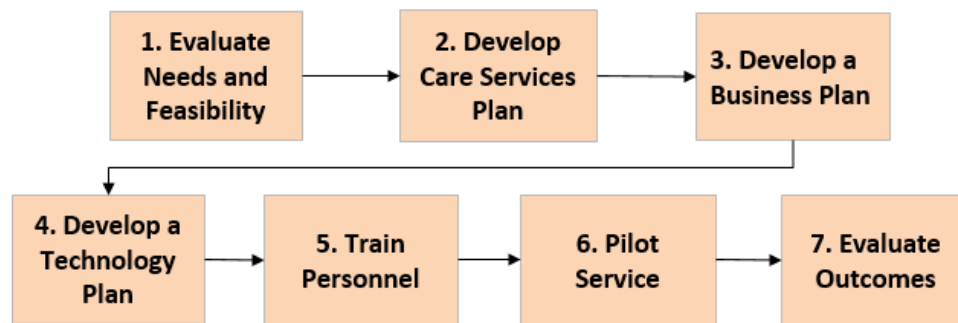


--Michael Edwards, PhD, Northeast Telehealth Resource Centers, December 2018

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Integrating a telehealth delivery solution into a health care organization is often a prolonged and daunting endeavor involving many steps. Each step calls into play participation and varying levels of teamwork among clinical, administrative, and technical staff of the organization. A successful clinical telehealth program begins with proper preparation.

There are several overall guides for planning cited below, each varying in their emphases and sequencing of steps. Through experience, we have come to favor that of Burgiss with the following seven steps:



He further recommends that: “An organization planning a telehealth program should make the first pass through the steps, repeat the process with additional passes, and modify each step until it is confident that the plan realistically represents a program that can be implemented with a high probability of success. After achieving this level of confidence, the organization should make a commitment to implement the plan.”

In our version of this approach, we recommend the planning group first investigate how they can address a set of key questions surrounding some critical goals under the umbrella of assessing needs and feasibility of the telehealth program considered for implementation. Such work calls for navigating through elements of Burgiss’ steps in abbreviated form before settling down to planning operational details of implementation. The planners have to believe in feasibility of delivering the new telehealth services before they can commit to proceeding. That means going through the motions of business planning with considerable guesswork around equipment choices and telehealth service volume. Beyond scoping out start-up equipment and training costs, the team will gain an important perspective on how sustaining ongoing operational costs will depend on prospects of reimbursement revenue or other economic benefit, depending on improved health outcomes (e.g. avoiding penalties for high re-hospitalization rates).

Key clinical leaders must be engaged in these initial planning steps, for without buy-in by clinical champions a telehealth program is destined to fail. Their involvement early on is important for success as well because their confidence in working with new technology and their capacity to achieve effective work-flow adjustments in their practice are essential.

The table below organizes the steps for assessing needs and feasibility of a telehealth program and identifies key resources and tools for guidance. The detailed implementation planning to follow will depend in many ways on the type of telehealth service to be delivered and role of the organization as a hub or spoke in any networking involved. Thus, our planning steps are generically organized around a series of key questions. Each phase can benefit from the more extensive collection of [Telehealth Planning Resources](#) provided below.

