values /Culture					
Resource Availability					
Identified Champion					
Decision Makers Interest					
Support for Initiative					
Stakeholder program perceptions					
Stakeholder program education					
Program Authority					
Internal Factors (skill sets, strengths, weaknesses)					
External Factors (opportunities, challenges)					
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?

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?

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. _____

Define Program

Step Two

Define & Specify Program Model

Questions to Answer	Products and Activities
• What services have you decided to provide? • How will the services be provided? • What is the proposed scope and implementation strategy? • What technology model will you use? • Do you have authority, support & resources to move forward?	• Develop program goals and objectives • Develop preliminary service description • Develop preliminary telehealth delivery model • Identify implementation approach • Create program charter

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 on the type of telehealth program that best works for your application and 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 Model 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. You may see some things to consider before you move on.

Define & Specify Program Model Checklist

	Yes	No	Unsure
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 are located.	☐	☐	☐
4. You have identified the organizational model that will 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 they will be located.	☐	☐	☐
9. You have identified any additional facility-related resources needed and where they will 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)?	☐	☐	☐

CTRC Telehealth Program Developer
Project Charter Template
Name of Organization: _____

Version Number: Revision Date:

I. Background and Problem Statement

Project Background

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

Problem Statement

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

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.

Project Goals and Objectives

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.

Project Includes:

Project Excludes:

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.

Major Projects and Milestones

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.

Milestone/Deliverable	Planned Completion Date

III. Governance and Oversight

Development Team

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.

Team Member	Responsibility

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.

Approver Name	Title	Signature	Date

V. Approvals and Revision History

Revision History

Keep track of changes to the Charter

Version	Date	Description

CTRC Telehealth Program Developer
Project Charter Example
Hospital In The Woods

Version Number: 2.0 Revision Date: February 1, 2001

Project Background

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 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.

Problem Statement

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%, Uninsured 18% , Commercial 22%. There are concerns that Medicaid and Medicare payer mix may limit reimbursement.

Project Description

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 CTRC 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 MM/YYYY
- 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 implementation tasks in addition to current workload

Major Milestones

Milestone/Deliverable	Planned Completion Date

III. Governance and Oversight

Development Team

Sponsorship and Ownership

IV. Reference Materials

Documents

Project Scope of Work
CTRC Organizational Readiness Assessment Template
CTRC Reimbursement Guide

V. Approvals and Revision History

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.

Approver Name	Title	Signature	Date

Revision History

Document changes to the Charter and subsequent revision approvals.

Version	Date	Description

Telehealth Kickoff and Planning Meeting Template

2 - 4 hours is usually a sufficient time 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	Telemdicine Coordinator
Director of Nursing	Medical Director

- 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

Business Case

Step Three

Develop Business Case

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

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 organization's 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 case 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 operations 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

Needs Assessment
Market Analysis Guide
Market Analysis Template

Have you covered everything?

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

Business Case Checklist

	Yes	No	Unsure
1. You have determined the 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).	☐	☐	☐

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 to further develop 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 will make a conscious decision about further program development. Of equal importance, these r eviews and decision-points also provide opportunities to secure organizational engagement and buy-in for the emerging telemedicine program.

Plan Program

Step Four

Plan Progam and Technology

Questions to Answer	Products and Activities
• What are the clinical program requirements? • What are the operational program requirements? • What are the technology requirements? • How will these requirements be met? • What tasks will be required to create and implement all clinical, operational and technical functions?	• Detailed Program Implementation Plan • Detailed Technology Implementation Plan

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

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.

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	Yes	No	Unsure
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.	☐	☐	☐

Monitring Plan

Step Five

Develop Performance Monitoring Plan

Questions to Answer	Products and Activities
• 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?	• Performance Monitoring Plan • Evaluation Plan • Quality Improvement Process

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 is 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.

Performance Indicators and Data Element Matrix

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.

Indicator	Data Elements/Aggregated Data Elements	Purpose / Value	Outpatient Services Chronic	Disease Home Monitoring	eICU	ED Services	Admin	Educational Services	**Selected Indicators**
Program Performance									
1. Percent of all health services / encounters performed using telehealth: total and by specific service type.	• **Non telehealth services/ encounters** total number total by service type • **Services provided / obtained through telehealth:** total number total by service type	Indicates overall use of telehealth in the facility – total and by specific service types.	x	x	x	x	x	x	
2. Telehealth services provided: total and by type	• **Completed telehealth encounters:** total number total by service type	General overview of telehealth use	x	x	x	x	x	x	
3. Clinical services provided: total and by type	• **Clinical service encounters:** total number total services by type	General overview of clinical services.	x	x	x	x	x	x	
4. Administrative services provided: total and by type	• **Administrative service usage:** total number total services by type total participants total hours	General overview of administrative services. Types could include: • Administrative meetings • Community / business non-health meetings • Commercial conferencing services	x	x	x	x	x	x	
5. Educational services provided: total and by type	• **Educational services provided:** total number total number by type total attendees total hours	General overview of educational services. Types could include: • Education for health professionals	x	x	x	x	x	x	

Indicator	Data Elements/Aggregated Data Elements	Purpose / Value	Outpatient Services	Chronic Disease Home Monitoring	eICU	ED Services	Admin	Educational Services	**Selected Indicators**
		• Elective education for health professionals • Case reviewso Grand rounds • Community Health education programs • Patient support groups							
6. Clinical versus non clinical uses, in percent.	• **Clinical encounters:** Total • **Non-clinical encounters:** Total	General indicator of service use	x	x	x	x	x	x	
7. Percent of requested telehealth services / encounters that were successfully scheduled.	• **Telehealth encounters requested:** Total number of requests Total number by type • **Telehealth encounters scheduled:** total number scheduled total number scheduled by type	• May identify telehealth provider shortages or long wait times. • May identify scheduling operations problems.	x	x	x	x	x	x	
8. Percent of scheduled telehealth encounters completed.	• **Telehealth encounters scheduled:** total number scheduled total number scheduled by type • **Telehealth encounters completed:** total number completed total number completed by type	Alerts to low completion rates. May be affected by (partial list): provider availability, technical problems, patient site staffing, patient no show	x	x	x	x	x	x	
9. Percent of scheduled telehealth encounters not completed: total, by type, and by specific reason.	• **Telehealth encounters scheduled:** Total number scheduled Total by type • **Telehealth encounters not completed:** Total number completed Total number by type Not completed by specific reason	Alerts to low completion rates. Reason codes could include: • Provider not available • Patient failed to appear • Patient presenter **u**navailable • Participants not available • Patient refused service • Required workup/ tests results or other clinical data not available	x	x	x	x	x	x	

Indicator	Data Elements/Aggregated Data Elements	Purpose / Value	Outpatient Services	Chronic Disease Home Monitoring	eICU	ED Services	Admin	Educational Services	**Selected Indicators**
		• Technical / equipment problem							
10. Percent of encounters that are started but can not be completed: total and by reason.	• **Telehealth encounters started** Total Total by type • **Telehealth encounters started ut not completed:** Total Total by type Total by reason	Alert to low completion rates. Reasons could include: • Patient refused after visit began • Presenter of provider call away during visit • Required work/up test results not available • Technical/Equipment problem	x	x	x	x	x	x	
11. Percent of patient refusals: total and by reason.	• **Scheduled telehealth encounters:** Total scheduled Total by type • **Patient refusals:** Total refusals Total by type Total by reason	Monitors refusal rates and reasons for refusal. Reasons could include: • Uncomfortable with technology • Unsure that technology is effective • Want to see doctor in person	x	x	x	x	x	x	
12. Completed encounters impacted by a technical issue: percent of total completed encounters and percent by reason.	• **Encounters completed:** Total completed Total by type • **Encounters with technical issue reported** Total Total by specific reason	Monitors types of technical situations that are impacting operations. By capturing the reasons, performance improvement measures can be implemented. Reasons could include: • Dropped calls • Poor video quality • Poor audio quality • Diagnostics not working	x	x	x	x	x	x	
13. Scheduled encounters cancelled or not completed due to technical issues: percent of total scheduled encounters and percent by	• **Scheduled telehealth encounters:** Total scheduled Total scheduled by type	Monitors types of technical situations that are causing service cancellations. Reasons could include:	x	x	x	x	x	x	

Indicator	Data Elements/Aggregated Data Elements	Purpose / Value	Outpatient Services	Chronic Disease Home Monitoring	eICU	ED Services	Admin	Educational Services	**Selected Indicators**
reason (13, 14).	• **Scheduled telehealth encounters cancelled or not completed due to technical issues:** Total Total by reason	• No network connection • Dropped calls • Poor video quality • Poor audio quality • Diagnostics not working							
14. Most frequent times for Telehealth services delivery.	• **Encounter start time**	This has value for "on demand" telehealth services to identify staffing patterns.			x	x			
15. Average time from Telehealth service request to Telehealth encounter scheduled – non high risk.	• **Encounter request date** • **Encounter scheduled date**	Provides information on scheduling system performance and provider availability.	x	x			x	x	
16. Average time from service request to the on demand provider to start of the encounter – high risk.	• **Time encounter requested** • **Time encounter scheduled**	Provides information on scheduling system performance and provider availability.			x	x			
17. Average time from identification of need for a Telehealth encounter until S&F package sent.	• Date and time of patient image capture • Date and time of Store and Forward Package Transmission	Store and forward service type specific. This detects patient site performance issues.	x		x	x			
18. Average time from S&F package sent to assessment/ results returned.	• **Date and time of Store and Forward package transmission** All services By service type • **Date and time of provider response**	Store and forward service type specific. This detects remote provider site performance issues.	x		x	x			
19. Average time per telehealth encounter (including prep and charting): all services and by specific service type.	• **Start time of encounter** • **End time of encounter** • **Specific service type**	Provides information on total encounter time at either patient or provider side. Useful for scheduling.	x	x	x	x	x	x	
20. Average number of video minutes per encounter: total and by	• **Start time of live video** • **End time of live video**	Provides information on time required for different	x	x	x	x	x	x	

Indicator	Data Elements/Aggregated Data Elements	Purpose / Value	Outpatient Services	Chronic Disease Home Monitoring	eICU	ED Services	Admin	Educational Services	**Selected Indicators**
specific service.	• **Service type**	specialties / services (without pre and post provider activity. Useful for scheduling, service negotiations.							
21. Time required to obtain service telemedicine versus non-telemedicine: total and by specific service.	• **Estimated time to in person service delivery** Specific Type Service method • **Date of service telehealth request** • **Date of service telehealth encounter**	Indicates relative availability of telemedicine services; ability to impact service scheduling	x	x	x	x	x	x	
22. Percent of allocated telehealth appointment time used.	• **Time allocated to Telehealth appointments** • **Allocated time used for appointments**	Measures use of available resources and available re-sources unused.	x				x	x	
23. Result of telehealth encounter by reason.	• **Total encounters** • **Encounter result by reason**	Reasons may include: • Corroborated initial diagnosis/treatment plan • Resulted in definitive diagnosis/treatment plan • Confirmed need for face to face visit with remote provider • Confirmed need for urgent/emergent transport • Avoided need for face to face visit with remote provider • Avoided need for urgent/ emergent transport • No change in diagnosis or treatment plan • Changed diagnosis or treatment plan	x	x	x	x	x	x	

Indicator	Data Elements/Aggregated Data Elements	Purpose / Value	Outpatient Services	Chronic Disease Home Monitoring	eICU	ED Services	Admin	Educational Services	Selected Indicators
24. Telehealth services by delivery method.	• **Telehealth encounters completed** • **Total number by delivery method**	Provides distribution by delivery method. Methods could include: • Live interactive • Store and Forward • Hybrid • Telemetry	x	x	x	x			
25. Percent of patient encounters no subsequent in person encounter was necessary.	• **Total number of telehealth encounters** • **Total number of telehealth encounters with no subsequent in-person required**	Provides information on how often telehealth visits replaced an office visit?	x	x	x	x		x	
26. Primary diagnosis by service type	• **Service type** • **CPT codes for primary diagnosis** • **CPT codes for secondary diagnosis**		x	x	x	x		x	
Home/Chronic Disease monitoring									
27. Improved quality of life scores Aggregate change in quality of life rating; percent improved percent no change, percent decreased.	• **Quality of Life scores**	Provides improvement in Quality of Life rates through telehealth use. Balances under patient measures provider.	x	x	x	x	x	x	
28. Physiologic measurements collected by type compared to number indicated in care plan.	• **Number physiologic measures scheduled for collection** • **Number physiologic measures collected**	Non adherence to care plan by type: human and technology.		x					

Indicator	Data Elements/Aggregated Data Elements	Purpose / Value	Outpatient Services	Chronic Disease Home Monitoring	eICU	ED Services	Admin	Educational Services	**Selected Indicators**
29. Percent change in admission and readmission rates.	• **Average readmission rate before Telehealth** • **Average readmission rate after Telehealth**	Provides change in inpatient admissions resulting from telehealth use.		x					
30. Percent change in visits to Primary Care Provider.	• **Average PCP visit rate before Telehealth** • **Average PCP visit rate after Telehealth**	Provides reduction in PCP visits resulting from tele-health use.		x					
31. Average number of in-home care nurse encounters per episode of care for home monitoring telehealth programs.	• **Number of in-home nurse encounters** • **Number of episodes of care**	Provides overall utilization on nursing services		x					
32. Nurse contacts per episode of care due to out of range reading NEW	• **Nurse contacts for out of range readings** • **Number of episodes of care**	Provides information on out of range readings per episode of care		x					
33. Average time between in-home nurse interventions compared to non telehealth	• **Number of home clinical visits** • **For telehealth enrollees** • **For non telehealth enrollees** • **Number of days between visits** • **For telehealth enrollees** • **For non telehealth enrollees**	Allows tracking of the length of stable periods		x					
34. Unplanned telehealth encounters by episode of care	• **Number of unplanned telehealth encounters** • **Number of episodes of care**			x					
35. Average number of nurse encounters per unit of time (hour, shift).	• **Number of nurse encounters** • **Unit of time**	Provides productivity information		x					

Indicator	Data Elements/Aggregated Data Elements	Purpose / Value	Outpatient Services	Chronic Disease Home Monitoring	eICU	ED Services	Admin	Educational Services	**Selected Indicators**
eICU									
36. Percent change in mortality rate.	• **Average mortality rate before Telehealth** • **Average mortality rate after Telehealth** • **Average ICU length of stay before**	Provides reduction in mortality rate through telehealth use. Requires historical data collection and comparison. A common indicator for effectiveness and cost avoidance			x				
37. Percent change in ICU length of stay.	**Telehealth** • **Average ICU length of stay after Tele-health**	Provides reduction in ICU length of stay that in eICU programs use. Required historical data for comparison.			x				
38. Percent change in complications.	• **Average complication rate before Telehealth** • **Average complication rate after Telehealth**	Provides reduction in complications in eICU programs. Requires historical data collection and comparison. Provides reduction in overall length of stay in eICU programs. Requires historical data for comparison.			x				
38. Percent change in complications.	• **Average length of stay before Telehealth**				x				
Emergency Department									
40. Percent of appropriate TPA Percent reduction in overall length of stay. delivery in allowable timeframe.	• **Number of patients presenting with stroke symptoms that are eligible for TPA.** • **Number of patients TPA was administered within the allowable timeframe.**	Provides a measure of telehealth impact on delivery of TPA in appropriate cases. Requires historical data comparison.				x			

Indicator	Data Elements/Aggregated Data Elements	Purpose / Value	Outpatient Services	Chronic Disease Home Monitoring	eICU	ED Services	Admin	Educational Services	**Selected Indicators**
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.							
Provider Measures									
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 instru-ments collected** • **Number of responses that indi-cate satisfied or above:** Total responses Total responses by reason.	Identified overall satisfaction and reasons. Reasons could include: • Makes efficient use of time • Integrated into workflow • Presenter knowledgeable • Technology is reliable • Technology is appropriate • 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 my include: • Technology did not perform as expected	x	x	x	x	x	x	

Indicator	Data Elements/Aggregated Data Elements	Purpose / Value	Outpatient Services	Chronic Disease Home Monitoring	eICU	ED Services	Admin	Educational Services	**Selected Indicators**
		• Patient site not prepared • Proper video etiquette was not followed • Poor patient presentation skills • Protocol not followed • Necessary information unavailable • Ineffective use of time • Patient uncooperative							
45. Percent of patients for whom Telehealth encounter were deemed appropriate.	• **Total encounters** • **Inappropriate encounter**	An indicator of referral pattern behaviors. Detects opportunities for provider education.	x	x	x	x	x	x	
46. Percent of patients for whom Telehealth encounter were deemed appropriate.	• **Number of encounters where provider participated in the encounter** • **Number of providers that indicated increased understanding**	This only applies to patient site providers that participated in teleconsultation. This is a measure of effectiveness and impact.	x		x	x			
47. Percent of patient sites indicating satisfied or above and by specific reason.	• **Number of satisfaction instruments collected** • **Number of responses that indicate satisfied or above and by specific reason**	Identified overall satisfactions and reasons. Reasons could include: o Makes Efficient use of time o Integrated into workflow o Provider knowledgeable o Technology is reliable o Technology isappropriate o Patient comfortable / cooperative	x	x	x	x	x	x	

Indicator	Data Elements/Aggregated Data Elements	Purpose / Value	Outpatient Services	Chronic Disease Home Monitoring	eICU	ED Services	Admin	Educational Services	**Selected Indicators**
48. Percent of patients indicating unsatisfied: total and by specific reason.	• **Number of satisfaction instruments collected** • **Number of responses that indicate unsatisfied or below by specific reason**	Detects patient site concerns of concern. Reasons my include: • Technology did not per form as expected • Provider site not prepared • Proper video etiquette was not followed • Poor provider presentation skills • Necessary information unavailable • neffective use of time	x	x	x	x	x	x	
49. Percent of providers / presenters that are trained to use the system.	• **Number of Telehealth providers/ presenters in system** • **Number that received formal training**	Identifies training levels.	x	x	x	x	x	x	
50. Percent of providers / presenters that demonstrate adequate ability in telehealth service delivery.	• **Number of Telehealth providers/ presenters in system** • **Number that demonstrated skill in telehealth service delivery**	Direct observation needs to support assessment of skills. Identifies need for additional training.	x	x	x	x	x	x	
Patient Measures									
51. Percent of patients that indicated overall satisfaction levels of satisfied or above.	• **Number of patient responses collected** • **Number of patient responses with satisfied or above**	Identifies overall satisfaction.	x	x	x	x		x	

Indicator	Data Elements/Aggregated Data Elements	Purpose / Value	Outpatient Services	Chronic Disease Home Monitoring	eICU	ED Services	Admin	Educational Services	**Selected Indicators**
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	
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. Provides indicator of the environmental impact	x	x	x	x	x	x	
54. Carbon Footprint Impact	• **Total travel miles avoided** • **Total reduction in carbon footprint**								

Indicator	Data Elements/Aggregated Data Elements	Purpose / Value	Outpatient Services	Chronic Disease Home Monitoring	eICU	ED Services	Admin	Educational Services	**Selected Indicators**
		resulting from telehealth services							
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 costso overheado Insuranceo IT supporto trainingo cost of provider services, revenues – direct and indirect	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	
57. Cost Benefit.	• **List of costs by item**	Overall picture of program	x	x	x	x	x	x	

Indicator	Data Elements/Aggregated Data Elements	Purpose / Value	Outpatient Services	Chronic Disease Home Monitoring	eICU	ED Services	Admin	Educational Services	**Selected Indicators**
	• **List of benefits with associated financial value – can be both direct and indirect; tangible and intangible**	value that allows program to quantify and place a value on tangible and intangible costs and benefits							
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	x	x	x	x	x	x	
	• **Estimated cost of travel time**	algorithm to associate time savings with productivity loss reduction.	x	x	x	x		x	

Have you covered everything?

Take a look at the Performance Monitoring Plan. You may see some things to consider before you move on.

Develop Performance Monitoring Plan Checklist	Yes	No	Unsure
1. You have developed an approach to measure, track, and achieve your target 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 for identifying and implementing the necessary changes.	☐	☐	☐
6. You have determined how the program improvements will be defined, planned, implemented, tested, and managed.	☐	☐	☐

Implement

Step Six

Implement the Telehealth Program

Questions to Answer	Products and Activities
• 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?	• 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 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. Project 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 below checklist. You may see some things to consider before you move on.

Implement the Telehealth Program Checklist

	Yes	No	Unsure
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

Step Seven

Monitor & Improve Program

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

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 will allow a program 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 Evaluate & Improvement Checklist. You may see some things to consider before you move on.

Evaluate & Improve Program Checklist

	Yes	No	Unsure
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.	☐	☐	☐

Best Practicies

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 experience provides 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 CTRC 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.

This document was produced with the generous support of the California Endowment.

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 the 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 health 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.

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 developed.

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, chal lenges 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 benefit 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 reimbursement for 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 that wich is 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 as well as 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 with the consulting provider.
- 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 manger 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 practice changes take time and will 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 Processs

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 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 designed to 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 mea-surement 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. Ensure 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 program's 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 program's 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 findings and share these experiences with new and long established developers of telehealth programs and the wider community. Share what you have learned!

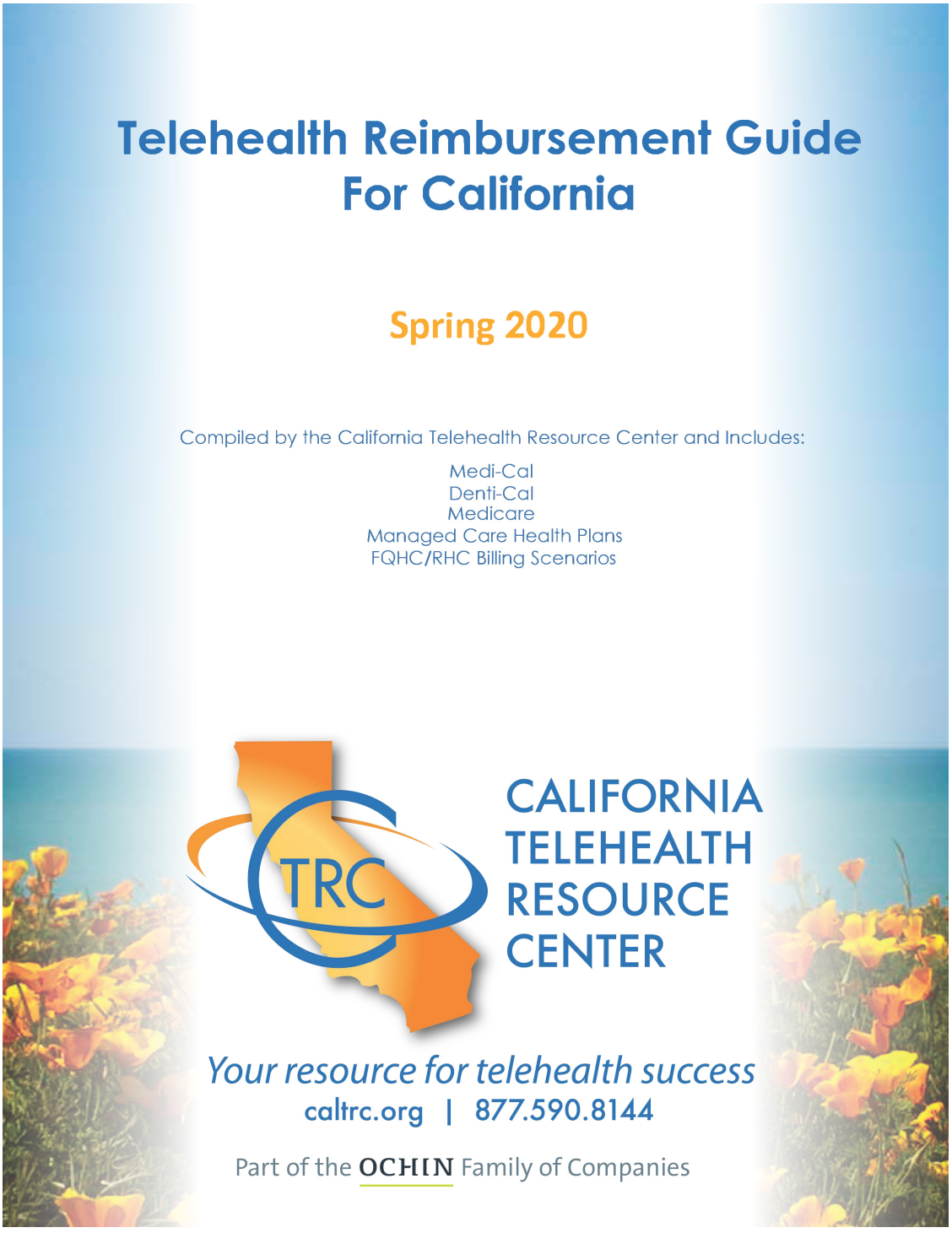
Lessons from the field…..

- 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……

Reimbursement

The California Telehealth Resource Center produces a Telehealth Reimbursement Guide specific to California payers twice a year. In an effort to be sure the information contained in this Program Developer Kit is as up to date as possible, please download the most recent version of the Telehealth Reimbursement Guide here: www.caltrc.org/knowledge-center/reimbursement



Staffing

Staffing a Telehealth Program

PROGRAM GUIDE

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Staffing a Telehealth Program

Program Guide

This Document was developed through a joint collaborative between the California Telehealth Resource Center (CTRC) and the University of Minnesota Great Plains Telehealth Resource and Assistance Center (GPTRAC/UoMN).

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Introduction

Staffing is often viewed as one of the most costly and critical components in developing and operating a successful telehealth program, but it is the staff that will ultimately determine the success of the program. It is important to take a good look at how best to develop this important program component.

Staffing consists of a variety of functions, roles and responsibilities, each role necessary for smooth and efficient delivery of services and operation of the telehealth program. As part of the development process, each telehealth program will need to determine how each function will be addressed – with existing staff? With new staff? Within which department? Developing telehealth program staffing will be influenced by factors including the type of service site, anticipated services and service levels, size of the site, anticipated volume, and available funding.

While the roles and functions necessary for telehealth operations have been well defined and described, each program will need to adapt the general knowledge for their unique needs and resources. Additionally, organizations have staff with different skills, strengths and interests. Making the most of existing staff strengths and structure will be an important consideration when developing your staffing plan.

In the CTRC Program Development process, staffing considerations, analysis and decisions occur during Step Two, Define A Program Model and Step Four, Develop The Detailed Program Description and Plan. The staffing plan that is needed for any given program should be developed as the program's design is established. The size, scope and type of program will impact staffing requirements and should be taken into account before staffing decisions are finalized.

This guide provides information and suggestions for staffing a successful telehealth program. It describes the functions, roles and responsibilities most often associated with telehealth programs. This guide contains a template to assist programs in identifying and assigning critical functions, roles and responsibilities and contains sample duty statements for some commonly used positions. This guide can be used to identify any gaps in the staffing plan for your new program, as well as to provide a few ideas to help strengthen an existing, growing telehealth program.

The information presented is generally adaptable to all types of telehealth programs.

CTRC has three on line training videos that support this guide: Patient Site Roles and Responsibilities, Provider Site Roles and Responsibilities and What Every Telemedicine Presenter Needs To Know. Other program assistance materials can be found at CTRC website - www.caltrc. org.

Eight Key Functions and Corresponding Staff Roles

Eight functions have been identified as essential when establishing and then sustaining a telehealth program. Covering all these functions and roles is vital to success. It is important to understand these functions, how they differ and how they work together. It is valuable to consider each of the functions before deciding on staff roles, responsibilities and assignments. The eight functions are:

1. Project Management
2. Program Management
3. Program Operation and Site Coordination
4. Clinical Direction and Oversight
5. Clinical Referrals
6. Clinical Service Provision
7. Patient Presentation
8. Technical Support

After considering the necessary functions for a telehealth program, each function needs to have a more defined set of roles and responsibilities. These can then be assigned to specific staff, either new or existing. In many programs one person may be responsible for or perform more than one function or role. The actual number of staff will need to be identified as your program scope, service type and service levels are identified.

1. Project Management

Function

Program Development / Project Management – The Project Management function is part of the initial development or subsequent expansion of a telehealth program. The Project Management function coordinates all the efforts necessary to research, plan, build, implement and manage the program. Project management involves using specific tools to define the project, identify and involve stakeholders, track and manage the specific steps (including timelines), resources, and goals necessary for the project to be successful. Proper project planning and management (including the use of appropriate tools and processes) helps to assure that clinical, operational and technical expectations and requirements are identified, met, or exceeded, therefore encouraging the successful outcome of the project.

Projects by their nature are limited in scope and time and the Project Management function concludes at the end of the development process. The project management function is different than the on-going program management function discussed below. Best Practice: Successful program development has an assigned project manager.

Make sure to identify the differences between the “project” of the initial implementation or expansion of a telehealth project, and the on-going operations of the institutionalized and sustained telehealth program. It is common in smaller programs to have the project management function combined with the program management function. The same individual developing the program is then responsible for managing ongoing operation.

The Program Development Function should be assigned before any of the work begins on the development of the telehealth program.

Role

Program Developer / Project Manager – The Project Manager role assumes responsibility for overall development of the telehealth program, including research, creation of development products such as needs assessments and program descriptions, create and execute project work plans and revise as appropriate to meet changing needs and requirements, identify resources needed and assign individual responsibilities, manage day-to-day operational aspects of specific projects and the corresponding scope. This position is responsible for all project accounting aspects including the tracking and reporting of team hours and expenses and managing of the project budget.

This position is responsible for identifying the key stakeholders and incorporating them in the planning and implementati on processes. At this point, many of the positions that are indicated below may not have been identified, but there should be representation from the various stakeholders they represent (administration, nursing, IT, rural/specialty medical staff, clinic staff, etc.)

If your organization is fortunate to have a full time project manager on staff, this person will transition the project, at its completion, to the program manager. However, in small clinics it is often the case that the program manager also functions as the project manager. The description of the role simply shifts from that of getting the project up and running to that of the long-term operational aspects.

It can be very helpful to obtain technical assistance from experienced telehealth program developers during the initial development of a telehealth program. They bring expertise, experience and often tools to support the development process.

2. Program Management

Function

Program Management – The on-going operational aspects of the telehealth program fall under this function. This includes general management activities such as increasing organizational awareness, on-going staffing, human resources management, policies and procedures, coordinating with other patient care departments, educating patient-care departments, providing the guidance and training necessary to meet the needs of patients being served, coordinating the licensing/credenti aling needs of practitioners, encouraging and coordinating service development and expansion, tracking customer satisfaction (remote sites, patients, providers, etc), data collection (service utilization, service access, etc.) and performance monitoring and reporti ng.

Role

Program Manager – The Program Manager role is responsible for managing all the operational aspects of the telehealth program including but not limited to needs assessment, policy and procedures, workflow and staffing. This position is usually responsible for planning, designing, controlling, directing, coordinating, and evaluating the performance and status of all resources (personnel, hardware, software, bandwidth, etc.) of the telehealth department.

This position works in cooperation with all of the positions indicated below to provide guidance and assistance. Additionally, this is the position that interacts regularly with the organizational leadership to keep them educated and updated on telehealth activities.

3. Program Operation and Site Coordination

Function

Program Operation / Site Coordination – This function includes activities related to operations and providing assistance as needed to the practitioners at both the patient and practitioner's locations. The success of the remote patient site is critical to the overall success of the entire telehealth program. A significant amount of coordination and commitment is required at the patient site. It is important to have a specific point of contact to provide assistance to other local staff and to serve as a champion for the telehealth program within the facility.

Roles

Telehealth Operations Manager or Telehealth Coordinator – The Telehealth Coordinator is perhaps the most used role for telehealth programs. In smaller organizations the Telehealth Coordinator often functions as the Program Manager, the Service Coordinator and the Clinical Presenter. This position is usually responsible for developing and enhancing clinical telehealth services and applications. This includes, but is not limited to, consulting with partner sites to determine and assess clinical needs and requirements; establishing and documenting proper procedures and policies regarding telehealth consultations, training personnel involved, assuring scheduling and other processes operate effectively and integrate with overall organizational processes; and communicatig regularly with the medical director and program manager. These positions are used at both patient and provider sites.

As clinical services are identified and developed, this position will likely have some interaction with the organization's clinic management and/or business development leader(s), and with the billing, quality, and credentialing departments as well.

While the ultimate goal is to incorporate telehealth services as a component and tool of a clinical practice, thereby allowing clinic staff to be responsible for conducting their own telehealth events, as a program is initiated it is likely that this position will be actively involved in the delivery of patients services. Assistance may be needed with scheduling medical specialists for telehealth consultations, coordinating with remote sites and verifying the presence of the patients to be seen, ensuring that the necessary clinical records and informati on is available for the Patient and the clinician, confirming licensing and credentialing, and verifying that the equipment is functional prior to the beginning of consultati ons. The telehealth coordinator may function as a clinical presenter during patient care visits and may also complete any necessary paperwork including billing forms and communications with referring practitioners.

Because of the functions of this position and the knowledge and skills required in the area of patient care and issues surrounding providing that care, many programs fill this role with a Registered Nurse (RN).

Patient Site Coordinator – Some programs differentiate between the Provider Site Coordinator (sometimes called a Hub site) and a Patient Site Coordinator role. Patient site coordinator serves as the prime contact person at the remote (Patient) service location. This position is often required to handle multiple functions serving as an advocate for telehealth within the facility, coordinating the actual use of the equipment by various interested parties (education, patient services, administration), assuring proper policies and procedures are in place, assisting with data collection and evaluation activities, and coordinating with other staff to assure Medical Staff requirements are met.

Many rural sites do not have the luxury of multiple individuals to serve in the many roles indicated in this listing, so often one person has to be versed in a variety of responsibilities.

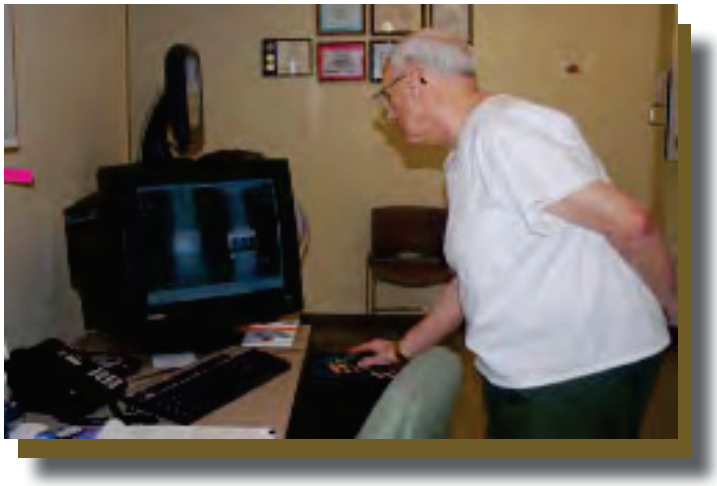
4. Clinical Direction and Oversight

Function

Clinical Direction and Oversight – This function assures that there is adequate and appropriate clinical oversight to the services being provided by telehealth. Making sure that telehealth services are provided appropriately, are meeting the identified needs and are accessible, all without undue burden to the patients and staff being served is important. This function occurs at both the patient site and the provider site.