1. Evaluate Needs and Feasibility		
Strategy step	Questions to address	Useful resources (references cited listed below)
Define the needs you hope to address via a telehealth program	<p>What patient needs will be addressed?</p> <p>What provider needs will be addressed?</p> <p>What needs of the organization will be addressed?</p>	<p>Follow needs assessment steps as outlined in the California TRC Guide (2, 3). A key step is review of health disparities and unmet needs for timely health care access in your regional and patient populations which could be addressed through telehealth. Review further guidance in other resources and implementation guides (4-5).</p> <p>Review general features of successful programs (6-9) and begin to explore how programs of interest align with national goals and funding schemes for health care reform (10, 11). Assess organizational readiness to proceed in the clinical areas of most interest (12-13). Network with other organizations involved in regional or state-level planning and identify partners for service development.</p>
Educate yourself on successful applications and approaches	<p>Have others tried to address needs that are similar to yours?</p> <p>Are there models that might be relevant?</p> <p>Are there evidence-based practices you should incorporate?</p>	<p>Search NETRC's resource listings at netrc.org by clinical categories of interest. Look for program successes in your region through a search by state. Download relevant recommended resources in the NETRC Resource Toolkit on program start-up and operational standards for the clinical applications of interest. Find appropriate reviews of outcomes for such approaches in the last section, "Evidence Base for Telehealth."</p>
Conduct a needs/demand analysis for service(s)	<p>What is a realistic estimate for the demand for the services being proposed?</p> <p>How could you generate greater demand for the services?</p>	<p>Review clinical service records to estimate the number of clients requiring long travel and volume of referrals/transfers for care elsewhere that could be handled by telemedicine services. Query potential partner organizations on projected patient numbers that served through telehealth teamwork. Identify clinical benefits of prospective telehealth services and consider using them in marketing strategies that could increase service volume (14).</p>
Develop an initial conservative estimate of the added costs for the program beyond clinical provider time	<p>What is the cost of standard units of needed equipment, training, extra staff or contracted help with any needed technical support, scheduling, and patient presentation?</p>	<p>Identify likely equipment required to meet clinical needs through review of relevant webinars and white papers of the National Telehealth Technology Assessment Resource Center (15) and other comparison resources (16-17). Estimate ballpark pricing by visiting vendor and reseller websites (18). Consider any needs and extra costs for set-up of special telehealth rooms (19-21). Begin to project extra staffing costs based on staffing and training recommendations within the California TRC guide (22-23).</p>
Create an initial business plan	<p>What are some potential options for funding and sustaining this project?</p> <p>How do prospective reimbursement, grant, and other revenue match up to extra program costs?</p>	<p>Review grant opportunities for equipment capitalization and operational funding support at the Rural Assistance Center (24-25). Project insurance status profile of prospective patient mix and availability of public and private insurance reimbursement for planned service (26-27). Use business planning templates from the ATA and others to estimate patient volume required to break even on the balance of costs and revenue (28-29).</p>

2. Implementation of a Care Services Plan

Once a target for telehealth clinical services has been selected and consensus achieved on implementation, teamwork among clinical and administration must be harnessed in setting goals, objectives, staff responsibilities, and timelines. The following list of questions should provide a useful framework for these planning steps:

- Where will the providers be located?
- Where will the patients be located?
- How will the providers be credentialed and privileged to deliver virtual care at the patient site?
- How will the services be scheduled and delivered?
- What level of quality of audio and video are needed?
- What steps and technical assistance support will be applied for quality assurance?
- Will your providers need additional instruments/peripherals for exams?
- How will scheduling be accomplished?
- What means will be used to assure provider access to the patient's medical record prior to provision of clinical services?
- What type of support does the provider need at the patient location?
- What training or resources does the clinician and support staff need to make the delivery of care effective and efficient?
- How will scheduling be accomplished?
- How will documentation of clinical services be achieved and made accessible to those in need of the information?
- What information and communication does a referring physician need?
- What are the options and methods for billing private and public insurance programs?

With these answers the planning team will be in a position to develop detailed protocols and procedures for delivering the new telehealth services. All of the steps in the process should be in a written protocol that accounts for the relative roles and stages of action for the patient, the referring provider, the remote clinic staff, and the local staff. These protocols should be written into your planning document and revised as the planning progresses. If you make a commitment to implement the program, these planning protocols can be revised to become approved clinical protocols. The use of a mock run through of the protocol steps is often important to work out unforeseen details, as well as to provide training. NETRC can supply model protocols for most common telemedicine applications. Also of great help for formulating clinical program details is to visit a site of a local or regional program already in successful operations with the application of interest and checking out their protocols and procedures.

3. Develop a Business Plan and Risk Analysis

Developing at least a basic business plan is a critical step that is often omitted. The goal of financial sustainability of the program may seem comfortably off in the hazy distance during the pilot phase of your program. However, projections of costs and revenue sources in that future is important in the near term to help make believers of the care team and key administrators and to set milestones for the project which can guide each step along the way. Even if start-up costs are largely covered by a grant or accessible capital funds, true sustainability requires consideration of equipment replacement costs after two to five years depending on its durability.

At a low volume of clinical telehealth services, existing staff may be tasked without much strain with such extra duties as scheduling, equipment checks, and/or patient informed consent and presentation at the remote site. Yet, with a ramping up of your program, commitment to dedicated staff roles will have a cost impact worth planning for. Whether your revenue sources for program operations lies mainly with pay-

per-service reimbursements or through cost avoidance for delivering managed care, there will usually be a dependence on service volume to attain the “break even” point between net income and expense. The same is true if the prime mover of the new program is to achieve quality care outcomes subject to pay-for-performance benefits or penalties for not meeting the benchmark (e.g. 30-day rehospitalization rates). Setting a target for service volume by a certain date can help set the timeline for engagement of additional partner organizations and providers needed for meeting the goal.