Role

Clinical Director – The Clinical Director serves as the liaison between the telehealth program and the rest of the organizati on's clinical staff for the purposes of program awareness, provider recruitment, service development, provider training, and general communicati on. This position often serves as the program champion by providing encouragement, direction, and medical/clinical oversight of the telehealth program. The Clinical Director works closely with the Program Manager, Operations Manager and Telehealth Coordinator. A Clinical Director should be assigned at both the patient and provider sites.



5. Clinical Referrals

Function

Clinical Referrals – The practitioner at the patient site is often the gate-keeper for patients as they access telehealth services. Often, it is the practitioner who will identify a patient with a need to receive specialty care utilizing telehealth services. Already-established relationships with specialty providers is often what determines the referral.

Role

Patient Site Referring Clinician – In medical settings, this is usually performed by the patient site primary care provider. The referring clinician at the patient site determines when a patient needs a service not available on site and will make the referral to a telehealth practitioner. The referring clinician identifies patients that may be suitable for telehealth services and often is the initiator of the consult for specialty services.

This positi on relies on the combined skills of the remote site coordinator and the patient presenter to facilitate the telehealth interaction between patient and telehealth specialty practitioner. Additionally, there may also be interaction with the Telehealth Coordinator and the Medical Director to ensure that services are available to meet the community's needs and to address any quality improvement issues.

6. Clinical Service Provision

Function

Clinical Service Provision – The practitioner at the specialty or other service site provides the service being requested by the referring practitioner. The clinician may also directly request telehealth services for a patient as part of their follow-up care.

Role

Telehealth Provider / Clinician / Practitioner –The practitioner is located remotely from the patient and is often a clinical specialist of some kind. This position is responsible for leading and conducting the actual patient interaction as well as directing the actions of those assisting the patient. In some cases, the practitioner is actually directing the care of the patient remotely. In other cases, the practitioner is serving only in a consultative role to the patient's primary provider.

This position usually relies heavily on the services of the patient presenter when seeing a patient. In many patient events, informati on from an electronic stethoscope, various video scopes, or other peripheral devices may be needed, as well as informati on from the patient's electronic medical record.

7. Patient Presentation

Function

Patient Presentation – Since the idea of telehealth is to access services not available within the facility, it is expected that the practitioner providing the service is not physically located with the patient. In most cases, the remote clinician will require some level of clinical or techological assistance with the patient interaction or examinati on. This includes serving as an extension of the clinician by assisting the patient, operating the telehealth equipment, utilizing peripherals, as needed, and ensuring that a patient's needs and the standards of care are being met.

Role

Patient Presenter – The patient presenter works with the remote telehealth clinician to present the patient. This presenter explains the visit to the patient and introduces the patient to the practitioner. The presenter is tasked with obtaining informed consent based upon the facility's policy, ensuring that the patient's charts are available and accessible, and anticipating and preparing the patient for the event. This person serves as the extended hands, eyes and ears of the practitioner at the patient-end of the connection during live interactive consults. This requires the ability to operate the telehealth equipment and usually requires the understanding and use of various scopes and other peripheral devices. This also involves patient discharge, patient educati on and coordinating of additional care. When store and forward equipment is used, the presenter captures the digital images as well as the necessary clinical information to forward to the remote practitioner.

The role of Patient Presenter can be filled by many individuals. Many organizations have determined that having only one or two individuals trained to serve as the patient presenter is not very efficient. In order to incorporate telehealth as a core service, some organizations have determined that all nursing and/or medical staff should be able to serve in this capability, tol be able to present patoents to the telehealth practitioner as the need arises.

8. Technical Support

Function

Technical Support – Making sure that the equipment and network is set-up to encourage the smallest amount of "down time" and the highest level of "usability" is a significant part of the technical support function. While the technology has certainly become much easier to use over the past many years, there is still a need to be able to provide on-going technical support to the users of the telehealth services. Nothing is infallible, and while the frequency of equipment failure or glitches are small, there is a likelihood that equipment challenges will occur when you least want them.

Role

Technical Specialist/Network Analyst – The technician is responsible for the day-to-day functioning of the telehealth equipment and related network issues and peripherals (i.e. bridge, stethoscopes, routers, etc.). This includes the appropriate testing, operations and maintenance of the equipment, supporting proper and appropriate usage by the users, establishing/maintaining appropriate network infrastructure, and adhering to appropriate equipment-related organizational policies and procedures. This person should be available when there are technical difficulties with live telehealth sessions.

This position works in regular cooperation with Telehealth Coordinator in order to maintain a usable network to best meet the needs of the patients served. In larger organizations, the technical and network roles are often served by different people.

Some Additional Functions

There may be, depending on the services provided, additional functions that should be addressed. Some of these include:

Function

Distance Education Coordination – Some organizations have established a very specific focus on educational offerings. As a result, the coordination of these events is important for proper delivery and improved educational value. Making sure that both presenters and participants have a rewarding experience is the primary goal.

Function

Event Scheduling – If the volume of your services climbs to a level of use that can justify it, having someone tasked specifically with scheduling may be helpful. Some programs establish different scheduling processes between administrative and education events and clinical events and have chosen to keep these two focuses separate in the scheduling process. Some programs have not necessitated the need for the separation and both focus areas are scheduled through the same process.

Function

Administrative Assistance/Accounting – In some larger health system-based programs and some university-based programs, the involvement of and sometimes volume of grants dictates the need for additi onal administrative and accounting assistance.

Function

Quality and Research – In some organizations, the importance of evaluation and data comparison is at such a level that it is established as a separate function.

Function

Patient Monitoring – In the case of home health programs, establishing and maintaining a relationship with the patient being monitored is a key function. Observing and communicating with the patients involved in the program is the core to home-based telehealth services.

Identify Other Key Stakeholders

Additional organizational members on both ends of the service need to be involved in and aware of the telehealth implementation as well as be kept apprised of the continuing activities and services of the telehealth program. This on-going communication will encourage long-term support of your telehealth program and lead to its ultimate sustainability. The first step to figuring out how to incorporate telehealth into the organizational infrastructure is through regular communications and awareness building.

Chief Executive Officer/CFO/CIO/Lead Administrative Team – Organizational leaders need to be infomed and educated about the benefits and operation of telehealth. As organizational priorities are identified, it is important for them to understand exactly how telehealth services can make an impact and assist the organization in accomplishing annual and long-term goals. If they understand the value that telehealth can bring to the organization, they are much more likely to support it, philosophically and budgetarily, in the future.

Chief of Medical Staff – In many organizations this is a rotating position, but it is important to establish communication early and often with whomever is serving in this role (and then again when the next person takes over). Gaining this person's support, or at least building their awareness, is an important block in the foundation of the program. If the organization has a full-time position for this role, it would be highly beneficial to engage this person as a telehealth champion. As new providers/physicians are recruited to serve within the organization, that person has the opportunity to encourage or require the use of telehealth services.

Director of Nursing/Chief Nursing Officer – This person directs the overall activities of the organization's nursing staff. This person is pivotal to telehealth program success. Gaining their support and buy-in from the beginning of the project planning phase is important.

Business Office/Billing Staff – Communicating with someone who understands your organization's billing process and working with them to make a plan for incorporating telehealth services into the established structure will be important.

Outreach/Service Development Staff – As you consider and evaluate services to provide and/or receive, make sure to stay in regular contact with other staff also involved in outreach activities. It is important to collaborate with others striving to develop and grow services so as to not present conflicting messages and to create partnerships that support the efforts of the outreach staff.

Training/Education Staff – Often one of the services offered by a telehealth program is education. It is important to involve the education staff in the initial planning and stay in regular communications with them along the way. Staying informed about current and future educational needs as well as current in-house offerings will help to develop a plan for future development efforts. Additionally, they can help identify appropriate training methods for training staff of the telehealth program. They may also have

regularly scheduled education sessions where awareness-building for telehealth could be incorporated. It is also necessary to appropriately train individuals to be successful clinical presenters.

IT Staff – Keeping in close communication and establishing a partnership with this group will be a critical key to the overall, and long-term success of the telehealth program. Providing telehealth services will have an impact on the facility's current network infrastructure. Establishing regular communications with this group, including making plans to manage the initial impact, as well as the on-going anticipated usage and potential service growth, will strengthen their understanding of, commitment to and ultimately their support of telehealth services within the organization. This group often does not get to see the impact they have on direct patient care, so make sure to share your success stories with them.

It is important to keep in mind that these positions need to be addressed at both the patient site and the provider site. It is important that communications be active to and from the leadership at both the remote facility and the provider location. Garnering support for the telehealth efforts is important at both ends of the telehealth services link. A weakness on either end can lead to failure.

Organizational Placement of Telehealth

Many developing programs ask about the ideal placement within the structure of your organization. In May of 2007, the University of Kentucky, Kentucky Telecare telehealth program conducted a survey of telemedicine programs across the country to obtain informati n on this subject. The results indicate that there is not one best answer, but each organization had to try to identify the best fit for their program. The survey results indicate:

- 44% administration-level department
- 15% Information Technology
- 11% Clinical Enterprise
- 9% Education
- 21% Other

It is likely that as the telehealth program is initiated within a facility or organization the staffing will be organizationally located across several already established departments, with one or two individuals serving as the leader(s) responsible for the success of the overall program.

There may be logic for dividing out components of your program which will always remain under another department's control. Some examples of this might be: credentialing and privileging – it might be best to simply coordinate with the current credentialing department instead of taking on those complicated processes specifically for the telehealth-related services; or technology – there may be some value in having the information technology department be in charge of the actual telehealth hardware as they may already have processes and understanding for hardware installation requirements, upgrades, network issues, tracking and more.

In situations where responsibilities are delineated out to other departments, it is highly recommended that a specific individual (or individuals) be identified as the department lead for telehealth. This helps to develop a level of expertise in telehealth-specific issues and needs and identifies a "go to" person for questions and difficulties that might arise.

Developing A Staffing Plan

Now that you have an understanding of the functions and commonly used roles, it is time to develop a staffing plan for your organization.

The number of staff recommended for your program will depend on the size of your organization as well as the anticipated size and volume of your initial program. While often one person can be involved in multiple program roles, especially at the beginning, organizations are strongly encouraged to be careful not to overload one person with too many various components. This not only can weigh very heavily on one person, it can also have a detrimental impact on your program. By spreading the responsibilities across multiple individuals, a program builds multiple levels of buy-in and commitment to the success of the program. As the number of clients being served through the program grows, the staffing will also need to grow to meet the patient need. At some point in the program development, it may be necessary to have a stand-alone telehealth department and staff. However, as the program begins, the responsibilities of telehealth may be best served by existing staff.

While program structure may vary significantly, the core functions and responsibilities of those same programs are often very similar.

A matrix similar to the one below can be used to identify who is doing what at both ends of the service and to also identify responsibilities that may not be currently covered. A more detailed Sample Staffing Matrix and a corresponding template is found in the Appendix of this Guide. This matrix can be used to identify large functional group responsibility but can also be used to add specific activities and tasks as they are identified and assigned.

Sample Staffing Matrix

Functional Area	Identified Staff Role / Position						
	Project Manager	Program Manager	Program Coordinator	Patient Presenter	Referring Clinician	IT Staff	Clinical Director
Program Development /Project Management	X						
Program Management		X					
Program Operations / Site Coordination			X		X		
Clinical Direction and Oversight							X
Clinical Referrals					X		
Clincial Service Provision							X
Patient Presentation				X			
Technical Support			X			X	

Identifying Necessary Skills and Knowledge

Telehealth will require that staff learn some new skills and expand their knowledge base to incorporate the technical and clinical aspects of telehealth. For some staff, operation of the equipment and medical peripherals will be a necessary competency. Learning to work with clinicians and patients using video conference technology will be critical.

The Skills and Knowledge Area Matrix found in the Template Section of this Guide provides a listing of skills that each position should have and its related importance for the indicated position. This information will help you identify what training will be required and may assist in determining which staff may be right for certain functions and roles.

Assigning Responsible Staff

The following is a list of high level functions that should be addressed, in some manner, as you begin to establish, or expand, your telehealth program. These functi ons may be filled by individuals identified as telehealth staff or by those in other departments providing directed assistance.

Function	Position Responsible for Function	Staff Member Assigned
Project Management		
Program Management		
Operati ons/Coordination		
Clinical Direction		
Clinical Referrals		
Clinical Service Provision		
Patient Presentation		

Program Challenges Related To Staffing

Staffing challenges can impact developing and maintaining a successful, progressive telehealth program. Program Development efforts and ongoing management will need to consider strategies to address these areas. Some of those challenges center on staffing issues.

1. Finding The Right People

Implementing telehealth takes flexibility and a commitment to change. Often the first challenge is finding interested and enthusiastic individuals who will be committed to the program and making things work. It is important to have key staff that have a flexible work style, a customer-service/ patient-centered focus, and an interest in fiuring out how to make things work. Knowing that bringing something new or different into an organization can be complicated, the people working on the project, and hopefully ultimately the long-standing institutionalized program, must understand the difficulties before them and still be excited about the opportunities telehealth can bring to the organization in spite of the challenges. Good communication skills are a must and a willingness to learn about new technologies are a must.

2. Staff Retention

Many programs report that staff turn over is on-going challenge, particularly in rural health clinics. As the program is initiated, having an understanding that this will happen, and being prepared for it when it does happen, will help sustain the program in the long run. One of the important things to consider when developing the telehealth program is how much of the success of the program is tied to one person… and what would happen if that one person was no longer there. Making sure that appropriate policies and procedures are identified and in place, as well as having detailed job descriptions, will be helpful as transitions occur. Additionally, it is important to make sure that departmental staff are cross-trained in all roles to reduce the challenge of staff transitions. Some of the key staff that could see regular change include: administrators, program managers, clinical presenters, practitioners/physicians at both the patient and specialist locations, remote site telehealth coordinators and technical staff. Assuring that the organization supports and understands the program will significantly lessen the impact of staff turn-over issues when they occur.

3. Obtaining Adequate and Appropriate Training At The Right Time

Training of staff is an ongoing need. As vacancies occur and telehealth program staff are hired, training will be necessary in both clinical and technical aspects of the program. In addition, keeping up skills is necessary when use of the telehealth equipment is infrequent. Both of these situati ons require the availability of training. Newly developing programs will need to identi fy strategies for training. This guide contains a detailed matrix on skill sets required by different staff involved with telehealth. CTRC has a series of training videos that can be used for training. The National School for Applied Telehealth, the Univerity of Minnesota, the University of California and others have on-line and in person training programs available.

4. Budgeting for Required Staff

Identifying on-going budget dollars to support the program in the long run can be a significant challenge. Often initial start-up funding can be obtained from local, state, federal, or foundation grant dollars to support the initial pilot project. The on-going dollars needed to support the staff necessary for maintaining strong, sustainable programs is often more difficult to identify. This is where your on-going evaluation and data tracking activities will show their value. The ability to demonstrate dollars-saved, revenue gained, increased patient volume, a reduction in provider turn-over, increased patient satisfaction and more, will go a long way to help in securing those annual operating dollars that are needed to sustain the program, including the positions identified above.

Conclusions and Best Practices

As determinati ons are being made regarding the appropriate staffing structure and model for your organization, it is important to remember that there are no carbon copies. Each organization has a unique history, culture, need, and structure. Additionally, each team member brings unique skills and interests to the program. Understanding your organization, your team members, and then making sure that all of the necessary program needs and functions are being met, will certainly help you develop a staffing structure that will best meet the needs of your telehealth program.

Ultimately, it is important to keep the main goal of telehealth in mind during all planning and discussion sessions: how the program can best meet the needs of the patients served as well as the clinicians serving them. Keeping the patient in mind, among all of the other factors being considered as the program is being developed (strategy, budget, equipment, etc.), will help to guide your decisions.

Best Practices related to staffing include:

- Assure that the function of project management has been assigned to a staff member or a contractor
- Contractors with telemedicine development experience can be used to assist a newly development program with project management and with program development expertise.
- Find training programs that support different staff functions.
- Find ways to regularly assess staff skill levels and to provide immediate training to newly assigned staff.
- Have more than one staff member skilled and assigned to patient presentation

Tools & Templates

Template: Staff Positions Responsible for Functional Areas

Template: Staff Assignments by Functional Area

Skill and Knowledge Area Matrix (CTRC Document)

Sample Duty Statements: Program Manager, Telehealth Program Coordinator, and Clinical Presenter

Sample Staffing Matrix

Functional Area	Identified Staff Role / Position						
	Project Manager	Program Manager	Program Coordinator	Patient Presenter	Referring Clinician	IT Staff	Clinical Director
Program Development /Project Management	X						
Program Management		X					
Program Operations / Site Coordination			X		X		
Clinical Direction and Oversight							X
Clinical Referrals					X		
Clincial Service Provision							X
Patient Presentation				X			
Technical Support			X			X	

Template
Staff Assignments by Functional Area

Function	Position Responsible for Function	Staff Member Assigned
Project Management		
Program Management		
Operations/Coordination		
Clinical Direction		
Clinical Referrals		
Clinical Service Provision		
Patient Presentation		

Skills and Knowledge Area Matrix

Listed below are some important skills and knowledge areas for telehealth program staff. Six commonly used roles are identified and roles may be assigned to one staff person. For a brief definition of each role, please refer to the end of this document.

THIS MATRIX IS PROVIDED AS A GUIDE. EVERY PROGRAM WILL NEED TO DETERMINE THE SPECIFICATIONS FOR ROLES WITHIN THEIR OWN PROGRAM.

Skill or Knowledge Area	Program Manager	Telemedicine Site Coordinator	Patient Presenter	Referring Clinician	Remote Practitioner	Technical Specialist
Understand the benefits of telehealth program	++++	+++++	++++	++++	++++	++
Preparing a needs/market Analysis	++++	++	+	+	+	+
Business Model Development and Sustainability	++++	++	+	+	+	+
Organizational Readiness	++++	++	+	+	+	+
Strategic Planning and Telehealth Applications	++++	++	+	++	++	+
Project Management for Telehealth	++++	+				+
Managing Organizational Change	++++	+++	++	++	++	++

Skill or Knowledge Area	Program Manager	Telemedicine Site Coordinator	Patient Presenter	Referring Clinician	Remote Practitioner	Technical Specialist
Impact of Telehealth on Organizational Operations	++++	++++	+++	++++	++++	++
Legal Considerations	++++	++++	++	++++	++++	+
Privacy and Security	++++	++++	++++	++++	++++	++++
Reimbursement	++++	++++	++	+++	++	+
Practices of Successful Programs	++++	++++	++++	++++	++++	++++
Evaluation of Program Operation and Effectiveness	++++	+++	++	++	++	+
Management Reporting	++++	+++	+	+	+	+
Telemedicine Applications	++++	++++	++++	++++	++++	++
Telehealth Technologies	++	++	++	++	++	++++
Equipment Types	++	++	+++	+++	+++	++++
Equipment Specifications and Standards	++	++	+	+	+	++++
Equipment Selection	++	++	++	+++	+++	++++
Operation of Telemedicine Equipment	++	+	+++	+	++	++++
Equipment Maintenance	+	+	+	+	+	++++
Equipment Troubleshooting	+	+	++	+	+	++++
Telecommunications Fundamentals	+	++	++	+	+	++++

Skill or Knowledge Area	Program Manager	Telemedicine Site Coordinator	Patient Presenter	Referring Clinician	Remote Practitioner	Technical Specialist
Video Standards and Specifications	+	+	+	+	+	++++
Telecommunications Installation	+	+	+			++++
Telecommunications Operation	+	++	++			++++
Telecommunications Maintenance		+	++			++++
Troubleshoot Telecommunications Connections		++	++		+	++++
Service level Agreements	++	+	+			++++
Telemedicine Specific Clinic Operation Proceedures	+++	++++	++++	+++	+++	+
Scheduling Follow-up	++	++++	++++	++	+	
Telemedicine Specific Referral Procedures	++	++++	++++	++++	++++	+
Managing Medical Record	++	+++	+++	++	+	
Reimbursement	++	++++	+	+	+	
Clinical Protocols	++	+++	++++	++++	++++	
Role of the Patient Presenter and How to Work with Presenters	+	+++	++++	++	++++	
Preforming Telemedicine Consultations	++	++++	++++	++++	++++	
Inform Patients About Telemedicine Process		++	++++	++++	++++	+
Using the Telemedicine Equipment	+	+++	++++	+	++++	++++
Data Collection	++	++++	++	+		++

Definitions for Commonly Identified Telemedicine Staff Members

Program Manager: The program manager provides overall management and oversight of program activities. The program manager is the leader of the telemedicine team. He or she represents the group, advocates on its behalf to the organization and manages the staff. The manager reports on the function and progress of the service, directs any process and improvement activities, negotiates budgetary issues, recruits and hires staff, sets priorities in consultation with the team, and supervises its functioning.

Telemedicine Site Coordinator: The telemedicine coordinator manages the day-to-day clinic operations. He or she develops operational protocols, schedules medical specialists for telemedicine consultations, schedules and verifies the presence of the patients to be seen, ensures that the necessary clinical records information is available for the patient, and verifies that the equipment is functional prior to the beginning of consultations.

Patient Presenter: The patient presenter works with the remote practitioner to present the patient. This person introduces the patient to the practitioner and explains the visit to the patient. The presenter is usually tasked with providing and documenting the written and verbal patient consents (required in California) and ensuring that the patient's charts are available. This person is the extended "eyes and ears" of the practitioner at the other end of the connection during live interactive consults. When store and forward equipment is used, the presenter captures the digital images as well as the necessary clinical informati on to forward to the remote practitioner.

Referring Clinician: The referring clinician determines when a patient needs to be seen by a remote practitioner. The clinician screens patients that may be suitable for telemedicine services and initiates the consult for specialty service.

Remote Practitioner: The remote or consulting practitioner is responsible for conducting the actual telemedicine visit.

Technical Specialist: The technical specialist possesses the technical skills to set up and maintain all telemedicine equipment. This person is tasked with ensuring that telecommunications and networking issues are addressed and resolved and should be available when there are technical difficulties with live examination sessions.

Sample Duties Statement

Program Manager

Manage all aspects of the telehealth department including but not limited to staff, programming and system implementation, hardware/software requirements, system/user priorities, and workflow. Responsible for planning, designing, controlling, directing, coordinating, and evaluating the performance and status of all resources (personnel, hardware, software, bandwidth, etc.) of the telehealth department.

Duties and Responsibilities

- Reviews and establishes departmental policies, procedures and plans.
- Develops and directs telehealth priorities for the organizati on in concert with and at the direction of leadership.
- Responsible for the collection, analysis, maintenance and reporting of statistical data to identify, diagnose, and correct problems/factors affecting performance, to track utilization, and other needs.
- Designs methods and procedures for efficiency, productivity, and control of operations and coordinates day-to-day operations.
- Provides planning, consultation and advisory services on telehealth development and issues to determine feasibility and applicability to organizational needs.
- Maintains effective communicati on and awareness by consulting with physicians, physician offices, affiliates, and department directors and/or representatives to discuss telehealth needs and directions.
- Prepare the departmental annual budget and with on-going review and action assure that budgeted objectives are achieved and that cost and expense objectives are met.
- Represent the organization on appropriate telehealth-related activity and/or planning groups on an organizational, regional and national level.
- Supervise the administration of telehealth-related grant funds.
- Serve on any and all grant fund related committees (federal, regional, state, and local).
- Be knowledgeable on public policy issues and the possible impact to telehealth services
- Actively advocate and build the awareness for telehealth at all governmental levels.
- Balances limited resources with conflicting priorities.
- Oversees the coordination efforts with the Education Departments on the availability of programs to be broadcast via video conferencing.
- Approves the purchase, license, or other acquisition of telehealth-related systems for the organization in order to encourage cohesion and compatibility.

Sample Duties Statement

Telemedicine Coordinator

Responsible for developing and enhancing clinical telehealth applications. This includes, but is not limited to, consulting with rural partner sites to determine and to assess their clinical needs and requirements; establishing and documenting proper procedures and policies regarding telehealth consultations; and training personnel involved.

Duties and Responsibilities

- Serve as primary liaison with primary care physicians and their clinical staff.
- Assist clinicians with the telehealth applications.
- Promote the awareness of telehealth usage/applications among medical staff, the nursing community and allied health professionals within the organization and the region.
- Develop/manage/coordinate clinical efforts within the organization and at partner sites.
- Work with the program manager and other clinicians to conceptualize and develop clinical applications.
- Assist the clinicians during consultations when necessary.
- Train rural partner site nurses, physicians, and care extenders to perform clinics.
- Become familiar with issues and concerns that may arise regarding patient billing.
- Be involved with educational program development and assist presenters as necessary.
- Participate in and develop appropriate documentation of usage, satisfaction, and other relevant statistical and quality data and information.
- Travel to partner sites to promote clinical involvement of rural clinicians.
- Work in cooperation with all telehealth staff to develop appropriate guidelines and policies/procedures.

Sample Duties Statement

Clinical Presenter

Responsible for scheduling patients, preparing charts, presenting patients to the remote physician, completing required patient charting and collecting encounter data.

Duties and Responsibilitiies

- The clinical presenter is present during every telemedicine visit to properly inform and introduce all parties involed prior to the start of each visit.
- Excellent verbal and written communication skills to convey information clearly to the remote physician.
- Maintains patient confidentiality.
- Presents each patient visit and locates and presents medical informati on from the medical record as directed by the attending physician.
- Assures that the required clinical follow up, diagnostic testing and medication processing are completed.
- Responsible for operating and basic trouble shooting of telemedicine equipment.
- Regularly communicates with the Telemedicine Coordinator and provides feedback on institutaional procedures that may exsit that impact the operati on of telemedicine.

Sample Telemedicine Job Descriptions

STAFF ROLES AND JOB DESCRIPTIONS

The Telemedicine clinic staff, from the Medical Director to the Site Coordinator, have a unique set of duties and responsibilities, in addition to their traditional roles within their organization. These responsibilities require an elevated skill set that is reflected in the sample job duties and job descriptions in the following pages.

In this document, you will find reference to the following roles on the telemedicine team:

1. Medical Director

2. Site Coordinator for the Patient Site

3. Site Coordinator for the Specialty Site

4. Instructor

5. Clinic Manager

6. Technical Support

TELEMEDICINE MEDICAL DIRECTOR

Purpose:

To provide oversight of all clinical activities, including clinical quality improvement, and serve as a liaison between referring and consulting physicians.

Duties:

- Oversee the implementation plan of sites, specialties, and other telemedicine clinical and educational services.
- Assist in coordinating clinical activities with participating specialists, evaluates scopes and other peripheral devices for clinical appropriateness, provides guidance on the potential uses of telemedicine, and outlines the opportunities and limitations of the technology.
- Responsible for evaluation and research in the areas of equipment utilization, cost-benefit analysis, and clinical efficacy and outcomes.
- Participate in policy development at the local, state, and federal level.
- Incorporate telemedicine as a strategy in the area of rural health and affiliation development.
- Act as liaison to the medical community, providing education regarding the appropriate applications and opportunities provided by telemedicine.

TELEMEDICINE SITE COORDINATOR PATIENT SITE

General:

Serve as point-of-contact for telemedicine activities at health care facility. Responsible for operation of telemedicine program at individual site. Schedule appointments, set up and test equipment, collect evaluation data, support physicians and other providers during consultation, promote program in local community.

PROGRAM COORDINATION

- Serve as the primary contact for scheduling of the telemedicine and videoconferencing
- equipment.

- Organize on-site training for users of the telemedicine, videoconferencing, and remote monitoring systems.

- Responsible for working with appropriate site staff to bill for telemedicine services.

- Organize demonstrations of the system for visitors.

- Provide or arrange for basic technical support and perform or provide for general system maintenance.

- Coordinate with the technical support team to ensure that problems and system development needs are addressed.

- Assist in data collection and report generation.

TELEMEDICINE CLINIC ADMINISTRATION

- Triage incoming telephone calls and appropriately handle each call by obtaining adequate information to make a proper telemedicine referral, and schedule the teleconsultation.

- Prepare consult room and equipment prior to scheduled consults. Make sure successful video connection has been made and stand by during consult to provide technical assistance when necessary.

- Create and distribute telemedicine clinic schedules, promotional material, documents, consent forms, satisfaction surveys, and various items of information to on-site medical staff and patients.

PATIENT CARE COORDINATION

- Answer patient/family and referring physician questions appropriately and within the realm of knowledge/expertise, and expediently and appropriately relay the information to the proper. Provide follow-through to ensure that all issues/questions are resolved .

TELEMEDICINE SITE COORDINATOR PATIENT SITE, page 2

- Act as a liaison between referring physicians, patients, staff and consultants, clinic staff, patient accounts, funding sources, and other departments or services as needed.

- Assist the consultant physician with scheduling the patient for clinic appointments, procedures or with a direct admission, if the patient requires hospitalization, as outlined in health facility protocols.

EDUCATION AND OUTREACH

- Facilitate the operation of continuing educational programming utilizing the telemedicine equipment.

- Responsible for scheduling telemedicine facilities and for the technical preparation for educational sessions.

SKILLS, KNOWLEDGE AND ABILITIES

- Good verbal and written communication skills.

- Experience working in a clinical setting with technicians, nurses and physicians.

- General knowledge of patient scheduling systems and billing system.

- Computer skills and an ability to learn and understand the general technical requirements for the telemedicine system. With training, ability to provide basic technical support and to triage more difficult problems to appropriate staff.

- Proficiently operate a PC, and experience with/or ability to learn word processing, spreadsheet, database, e-mail and internet programs (Excel, Word, Access, etc.).

- Organizational skills to prioritize workload and meet deadlines, develop and carry-out project assignments in an efficient and timely manner and to provide accurate and succinct documentation of activities.

- Demonstrated ability to communicate effectively with physicians and clinical staff. Ability to positively represent telemedicine to external organizations and participants.

- Ability to exercise tact, courtesy and diplomacy when dealing with individuals at any level.

- Ability to maintain confidentiality, exercise discretion, use independent and mature judgment, work independently without supervision and commitment to excellence.

TELEMEDICINE SITE COORDINATOR SPECIALTY SITE

General:

This position reports directly to the Telemedicine clinic supervisor, and has primary responsibility for the daily operation of a Telemedicine Clinic. The Telemedicine Program utilizes systems designed for clinical episodes, but will also manage lower-end videoconferencing systems that will be used for administrative meetings and distance education. Thus, this position will be responsible for different levels of equipment usage. The incumbent will also assist with front office services which will include reception, scheduling, registration, authorizations and referrals, billing support, medical records, database creation, management, and report generation, and administrative support.

Purpose:

As Clinic Operations Coordinator, provide support for all activities involving specialty consultation services via telemedicine at various telemedicine consult sites throughout the Specialty Center Campus. Ensure that remote sites adhere to registration, referral authorization, delivery and evaluation protocols; collect data for analysis; provide support to physicians and other providers during consultations, and provide basic registration, billing, and database management and reporting services. Responsible for basic troubleshooting of video equipment as needed.

Duties:

CLINIC ASSISTANCE AND PATIENT CARE COORDINATION

- Answer referring physician questions appropriately and within the realm of knowledge/expertise, and expediently and appropriately relay the information to the proper clinician. Provide follow-through to ensure that all issues/questions are resolved.

- Serve as the primary contact for scheduling telemedicine consultations in the Main Hospital telemedicine suites. Act as a liaison between referring physicians, Specialty physicians, and clinic staff.

- Prepare main consult room and equipment prior to scheduled consults. Make sure successful video connection has been made, and stand-by during consult to provide technical assistance when necessary.

- Communicate with Telemedicine clinic staff regarding consult and patient schedules, and advise when changes are needed.

- Distribute clinic schedules, promotional material, documents, satisfaction surveys, and various items of information to on-site medical staff.

- Responsible for the smooth operation of the consult clinic. Duties include notifying specialist of upcoming appointments, printing daily patient schedules, gathering appropriate medical record information, and remaining on-site during consults to assist with unforeseen difficulties.

TELEMEDICINE SITE COORDINATOR SPECIALTY SITE, page 2

- Triage incoming telephone calls and appropriately handle each call by obtaining adequate information to make a proper telemedicine referral and schedule the teleconsultation.

- Responsible for patient registration, scheduling and billing activities for all patients seen via telemedicine. Prepare bills, check for completeness, and forward to billing personnel for processing. Reconcile reports and resolve discrepancies.

ADMINISTRATION

- Adhere to performance standards specified in Operations Policy and Procedures Manual.
- Responsible for data collection, entry, and report generation utilizing database software.
- Assist in scheduling faculty coverage for telemedicine clinic.
- Participate in quality improvement and program development activities.
- Coordinate and participate in demonstrations upon request from Program Coordinator, Department Manager and Medical Director.
- Provide back-up coverage for clinic phones, and clinic-related activities at other Telemedicine consult suite sites on an as-needed basis.
- Other related telemedicine duties as defined by Clinic Supervisor.

TECHNICAL ASSISTANCE

- Independently troubleshoot minor technical difficulties, and escalate to technical staff when appropriate.
- Coordinate with the technical support team to ensure problems and system development needs are addressed.

SKILLS, KNOWLEDGE AND ABILITIES

- Excellent verbal and written communication skills, and the demonstrated ability to understand and to convey information clearly.
- Telemedicine clinic experience and Knowledge of various telemedicine technologies preferred.
- Experience working in or with a rural clinical setting with technicians, nurses and physicians preferred.
- Experience working in an academic clinical environment preferred.
- Experience working in or with correctional facilities preferred.

TELEMEDICINE SITE COORDINATOR SPECIALTY SITE, page 3

- Excellent computer skills and an ability to learn and understand the general technical requirements for the telemedicine systems.
- Ability to provide basic technical support and to triage more difficult problems to appropriate staff.
- Ability and skill to proficiently operate a PC for Excel, Word, Word Perfect, Access, Internet.
- Organizational skills to prioritize workload and meet deadlines, develop and carry-out project assignments in an efficient and timely manner and to provide accurate and succinct documentation of activities.
- Demonstrated ability to communicate effectively with physicians, clinical and technical staff.
- Ability to positively represent Specialty Center to external organizations and remote sites.
- Skill to exercise tact, courtesy and diplomacy when dealing with individuals at any level within or outside the Specialty Center.
- Ability to recognize relationship challenges with referring sites and specialists, and the ability to initiate appropriate action to resolve them.
- Analytical skills to independently and tactfully assume responsibility for coordination and completion of complex projects requiring interactions with many individuals in a matrix organizational structure.
- Skill and ability to analyze financial data and compile accurate reports to meet monthly deadlines.
- Ability to maintain confidentiality, exercise discretion, use independent and mature judgment, work without close supervision and commit to excellence.
- Ability to work with minimal direction and to take the initiative to follow-up on projects.
- Ability to work in an isolated environment without the assistance of team members for extended periods of time.

TELEMEDICINE INSTRUCTOR

TRAINING & USER SUPPORT

- Conduct classes and independent training sessions both on-site at the Specialty Center and at remote locations utilizing pre-established guidelines and curriculum
- Assess training needs and develop skill-appropriate sessions
- Prepare for users a comprehensive, clear, and understandable set of instructions describing system processes and user support processes as necessary to maintain and verify system operations.
- Assist in the preparation of technical documentation of the system for several levels of expertise: general users, system administrators, programmers.
- Document user questions and develop a log system to track technical problems and develop solutions
- Respond to phone and videoconference user questions in an organized and productive manner
- Assist Telemedicine Team members in deployment of multi-media presentations, oftentimes resulting in traveling to remote sites and overtime.

SYSTEM TEST AND INSTALLATION

- Plan and coordinate with user to develop validation, performance and acceptance criteria
- Through testing, identify and coordinate corrective modifications to the system
- Provide back-up for the Installer to ensure that implementation deadlines are met

SYSTEM DEVELOPMENT

- Provide technical assistance to other Development Team programmers and/or user analysts
- Coordinate directly with user management and other Team members during development phases
- Maintain knowledge of programming and analysis technologies as needed to design improved computerized systems
- Evaluate and suggest technologies/methodologies that may improve the development/support effort of the programming staff
- Participate in site visits to evaluate location and technology infrastructure needs
- Integrate various hardware components, as needed (e.g. CPU, monitor/s, speakers, microphone, cameras, scopes, VCR, scanners, printers)to develop clinical tools
- Update program W/O diagrams to reflect modifications

TELEMEDICINE INSTRUCTOR, page 2

SKILLS, KNOWLEDGE, AND ABILITIES

- Ability to work as a team member with excellent communication skills necessary to effectively contribute to a creative group
- Demonstrated experience in creating and presenting oral and written material to large and small groups
- Ability to travel by car to remote locations, driving for up to 4 hours each way .
- Ability to work independently and to set and meet deadlines
- Demonstrated technical writing skills sufficient to communicate complex systems to diverse audiences
- Experience working in a clinical setting and demonstrated ability to communicate effectively with physicians and clinical staff
- Proven ability to train clinical and administrative staff who have various levels of technical expertise
- Ability to be focused to accomplish goals, but to be flexible and adapt to diverse situations
- Demonstrated organizational skills necessary to set and meet deadlines
- Ability to isolate and diagnose hardware and software problems in a LANIWAN environment and to recommend and implement the most effective course of correction
- Experience with installation, configuration, maintenance, and trouble-shooting
- Knowledge of analysis and design techniques needed to understand user requirements and compose a functional computerized application system.
- Ability to use logic and flow diagrams to describe the functional processes of the system at a level that both end users and programmers can understand.
- Demonstrated comprehensive understanding of the capabilities and limitations of computers. Ability to recognize processes that can easily be automated and those that cannot.

TELEMEDICINE SPECIALTY SITE CLINIC MANAGER

This position reports directly to the Medical Director and has primary responsibility for the daily operation of the outpatient Telemedicine Clinics. This position is responsible for supervising the telemedicine clinic staff, for implementing new clinical contracts, for process improvement, and for coordinating with many specialty departments to ensure coverage for this "virtual" multi-specialty clinic.

CLINIC MANAGEMENT:

- Responsible for direct supervision of Telemedicine clinic staff.
- Act as liaison between customers (specialists and remote site referring physicians) and clinic staff to assure effective communication and efficient clinic operation.
- Assure all clinics are covered at all times (phone coverage and clinic coverage). Prepare annual employee evaluations for clinic staff.
- Provide coverage for clinic coordinators for sick and vacation leave, etc.
- Work with clinic coordinators, et al., to develop communication and program marketing activities to introduce new clinical services or increase referrals for specialty clinics on an as-needed basis.
- Supervise the design and maintenance of scheduling templates for clinic operations.
- Responsible for immediate decision making that would involve issues such as canceling clinics due to technical difficulties, releasing specialists due to patients not keeping their appointments, and/or for releasing contracted customers from specific payment responsibility (i.e. phone charges if appointments are missed or rescheduled).
- Prepare capacity projections by reviewing clinic productivity and collections reports. Based on these reports, and an understanding of new contracting opportunities created by business development activities, recommend specialty coverage needs. Reports must integrate volume and payer mix analysis. Responsible for specialty department negotiations and documentation of these agreements, as well as ensuring payment to specialty departments, in coordination with Finance team.
- Prepare and analyze monthly reports on wait-times for TM clinic appointments in each specialty to support capacity planning recommendations
- Oversee staff operations to assure all patients seen in the clinic are registered prior to the consult, and bills have been processed according to hospital Ambulatory Care standards. Assure all consults have been dictated, and dictation is received at remote site, as well as in the patient's medical record at the hospital site. Perform
- random audits at remote sites and in hospital Medical Records as part of the program's overall Clinical Quality Improvement activity. Assure timeliness of patient scheduling. Monitor and analyze clinic performance reports and make recommendations designed to improve or enhance clinic performance.
- Responsible for assuring clinics and coordinators are equipped with all necessary programs, computers, Information Services access needed to complete job duties. Responsible for assuring telemedicine equipment in each consult suite is adequate for the current need, as well as in reliable working order, and upgraded to meet current industry standards.
- From billing system, produce regular reports on billing and collection activities. Develop recommendations and solutions if issues are identified.

TELEMEDICINE SPECIALTY SITE CLINIC MANAGER, page 2

• Supervise abstracting and billing function of the billing analyst. Assure coding and billing activities are in compliance with Ambulatory Clinic standards for accuracy as well as timeliness. Work with clinic coordinators, physicians and billing analyst to minimize lag times.
• Perform billing and financial analysis, and provide recommendations regarding the budget as it pertains to purchasing or releasing specialty time.
• In partnership with Medical Director, act as primary contact and liaison to the professional billing group on behalf of center for all process and policy issues.
• Analyze insurance denial reports for process improvement. Work with professional billing group and/or clinic staff to determine further action (training of clinic staff or educating payers) to prevent reoccurrence.
• Audit patient database. Compare database with clinic schedule and billing reports to make sure invoices have been processed for all patients seen.

PROCESS IMPROVEMENT & CUSTOMER SERVICE QUALITY MAINTENANCE

• Work with technical team to automate as many clinic processes as possible. This includes resource scheduling, technical trouble-shooting, tracking of remote sites and their related technical information and personnel information, etc.
• Coordinate with the technical support team to ensure problems and system development needs are addressed. This includes tracking technical issues (e.g. closely monitoring trouble-shooting listserv) and jointly developing training opportunities and technical enhancements.
• Assess level of customer service for remote site coordinators by working directly with remote site coordinators and referring physicians. Act as primary point of contact for job performance feedback from remote site coordinators.
• Assess level of customer service for specialists. Work with team to poll all specialists on their satisfaction with the TM clinic operations, the quality of referrals from remote sites, as well as the quality of patient presentation. Notify instructor when training needs are identified.
• Provide organized feedback regarding operational issues and administrative matters to medical director, and make recommendations to facilitate further program development.
• From Excel spreadsheet received from billing group, prepare quarterly reports on collections by specialty, and collections by insurance provider. Produce quarterly collection reports for each specialty, comparing them to their department's overall collection ratio. Develop recommendations and solutions if issues are identified.
• Key member of department Clinical Quality Improvement meetings. Responsible for recommending, tracking and reporting on clinic-specific CQI measurements.
• Ensure that all regulatory and legal requirements are implemented in the unique telemedicine setting. Communicate with remote sites to ensure a clear understanding of the Telemedicine legal and regulatory environment (examples: JCAHO, HIPAA, reimbursement) .

TELEMEDICINE SPECIALTY SITE CLINIC MANAGER, page 3

DATABASE MANAGEMENT

- Oversee the clinic database (necessary for clinic operations and health services research), including coordination with programming staff for necessary enhancements of the application to support clinic operations. Review activity on Referral Status web page. Work with remote site coordinators to make sure all their referrals are showing up on the web correctly. If problems exist with data not showing up on the web, determine whether it's a system or staff problem, and resolve accordingly. If the remote site doesn't have access to the web, make sure they receive their reports on a weekly basis.

- From Excel pivot table, prepare and analyze monthly reports on the following: Clinic volume by specialty; clinic volume by location; DNKA by site and specialty. Develop recommendations and solutions if issues are identified.

MISCELLANEOUS

- Act as back-up to lead instructor on an as-needed basis.

- Coordinate Public Relations communication to hospital departments and remote sites. Participate in demonstrations to visiting news media, government officials, as well as partner hospital administrators and physicians.

- Other related telemedicine duties as defined by the Telemedicine Operations Manager, Chief Administrative Officer, and Medical Director.

SKILLS, KNOWLEDGE AND ABILITIES

- Minimum of 2 years of recent hospital Ambulatory Care or clinic supervision experience required. Demonstrated ability to motivate staff to achieve optimal individual and team performance.

- Completion of Supervisor Series course desired.

- Demonstrated analytic ability to identify process or performance issues and develop recommendations using multiple information sources.

- Excellent verbal and written communication skills, and the demonstrated ability to understand and to convey information clearly

- Understanding of the legal and regulatory health care environment and analytic skills to implement policies in the unique telemedicine setting.

- Excellent computer skills and an ability to learn and understand the general technical requirements for the telemedicine systems. Ability to provide basic technical support and to triage more difficult problems to appropriate staff. Ability and skill to proficiently operate a PC for Excel, Word, Lotus Notes, Internet, Invision, Signature, and all hospital registration, scheduling and billing systems.

TELEMEDICINE SPECIALTY SITE CLINIC MANAGER, page 4

- Organizational skills to prioritize workload and meet deadlines, develop and carry-out project assignments in an efficient and timely manner and to provide accurate and succinct documentation of activities.

- Demonstrated ability to communicate effectively with physicians, clinical and technical staff.

- Skill to exercise tact, courtesy and diplomacy when dealing with individuals at any level within or outside the organization.

- Ability to maintain confidentiality, exercise discretion, use independent and mature judgment, work without close supervision and commit to excellence.

- Ability to work with minimal direction and to take the initiative to follow-up on projects.

- Ability to lead a team in a dynamic and highly visible unit, which requires a high degree of professionalism and flexibility.

- Ability to develop new operational processes and to teach these procedures to team members, to site coordinators, and to clinicians.

TELEMEDICINE TECHNICAL SUPPORT

Purpose:

The Telemedicine Program primarily utilizes systems and devices for the distribution and dissemination of healthcare services, education, and information. The program also investigates, integrates, and maintains videoconferencing systems for use by administration, education, and patient care activities. The primary responsibility of this position is technical investigation and support for the telemedicine program and its related activities.

Duties:

HARDWARE/SOFTWARE INSTALLATION CONFIGURATION AND MAINTENANCE

- Install, configure, test and maintain application systems, operating systems and communication software in a heterogeneous environment.
- Install, configure, maintain, and test video conferencing hardware/software including PCs, NICS, hard drives, and RAM.
- Install, configure and test software packages including operating environments, application suites and communication methodologies.
- Work with vendor technical support and corresponding departments to resolve outstanding issues, shipping, receiving, etc.
- Coordinate installation and test of circuits associated with data and video communications including, but not limited to, Fiber, Frame Relay, and T1.
- Plan, coordinate, implement and document user-validation, performance and acceptance of installed applications at remote and local sites.
- Identify, implement and document corrective modifications to ineffective or malfunctioning systems as appropriate.
- Set up and maintain training environments, presentations, laptops, etc. as appropriate.
- Other Hardware/software installation, configuration and maintenance duties as required.

SYSTEMS ANALYSIS, ADMINISTRATION, AND DEVELOPMENT

- Investigate, document, and implement application and data interchange and interaction processes to insure efficient and effective information and data access and utilization.
- Based on user needs and feedback, implement new, and update existing, desktop applications and ensure integration with enterprise applications, standards, and processes.
- Assist as necessary with the maintenance and upgrades of web, file and database servers.
- Implement new services as needed.
- Assist in the research, planning, documentation, and implementation of repairs, feature enhancements and future growth of information systems infrastructure.

USER SUPPORT

- Assist user and other team members in diagnosis and correction of problems encountered during and after implementation of systems or projects.

TELEMEDICINE TECHNICAL SUPPORT, page 2

OTHER DUTIES

- Assist with the technical activities of the Technical Team as necessary.
- Assist in the documentation, management, and inventory of technical equipment, shipping and receiving, coordination of equipment moves, etc.
- Assist with the installation, testing , maintenance, and training of remote or field equipment, systems, and processes.

SKILLS KNOWLEDGE AND ABILITIES

- Ability to work as a team member with excellent communication and customer service skills necessary to effectively contribute to a creative group.
- Ability to work in a clinical setting and to communicate effectively with physicians and clinical staff.
- Demonstrated organizational skills and flexibility to manage multiple tasks and meet deadlines.
- Knowledge and understanding of videoconferencing equipment, processes, and protocols.
- Formal training and/or experience in trouble shooting and repair of computers and peripherals, including disassembly, board and chip replacement, continuity, cabling and cable testing.
- Ability to isolate and diagnose hardware and software problems in a LANIWAN environment an to recommend and implement the most effective course of correction.
- Extensive PC hardware experience required including, but not limited to, configuration and installation of SCSI cards (all types), video cards, modems, network cards, motherboards and RAM.
- Perform IRQ and DMA troubleshooting and configuration.
- Must have experience with installation, configuration, maintenance, and trouble-shooting with a flavors of Windows & DOS. Linux experience a plus.
- Knowledge of TCP/IP utilities such as: FTP, telnet, ping, arp, rarp, etc.
- Knowledge of inverse multiplexors, ISDN, TI, Fiber, and frame relay.
- In depth knowledge of MS Office Professional, and other office productivity software required.
- Comprehensive understanding of the capabilities and limitations of computers. Ability to recognize processes that can easily be automated and those that cannot.
- Knowledge of analysis and design techniques needed to understand user requirements and compose a functional computerized application system.
- Ability to use logic and flow diagrams to describe the functional processes of the system at a level that both end users and programmers can understand.
- Ability to work without direction in a networked computer environment. Ability to install and troubleshoot printers, other devices, relevant drivers and applicable software.
- Ability to manage small projects as appropriate.

Sample Workflows

WORKFLOW

Workflow varies from organization to organization. The following pages illustrate how a typical telemedicine clinic operates, and are intended to be used as a starting point in developing your own operational protocol. You will find differences and similarities between the duties of the patient site and the specialty site.

The flow charts illustrate how both the patient and specialty site clinics work together as a team to accomplish each patient consult. You will find your operational workflow to differ slightly, but the concept will remain the same.

The appointment scheduling flow chart was included in this document to give you an idea of the most common expectations for scheduling turn-around times. This chart has been used as a communication tool between the specialty site and the patient site, to establish realistic performance expectations.

The referral to billing process flow chart further illustrates the "back office" job duties of the telemedicine team. It also serves as a template for you to use when documenting your own work flow process within your organization.

This project is made possible by grant number G22RH30349 from the Office for the Advancement of Telehealth, Health Resources and Services Administration, DHHS. This information or content and conclusions are those of the CTRC and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.

SAMPLE WORKFLOW

DAY OF CONSULT - Patient Site

(Pease refer to the flow chart for event timing and site participation requirement)

1. Telemedicine Coordinator gives their front desk receptionist the appropriate questionnaire packet to hand out when patient arrives (this may also be mailed to the patient prior to appointment). Patient should arrive 30 minutes prior to appointment if filling out a questionnaire is required.
    a. Patient must sign consent form (once per year).
    b. Patient must complete medical history form if not already done.
2. Telemedicine coordinator will prepare exam room and turn on telemedicine unit 30 minutes (or as early as possible) prior to the consultation. If peripheral equipment (derm camera, nasopharyngoscope, stethoscope, etc.) will be used during consult, please turn on and test image/sound prior to consult.
3. Fax completed history, and consent form, and any additional last minute test results to the Specialty site Telemedicine Coordinator.
    a. The specialist requires the completed history and questionnaire prior to the beginning of the consult.
4. Ask the specialist if he/she has received all the necessary information before rooming the patient.
5. Once the patient and the primary care provider are in the room , the site coordinator remains in the room to assist with the equipment as necessary.

AFTER THE VISIT - on the day of consult

1. At this time, the specialist may wish to send (via fax, or other electronic format) written instructions for the patient. Any written Instructions from the Specialist are to be copied and distributed. You may wish to ask the patient to move to the waiting room while waiting for the information.
    - Patient
    - Primary care provider
    - Patient medical record
2. Clean equipment if used (any cameras or scopes that have touched the patient).
3. If another patient is scheduled immediately following the previous appointment, ask the specialist "Are you ready for me to room the next patient?" before proceeding.

AFTER THE VISIT

1. Telemedicine Coordinator receives the specialist's signed dictation, and places it in the referring provider's box for review prior to filing in the patient's medical record.

2. Telemedicine Coordinator reviews the consult dictation from the specialist. If a follow up appointment as well as any further tests are required , work with the primary care provider and the patient to complete the required tests, fax the results to the specialty site, and schedule a follow up appointment.

SAMPLE WORKFLOW

DAY OF CONSULT - Specialty Site

(Pease refer to the flow chart for event timing and site participation requirement)

1. Telemedicine Coordinator receives faxed information from the patient site, places it into the patient's medical record , and places the medical record in the specialist's box outside the consult room for review.

2. Telemedicine Coordinator asks the specialist if there is any other information he/she may need prior to the consult.

3. Consult begins. Telemedicine coordinator is not present in the room during specialty consults, but remains nearby in the event further information or technical support is needed.

AFTER THE VISIT - on the day of consult

1. At this time, the specialist may wish to send written instructions for the patient. Any written instructions from the Specialist are to be sent (either via fax or other electronic format) by the telemedicine coordinator to the referring site immediately following the consult, and placed in the patient's medical record at the specialty site.

2. Collect specialist billing and dictation materials.

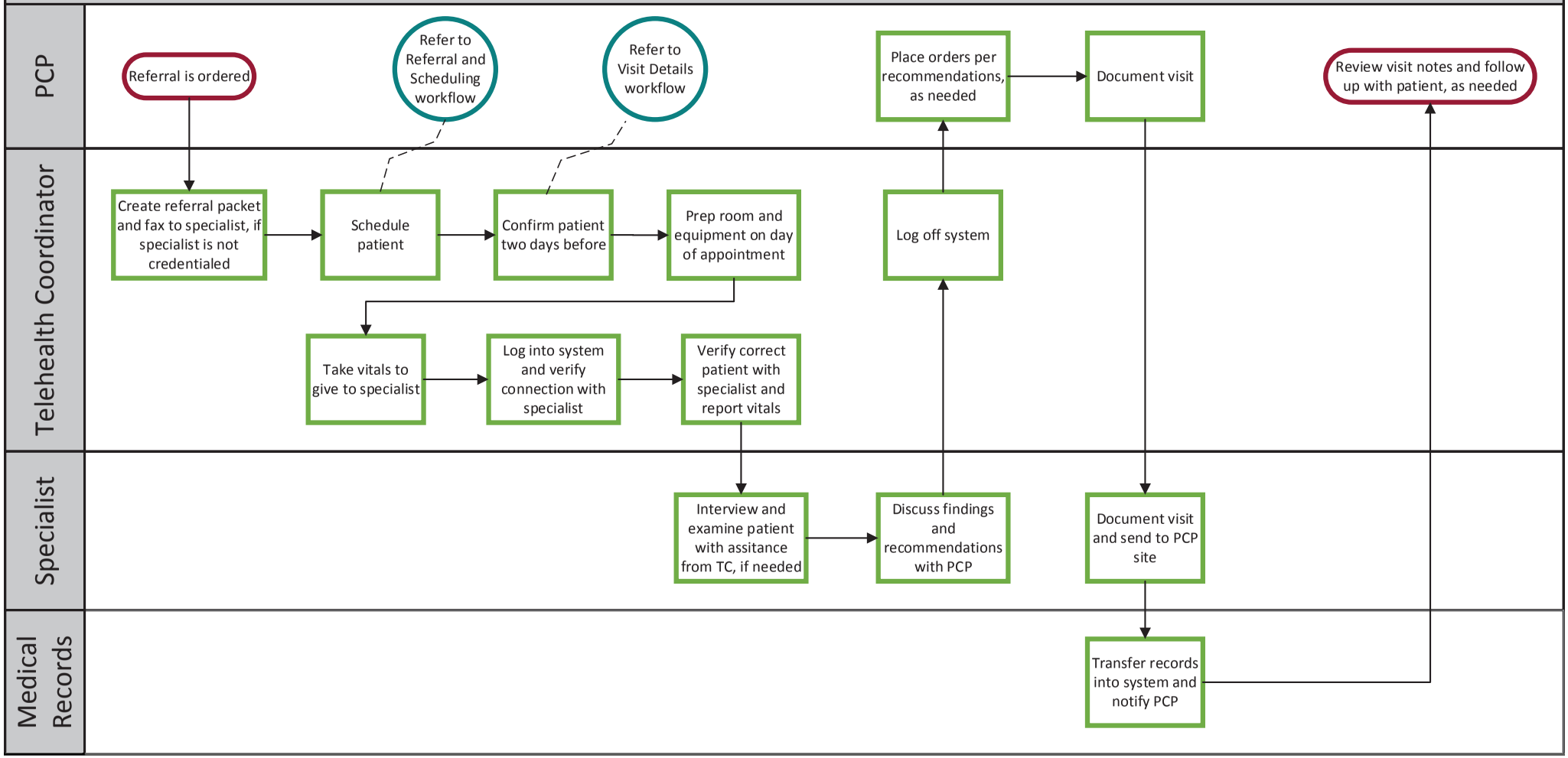
AFTER THE VISIT

1. After the specialist reviews and signs the dictation, send the original to the referring physician (either via mail or fax) , and place a copy in the patient's medical record .

2. Telemedicine Coordinator reviews the consult dictation from the specialist. If a follow up appointment as well as any further tests are required, work with the patient site coordinator to schedule the appointment after the tests have been completed and received.

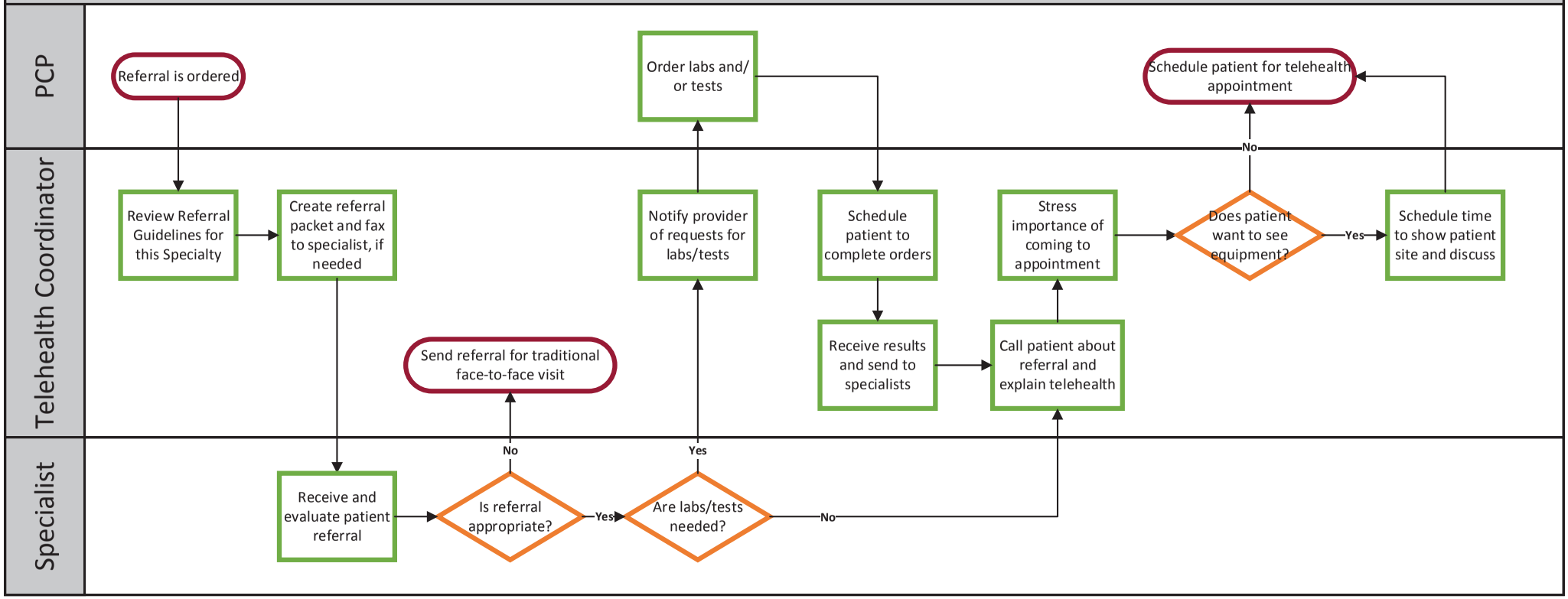
TeleHealth: General Workflow

Overview of workflow for a typical patient referral to telehealth specialist services.
November 9, 2017



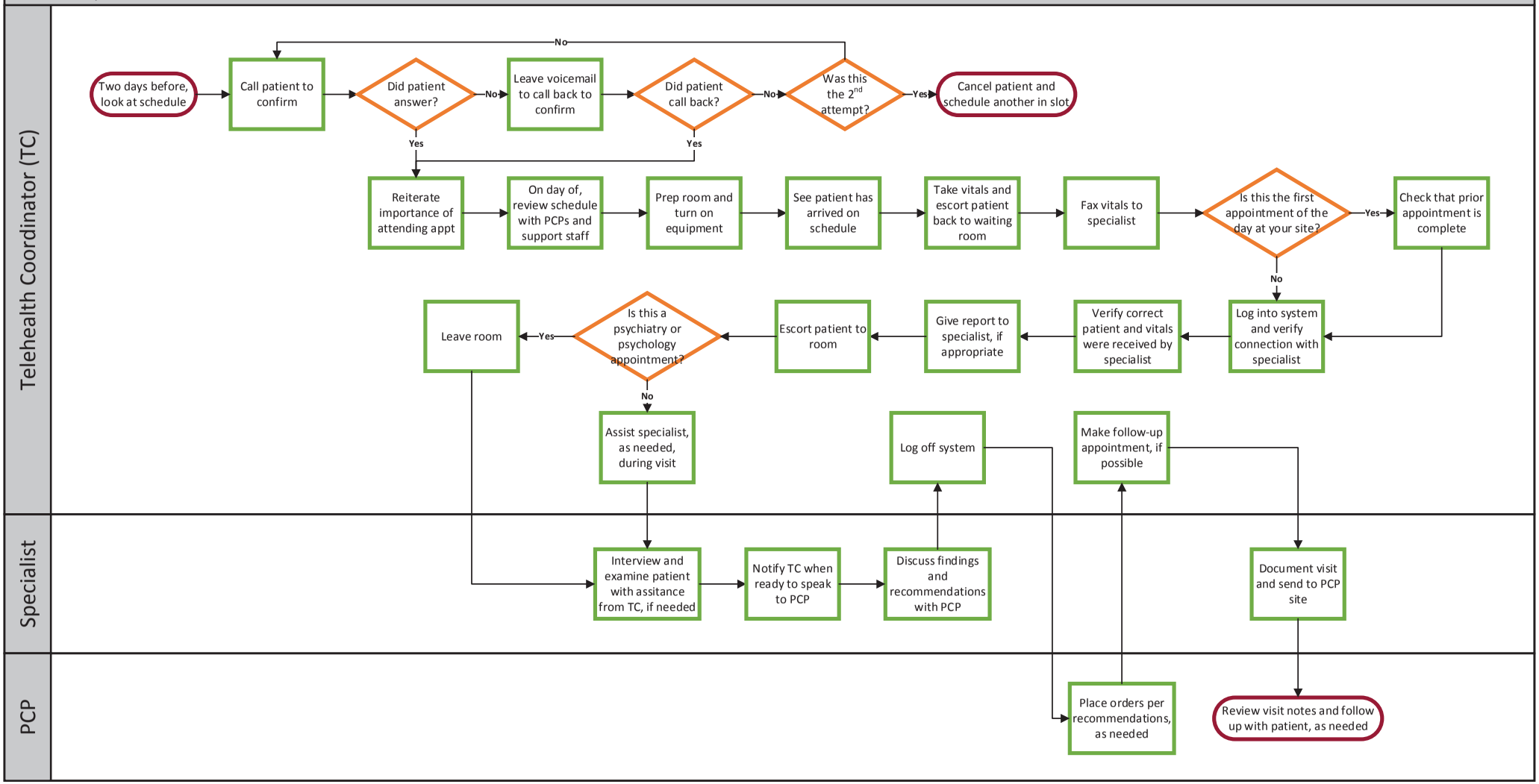
TeleHealth: Referral and Scheduling for TeleHealth patients

Creating referral for telehealth specialists and scheduling patient for appointment
November 9, 2017



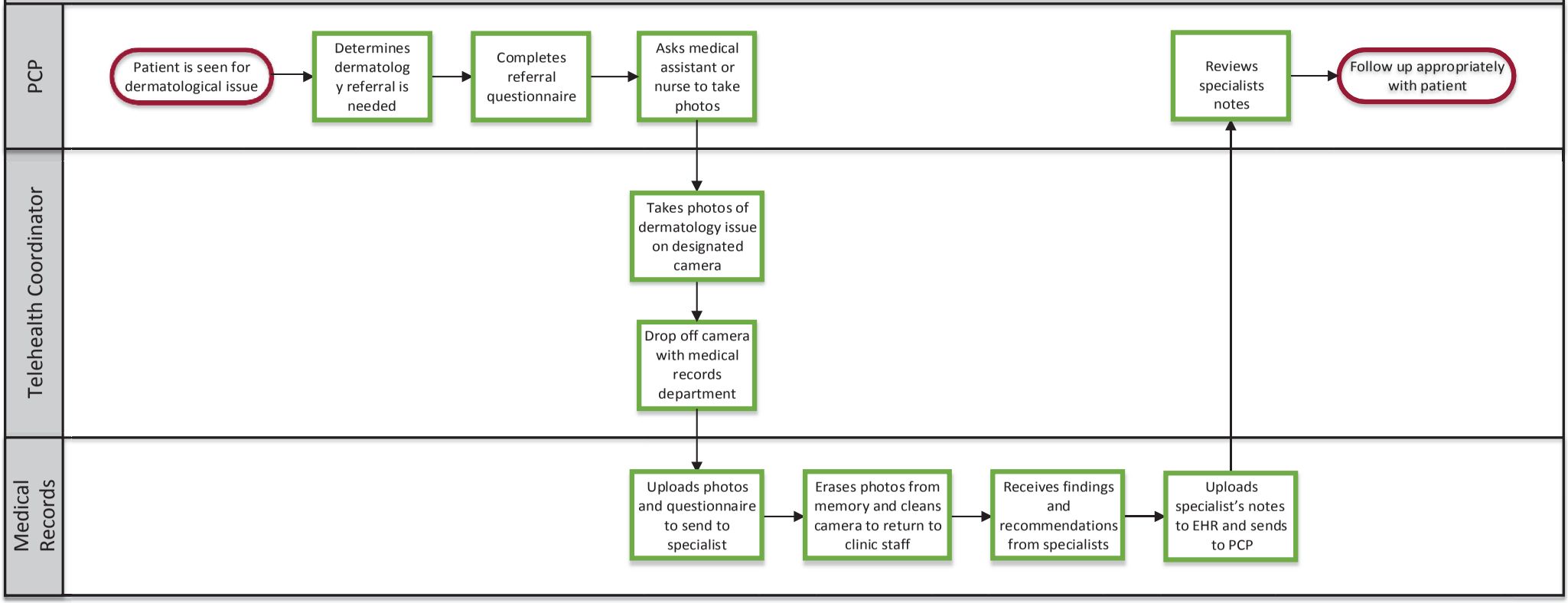
TeleHealth: Detailed Telehealth Workflow

Workflow for a typical patient referral to telehealth specialist services from reminder calls through specialist visit.
November 9, 2017



Telehealth: Store-and-Forward Dermatology

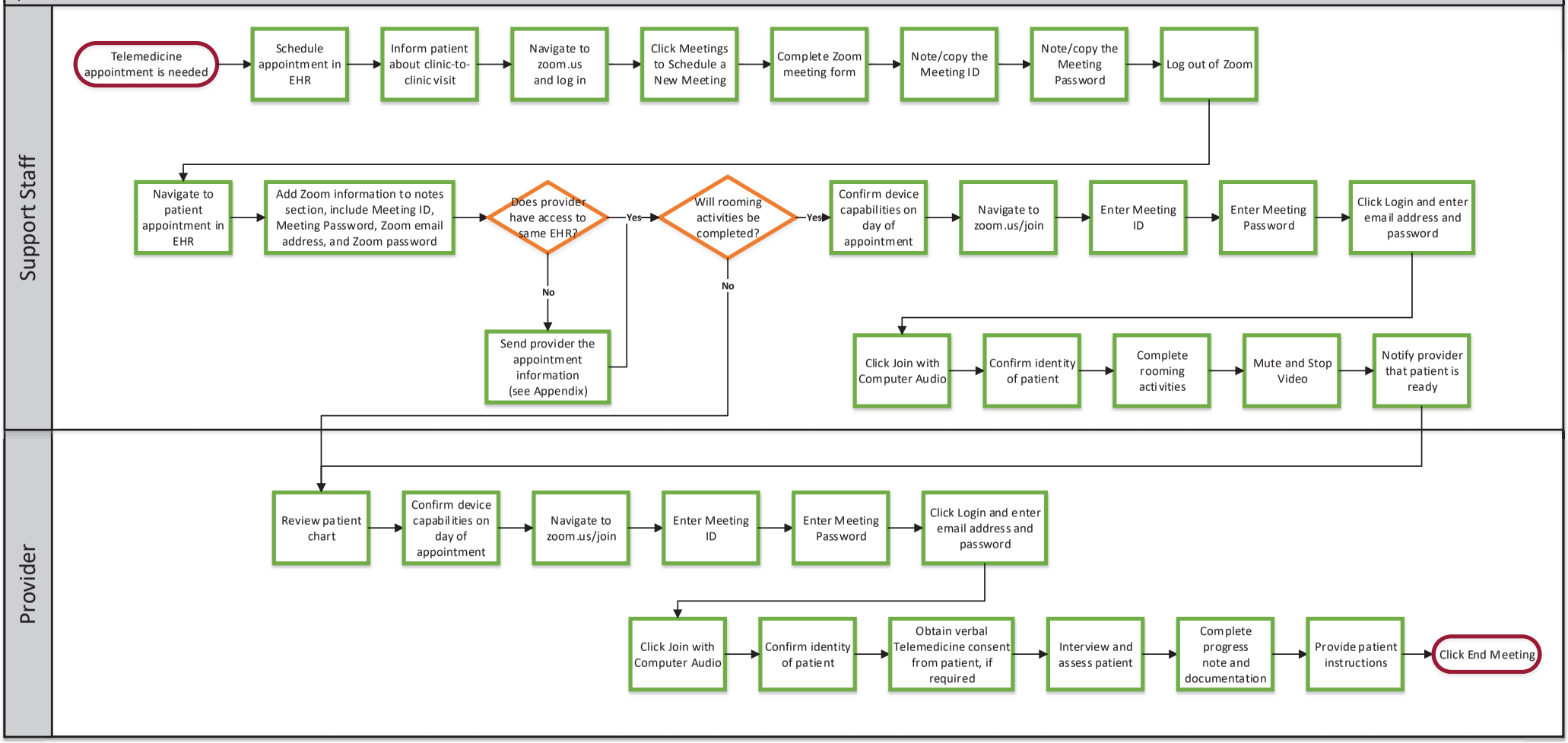
Workflow for creating a referral for dermatology using Store-and-Forward processes.
November 9, 2017



Clinic-to-Clinic Non-Integrated Zoom Telemedicine – Agnostic

Workflow for visits to bring a patient together with a provider/specialist that works in a different location. A patient arrives at local site, then the local site support staff assist with connecting to provider/ specialist at the distant site via stand alone (non-integrated) Zoom meeting.

April 3, 2020



This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under the grant number H2QCS30280 "Health Center Controlled Networks", through the use of funds from the total annual award of $2,730,000.00. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS or the U.S. Government.

Notify the Provider at Distant Site:

1. Send the patient the appointment information from the confirmed email address provided by the patient, including:
    a. Provider's Name:
    b. Date @ Time:
    c. Patient-specific Zoom Meeting ID:
    d. Patient-specific Zoom Meeting Password:
    d. Clinic Name:
    e. Clinic Phone Number:
2. Add to the email the following information:

    What equipment do I need?

    - Internet access
    - Mobile device (iPhone, Android phone, iPad, tablet, laptop) or a computer that has a microphone, speaker, and video camera.

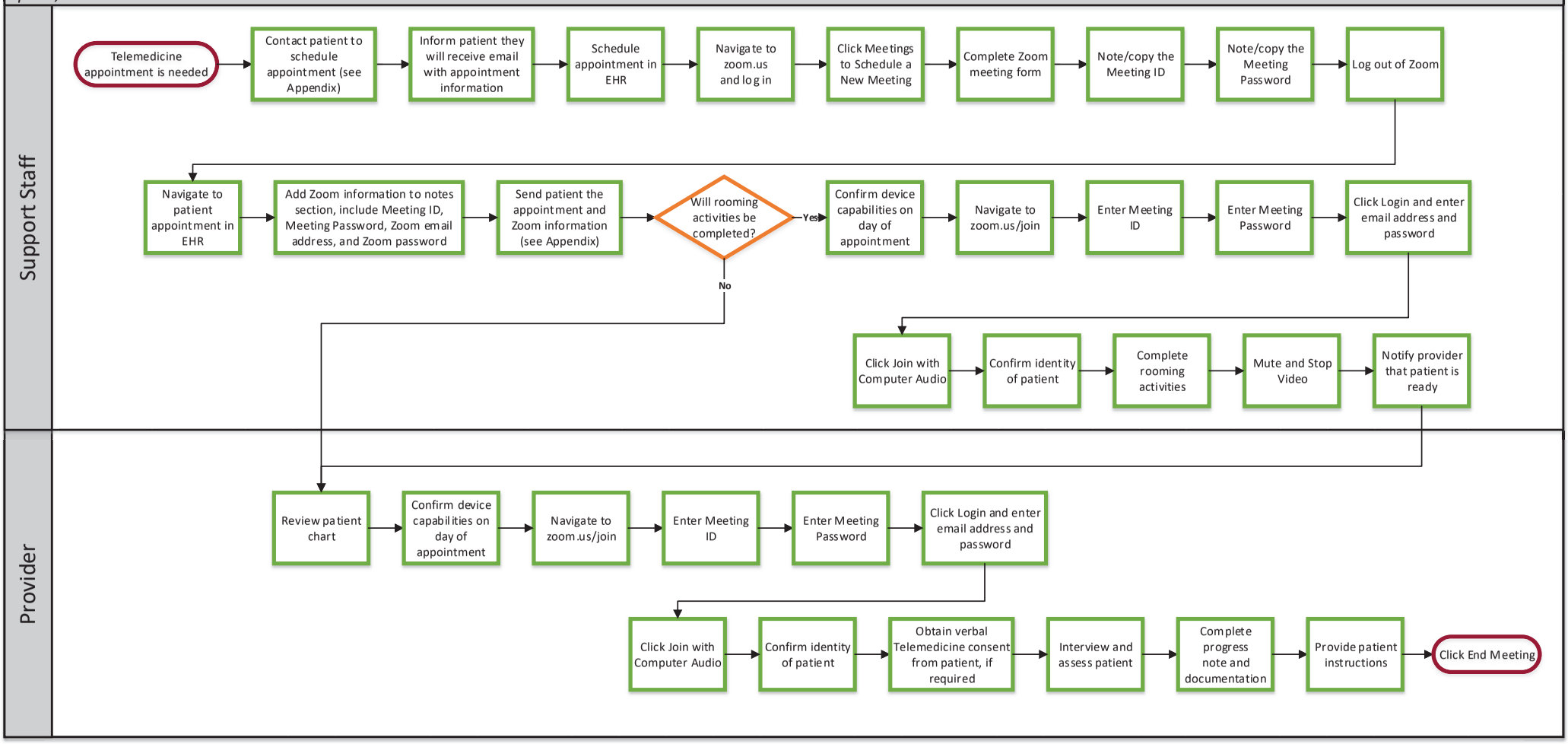
    How do I login?

    - Copy and past this link: www.zoom.us/join to your internet browser
        a. Use Google Chrome, if possible
        b. If you are using a mobile device, you may be prompted to download the Zoom app. Follow the instructions on your screen to download.
        c. To test your video capabilities, please visit https://zoom.us.test
    - Type this meeting ID:<Patient specific Zoom meeting ID>.
    - Type this meeting password:<Patient specific Zoom meeting password>.
    - Click Join

Clinic-to-Patient Non-Integrated Zoom Telemedicine – Agnostic

Workflow for a clinic to schedule and complete a stand-alone (non-integrated) Zoom telemedicine visit with a patient, who is not in the clinic.

April 3, 2020



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Patient Scheduling:

Once the provider has determined a Telehealth visit is appropriate for the patient, we can contact the patient, parent, or guardian and confirm if they would be interested in scheduling a Telehealth visit with their provider. If so, we must determine if the patient meets the Telehealth visit criteria before scheduling.

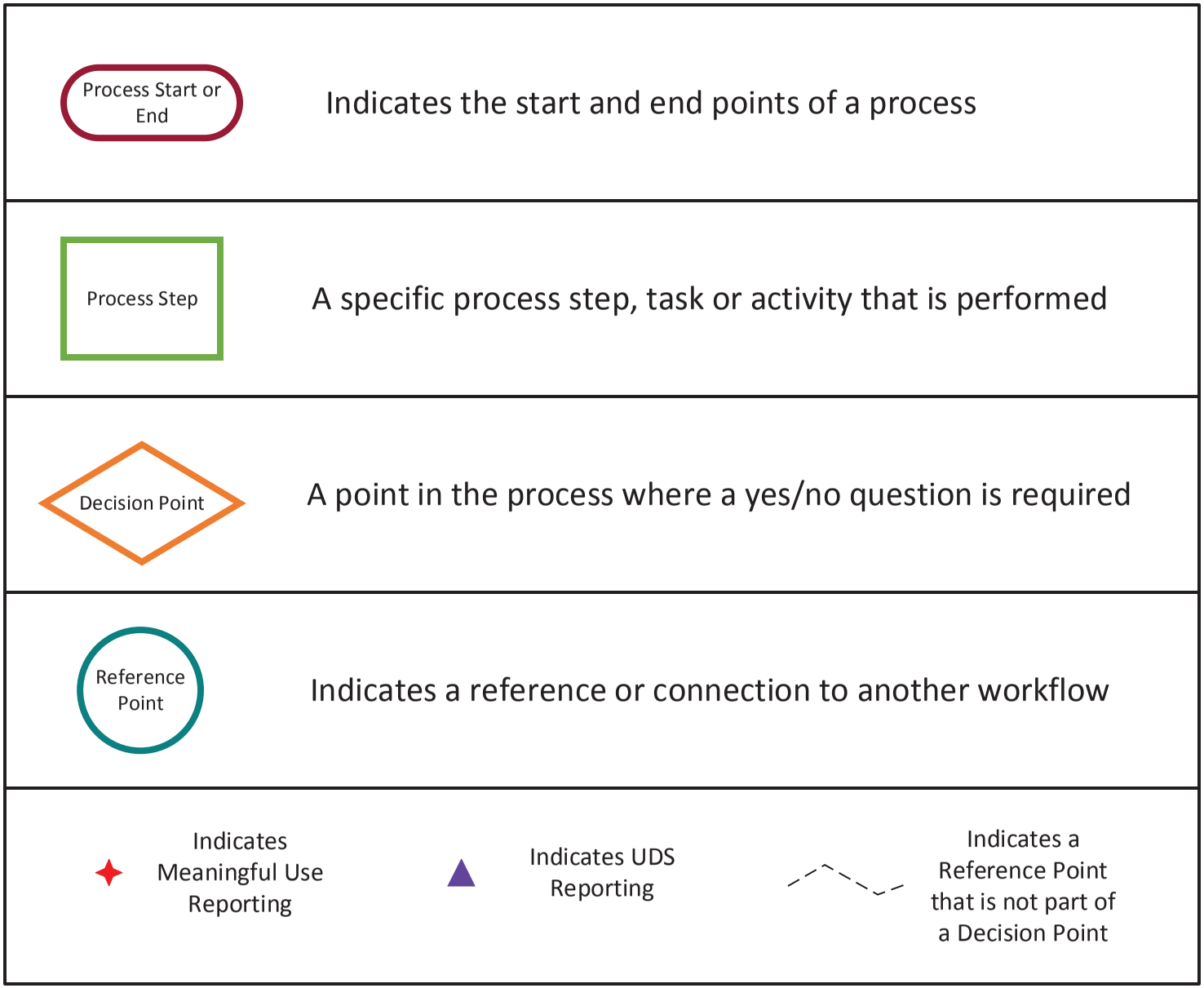
1. Contact the patient using the below script:
   "Your provider would like to schedule you for an online or virtual appointment. If you would like to do this, I have a few questions for you to determine if you can join this type of visit."
2. If the patient would like to schedule a Telehealth visit, the patient must answer "Yes" to the following key questions determining the patient meets the Telehealth criteria before scheduling using a Telehealth Visit type.
   a. Do you have an email address?
   b. Do you have an iPhone, Android phone, iPad, tablet, laptop or computer with a camera?
   c. Do you have internet in your home?
   d. When you are using the internet in your home, does it work well or does not?
3. Schedule a new Telehealth visit or change existing visit in EHR
   Let the patient know they will be receiving an email with instructions for how to join the visit. They can test their video set up before to the appointment by going to *zoom.us/test*.

Notify the Patient:

1. Send the patient the appointment information from the confirmed email address provided by the patient, including:
   a. Provider's Name:
   b. Date @ Time:
   c. Patient-specific Zoom Meeting ID:
   d. Patient-specific Zoom Meeting Password:
   d. Clinic Name:
   e. Clinic Phone Number:
2. Add to the email the following information:

   What equipment do I need?
   - Internet access
   - Mobile device (iPhone, Android phone, iPad, tablet, laptop) or a computer that has a microphone, speaker, and video camera.

   How do I login?
   - Copy and past this link: www.zoom.us/join to your internet browser
     a. Use Google Chrome, if possible
     b. If you are using a mobile device, you may be prompted to download the Zoom app. Follow the instructions on your screen to download the app.
     c. To test your video capabilities, please visit https://zoom.us.test
   - Type this meeting ID:<Patient specific Zoom meeting ID>.
   - Type this meeting password:<Patient specific Zoom meeting password>.
   - Click Join


Process Start or End
Indicates the start and end points of a process
Process Step
A specific process step, task or activity that is performed
Decision Point
A point in the process where a yes/no question is required
Reference Point
Indicates a reference or connection to another workflow
Indicates Meaningful Use Reporting
Indicates UDS Reporting
Indicates a Reference Point that is not part of a Decision Point

Room Design

Telemedicine Room Design
Program Guide

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Introduction

Room design impacts the quality of the telemedicine services and should not be overlooked during the development of a telemedicine program. Good telemedicine room design will accomplish two major functions: it will create the visual and audio clarity and accuracy that is necessary to support clinical examination and diagnosis from a distance and a connection between the patient and the remote provider sites where the patient-clinician interaction, not the technology, is the focal point.

This document provides practical informati on and advice on the major components that need to be addressed in designing a telemedicine room. It will assist in selecting the best room for providing telemedicine services and identifying modifications that need to be made in the selected room. This guide includes a template that can be used in assessing the design of your telemedicine room. While the guide focuses on patient examinati on rooms, the same fundamentals apply to remote clinician rooms. A companion video is available at www.caltrc.org.

Design Considerations

The challenge in creati ng a telemedicine room is to integrate the technology into the regular flow of an examination and to reproduce the images at the consulting clinician site with clarity and accuracy. There are a number of aspects to consider when designing a telemedicine exam room. The most important design considerations are:

- Room Location
- Room Size
- Placement of Equipment and Furniture
- Electrical and Telecommunications Connections
- Lighting
- Acoustics
- Wall Color

Since most patient sites will be adapting an existing room for telemedicine, it is important to select the best possible fit and to budget, if necessary, for room modifications.

Room Location

The telemedicine room should be in a quiet location, minimizing exposure to office noise, busy corridors, stairwells, parking lots, waiting rooms, restrooms or other sources of noise. Such noise can be picked up by microphones which can make it diffi cult for the remote site to hear. Rooms without windows are better for quality image transmission. Rooms with windows should have shades or blinds to reduce the light and glare.

Room Size

While there are no specific room size requirements, the optimal room size depends on the service being provided, as well as the type and size of the equipment in use. For example, clinical or patient education programs will require conference seating for many participants while specialty consultations will require examinati on tables and room for only a few people.

Telemedicine Patient Examination Room: A telemedicine exam room should be large enough to move around and work with patients comfortably. It should be large enough to accommodate an examinati on table, a couple of chairs, the telemedicine equipment, the patient, and the patient presenter. The patient should be able to sit in a chair as well as use the examination table; both should be within the cameras view. There should be enough room to easily use the telemedicine scopes and for the patient presenter to move around the patient during the examinati on. Most exam rooms should also contain a work surface for charting, a phone, a computer and when necessary, a fax machine available nearby.

The size of the room also impacts the camera viewing area. The distance between walls will determine the proximity of the camera and microphone to the patient. Ideally, the telemedicine camera should be located 6 - 8 feet from the patient. The camera needs to be able to pan out to a full view of the room with the patient and the patient presenter in the picture, and zoom in to have close-up views of the patient. A small room forces the camera to be located too close to the patient, limiting the consulting clinician's view.

Remote Clinician's Consultation Room: The remote clinician also needs to consider room design. The room design factors that impact a patient exam room generally impact the remote clinician's site as well. Room size can be smaller for a remote clinician site since the patient exam table is not necessary. They also need to consider the camera viewing area and angle of the camera, which is discussed under the Equipment Placement Section.

Clinical Education Rooms: Many telemedicine programs offer clinical education programs for clinicians or for patients. A well designed education room would follow guidelines for classroom development, which would include writing tables for attendees, lecterns, and white boards for the walls. From a videoconferencing perspective, the challenges are adequate audio feeds, camera coverage, and size of the viewing monitor. Many patient sites use the patient examination room to view clinician education programs. While this may be a necessity if a unit cannot be moved to a conference room, attendees may find this uncomfortable and it can impact the overall acceptance of the technology. Some programs install lines in both an examinati on room and a conference room to facilitate education programs. The small screen commonly used in an exam room may not be appropriate for viewing in a conference room. Early planning and budgeting can result in solutions that accommodate both needs.

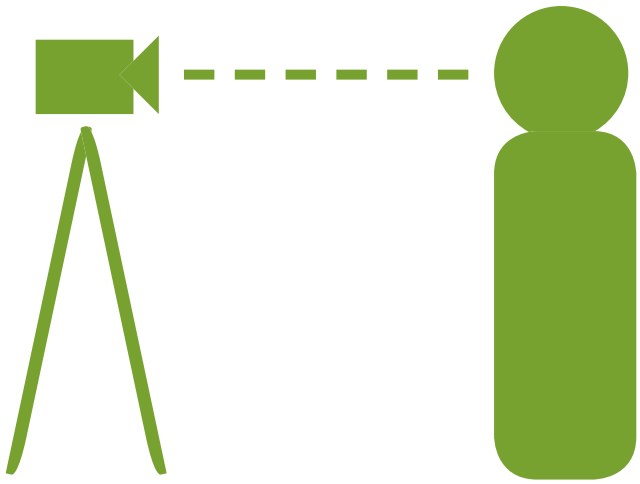
Equipment Placement

Once an appropriate room has been located it will need to be evaluated for placement of the telemedicine equipment. The goal of placement is to optimize the camera's view of the patient, to allow staff to enter and exit without interrupting the visit, and to allow the presenter to easily use the scopes and peripherals. As you begin to consider placement of equipment, it may be helpful to create a drawing of the room with doors, windows, electrical outlets, and existing telecommunication connecti ons.

Positioning the Exam Table: The camera and exam table should be positioned so the patient presenter can see both the patient and the monitor when using scopes that transmit images to the remote clinician site. There should be a place for a chair which is often used for the patient at the beginning and end of the visit. A second chair should be available, should a family member be in attendance during the visit.

The exam table or patient chair should not be placed in front of a window because backlighting can degrade the patient image at the remote clinician site. Shades or blinds generally can not reduce backlighting enough to be acceptable. The remote clinician should also not be placed in front of a window unless the backlighting can be adequately addressed to allow the patient a clear view of the clinican.

Clean and Uncluttered

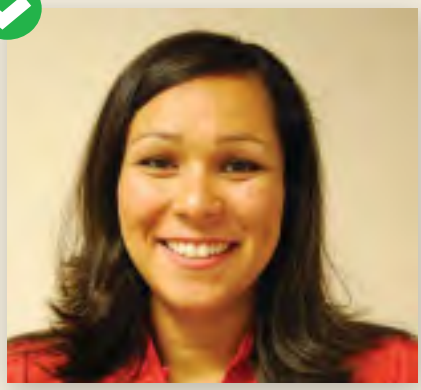


An uncluttered background optimizes camera function and improves the view at the remote site. Wires, telephones, fax machines, monitors, computers, peripheral equipment and furniture can contribute to a cluttered and inefficient workspace. Make an effort to arrange and store them in an organized, efficient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

Positioning the Camera: Cameras need to be placed so that both participants are looking directly at each other during a video call. If the camera is placed too close to the participant or mounted too high above the monitor, the person appears to be looking down at the monitor rather than directly at the remote participant, as shown in Figure A. This can occur at either the patient or the remote clinician side of the connection. The remote clinician site needs to be particularly aware of this affect when using a desktop computer with a camera mounted on top of the monitor. The distance can be too short resulting in the clinician looking down all the time. Correct camera positioning is shown below in Figure A.

Figure A: Impact of Camera Placement

Even though the patient is looking directly at the consultant, it does not appear that way because the camera is mounted too high. Mounting the camera too high makes it difficult for the consultant and patient to maintain eye contact.



When the camera is mounted at approximately the same height as the patient it produces a more precise view of the patient, allowing the patient and consultant to make eye contact.

Electrical and Telecom Outlets: Telecommunications and electrical outlets should be installed or expanded based on the best location for the exam table and telemedicine unit. Locating the telecommunications outlets near the unit will avoid long runs of cable on the floor. Depending on the complexity of equipment multiple outlets may be required for your equipment. Generally, a standard 120v outlet with a surge protector is appropriate for telemedicine equipment.

Lighting

Lighting is perhaps the most critical factor in designing a telemedicine examination room. Lighting impacts the clinician's ability to see the patient clearly with true color reproduction, which is critical for patient evaluation. The goal of lighting is to create images that have even lighting and accurately reproduce colors - where the images are not too dark, and do not have shadows.

Telemedicine programs sometimes fail to fully address lighting requirements assuming the camera will be able to correct for any lighting problems. The telemedicine camera alone will not be able to compensate for poor lighting systems. In fact, good lighting will dramatically improve image quality even when using less expensive cameras.

Optimal Lighting

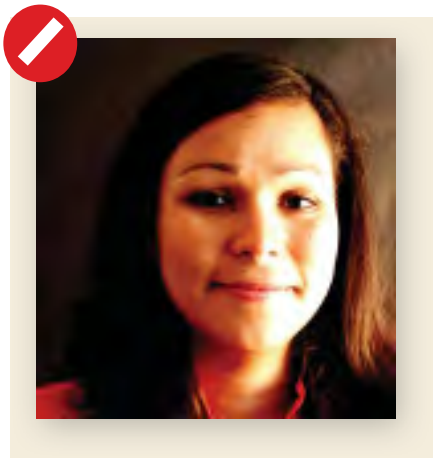
Optimal lighting is a diffused light source that does not create shadows and depicts colors accurately. Ideally, the telemedicine examination room will have both direct and indirect lighting. A good source of diffused light is needed in front of the patient shining diagonally toward the patient. Placing a light source in front of the patient reduces shadows that occur on the face if only overhead lighting is used or if there is a light source behind the patient. Spotlights or harsh directional lighting can create unwanted shadows, as shown in below Figure B.

Lighting Fundamentals

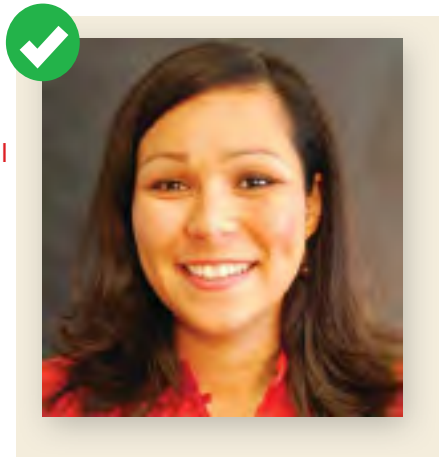
- Use diffused soft light falling in front of the patient
- Avoid backlighting from windows or overhead lights
- Avoid harsh lighting sources
- Consider full spectrum lighting
- Use supplemental lighting when necessary

Windows or other light sources behind the patient can cause deep shadows on the face that interferes with clinical evaluation as shown above in Figure C.

Figure B: Impact of Harsh Directional Lighting



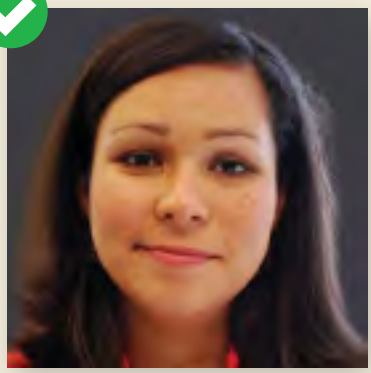
Harsh directional lighting creates shadows and makes it difficult to see facial features.



Diffused lighting creates even lighting.

Figure C: Impact of Backlighting

Backlighting from windows and other concentrated light sources can create dark images and shadows.



Diff sed light placed in front of the patient allows for a more accurate depiction of the colors and features in the image.

Most patient examination rooms have overhead fluorescent lighting as the standard lighting configurati on. Fluorescent overhead lighting alone may not provide optimal lighting for telemedicine clinical visits. They can provide excellent diffused light if the tubes can be placed in front of the patient. An additional source of light may be needed because fluorescent lighting can create washed out images. Full spectrum fluorescent light tubes can also be purchased to support accurate color transmission.

Special lighting needs should also be considered to assure that images have adequate color reproduction, contrast, and definiti on. Dermatology, in particular, requires accurate color reproduction which may not be achieved when relying solely on ceiling mounted fluorescent lighting, as shown below in Figure D. A supplemental light source may be necessary to obtain accurate color reproduction. The image on the right of Figure D shows the same subject with additional lighting from a supplemental light source. (Please note that color accuracy is also affected by the white balance of the camera or peripheral scopes.)

Figure D: Impact of Supplemental Lighting

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

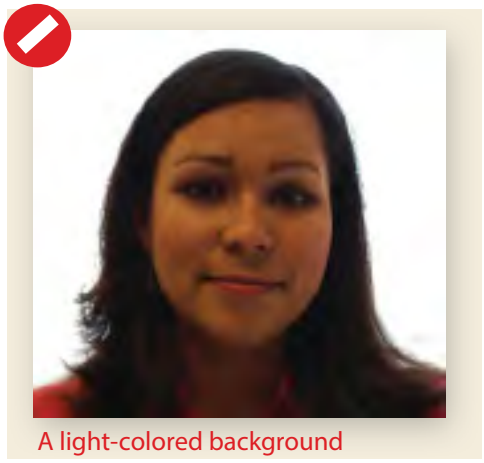
Supplemental lighting enables the subject in the image to stand out against the background.

Wall color

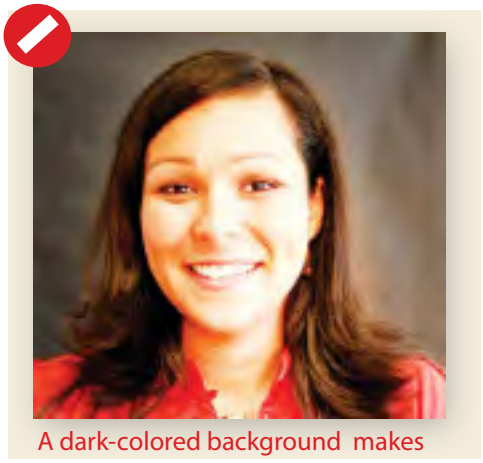
Wall color also impacts how patients look on video. White or light walls can darken faces, making features hard to see at the remote site. A dark wall color can lighten faces. This occurs because automatic aperture settings on video and still cameras react to the wall color. If the wall is light, the camera lets in less light resulting in darkened faces. If the wall is dark, the camera lets in more light making the faces become washed out or too light. Use flat paint to avoid any reflecti on off the wall. Figure E demonstrates the difference between light and dark-colored backgrounds.

As illustrated in Figure F, a robin's egg blue or light gray background works well on all skin tones. It can be very helpful to test the selected color before painting the entire wall. Different lighting conditions will affect the shade of the color. Seeing the color on the remote end can help select the color that best suits the room. It is not necessary to paint the entire room the selected color. It can be limited to the walls that will be the backdrop for the camera views. This may include more that one wall depending on the configuration of the room.

Figure E: Impact of Wall Color

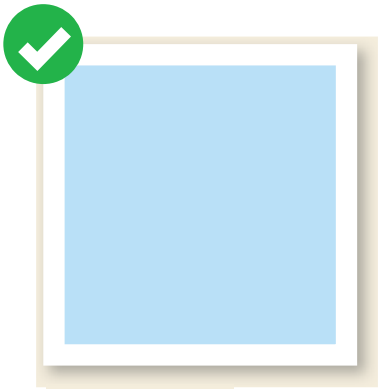


A light-colored background makes the image appear too dark.

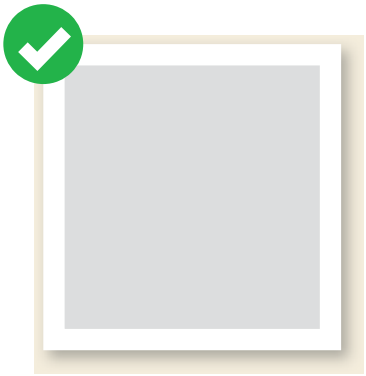


A dark-colored background makes the image appear washed out or too light.

Figure F: Ideal Wall Colors



Ideal: Light Blues



Ideal: Light Grey Background

Acoustics

Good acoustics design is also important to consider. Rooms that echo make conversation between the patient and remote clinician difficult. High ceilings and hard surfaces on fl oors and walls can create poor acoustics as can noises from facility mechanics and external sources. Installing materials that absorb or dampen sound will improve the acoustics of the room. Sound dampening is usually achieved by installing carpeting, drapes, tiles or paint. Since a clinic setting does not lend itself to carpeting or drapes, acoustic tiles can be installed on the ceiling or around the top of the walls.

Sound dampening wall paint is also available. Be sure to check on any facility licensing requirements before selecting a sound dampening solution. The remote clinician's room may be able to use carpeting and drapes if the room is not used for patient examinations.

It is important to consider the amount of outside noise when selecting a room because it can be difficult to reduce the level of noise that enters the room and it can become disruptive to patient visits. Unwanted noise from within the room often is the result of fans used to keep the telemedicine equipment cool. Fan noise can be reduced by installing the equipment inside a cart or case; however, any case needs to assure proper air flow or the equipment can overheat and be damaged.

Mobile Considerations

Telemedicine mobile units are becoming increasingly popular for disaster response and mobile clinics to reach migrant or remote populations. When setting up a mobile telehealth vehicle, be sure to consider the same key areas discussed for room design. Placement of equipment, lighting, and acoustics become an even bigger issue when your patient site has to be changed or moved regularly. Some mobile progrmas do not have a telehealth equiped vehicle and move equipment from loction to location, setting up upon arrival. Consider using the checklist in this guide each time the site is set up to ensure the success of the consultation. It may also be helpful to use one or two standard floor configurations for setup.

Telemedicine Room Assessment and Design Worksheet

Type of Telemedicine Room: ❒ Patient exam ❒ Remote clinician ❒ Education / classroom

What type of clinical services will be provided: _____

_____

Are there any special spaces or lighting considerations related to the services: _____

_____

Name of room selected for assessment: _____

Room Location:

Yes	No	
❒	❒	Quiet
❒	❒	Easily accessible
❒	❒	Minimal exposure to offi ce and outside noise
❒	❒	Close to regular clinic operations

Room Size:

Identify the equipment that will be needed in this room.

- ❒ Telemedicine unit - specify size:_____
- ❒ Exam table
- ❒ Patient chair
- ❒ Other chairs – number:_____
- ❒ Work table
- ❒ Desk
- ❒ Computer
- ❒ Specialized lighting – specify type: _____
- ❒ Peripheral equipment
- ❒ Telephone
- ❒ Fax machine
- ❒ How many people does the room need to accommodate:_____

Yes	No	
❒	❒	Room is large enough to accommodate needed equipment with adequate room for the patient presenter to comfortably move around

Equipment Placement:

Yes	No	
❒	❒	Placement of plugs and lines will not interfere with movement or create hazard
❒	❒	Camera can be placed to provide full view of patient
❒	❒	Camera can be placed to create eye to eye contact
❒	❒	Scopes and peripherals can be easily accessed

Modifications that will be required: _____

_____

_____

_____

Estimated cost of modifications: _____

_____

_____

_____

Lighting:

Yes No

- ❒ ❒ No windows in the room
- ❒ ❒ If the room has windows, can shades or blinds mitigate impact of lighting
- ❒ ❒ If the room has windows, can the exam table be placed to avoid backlighting
- ❒ ❒ Lighting provides adequate direct and indirect lighting
- ❒ ❒ Direct light source shines diagonally toward the patient
- ❒ ❒ Supplemental lighting adequate
- ❒ ❒ Full Spectrum light blubs are needed

Modifications that will be required: _____

_____

Estimated cost of modifications: _____

Room Color:

Yes No

- ❒ ❒ Paint color is appropriate for telemedicine
- ❒ ❒ Paint finish is flat

Modifications that will be required: _____

_____

Estimated cost of modifi cations: _____

Acoustics:

Yes No

- ❒ ❒ Room has minimal outside noise
- ❒ ❒ Room does not echo
- ❒ ❒ Equipment noise levels are minimal
- ❒ ❒ Facility license requirements allow modifi cations

Modifications that will be required: _____

_____

Estimated cost of modifications: _____

_____

Clean and Uncluttered Room:

Yes No

- ❒ ❒ Area is clear of clutter

Total estimated cost for room modifications: _____

Marketing

In an effort to be sure that the information contained in this Program Developer Kit is as up to date as possible, please download the most up to date Marketing Guide here: www.caltrc.org/knowledge-center/ctrc-publications/program-guides/

DEVELOPING A TELEHEALTH MARKETING PLAN:

A Step by Step Guide

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The California Telehealth Resource Center is an impartial resource. In an effort to keep this Program Developer Kit as up to date as possible, below are a few organizational websites we would suggest for information regarding telehealth practice guidelines. This is not an endorsement of the company and is in no way meant to act as an all inclusive listing.

1. American Academy of Dermatology Practice Guidelines
2. American Medical Association Telemedicine Page
3. American Telemedicine Association Practice Guidelines Archive
4. NorthEast Telehealth Resource Center: Resources for Clinical Telehealth Guidelines, Standards, Policies
5. Southwest Telehealth Resource Center: Standards & Guidelines
6. Telebehavioral Center of Excellence

Policy

The Center for Connected Health Policy produces a 50 State Telehealth Laws document twice a year. In an effort to be sure that the information contained in this Program Developer Kit is as up to date as possible, please download the most up to date 50 State Telehealth Laws document here: https://www.cchpca.org/telehealth-policy/current-state-laws-and-reimbursement-policies#