A marketing plan should be included in the business plan. It is a part of this step since marketing typically has a cost and since the success of the marketing plan will impact utilization and revenues. This plan should include communications to help garner buy-in and support for the program by members of your own organization and patients, community leaders, and other health care organizations in your service area. Uncertainty over community need and acceptance of the new services may call for a certain level of market research, such as surveys of area residents and referral sources about acceptance and projected utilization of the telehealth services.

The detailed steps for business planning will vary extensively by the type of telehealth program under development. However, there are generic templates developed to guide such efforts (see references 34-37 above and general best practice steps in reference 1 and 18). Extending work in planning phases 1 and 2 above, your efforts here will be concerned with addressing many of the following questions about estimated start-up and ongoing costs and revenues for the program:

Costs:

- Are there grants worth pursuing that could help subsidize equipment, telecommunication costs, and/or program development costs?
- What equipment does your organization currently have that could be leveraged?
- What is the estimated Initial cost of investment in new equipment?
- Are there technical training costs that need to be covered?
- What will the ongoing maintenance (e.g., service agreements) costs be?
- Will you need to expand your organizational telecommunications capacity?
- What will the additional bandwidth, network management, or security elements such as a Virtual Private Network cost?
- What is a reasonable estimate for costs of additional staffing for clinical, administrative, and technical needs for the program?
- Does your organization and providers’ liability insurance cover delivery of care by telehealth and, if not, how much extra cost will be involved for its inclusion?

Revenues and/or cost savings

- What costs might be decreased due to the telehealth program?
- Are there travel savings for providers that can translate into cost benefits?
- Does the clinical service, provider, and service sites qualify for reimbursement from Medicare, Medicaid, and private insurance plans?
- Is there a potential for cost benefits due to outcomes such as decreased patient transfers or hospital readmissions?

4. Develop a Technology Plan

A thorough and objective technology plan will be based on realistic needs, a care services plan, and a business plan (the first three steps) that can increase the probability of long-term sustainability of a telehealth program. Review the priorities you listed when evaluating needs in step 1 to determine what functionality and capacity will be required of the equipment. You will have already made projections on costs of common equipment solutions for the telehealth application selected. Now your task is to refine

your selection to the most cost effective solution for a system that is close to the cutting edge, but not so new and untested that it is on the “bleeding edge.”

Usually, an organization in this stage needs to contract for some expert help. Your technical services and IT staff may be plenty savvy about computers and HIT systems, but unless they have had significant direct experience with telemedicine systems they are unlikely to be in a position to readily weigh vendor claims for their products or judge how satisfied your clinical providers will be with their equipment and software. You will need strategies for the following questions:

- How will you research vendor products and technology relevant to desired telehealth applications?
- How will you translate clinical needs of providers and patients into technical, usability, and interoperability specifications for the equipment or software?
- Is there an operational telehealth program nearby you can visit to gain knowledge on a potential model for a technology solution?
- Once vendor solutions get honed down to a few choices, can you get them to provide hands-on demonstrations or equipment loans to garner input from your relevant clinicians, administrators, and technical staff?
- How can you use an equipment specification and bidding process to assure the most cost effective deal is made with a vendor?
- To what extent can you include training and equipment maintenance costs in the purchase to reduce program costs?

5. Train Personnel

Develop and implement a plan for training personnel to prepare them for the arrival of the technology and for its use with patients and providers.

- How will you conduct operational training for physicians, other relevant providers and clinical staff, and/or patients?
- Will use of the system and protocols with a mock patient benefit the relevant staff?
- What procedures will you build in for back-up solutions in case of technical failures of the system through either equipment malfunction or user error?
- How will you train referring providers about the role of telehealth in the organization, potential benefits, and relevant protocols?
- How will you train administrators about the services that will be offered and their benefit to the community?
- How will you train other staff so that they too can leverage the technology?

6. Pilot Service

The care and technology plans should be tested by performing a pilot program with a limited number of patients and staff members for a limited duration. As with any new way of delivering service, it is much better to learn lessons with a few patients and staff members than it is with large numbers. Questions to resolve for such a plan include:

- How many providers and what representative patients will be used for the trial?
- How long will the trial run?
- Will you include attempts to obtain reimbursement for the pilot efforts?
- What kind of inputs from the experience of providers and patients do you need to guide optimization of the operational clinical protocols?
- Does it appear from the clinicians and support staff that additional training on the equipment and protocols is needed?
- Do you need to extend the pilot further to get limited outcome data?

7. Evaluate Outcomes

Your organization's quality assurance staff should be involved in order to complete planning to assure that the quality of health care delivered by telehealth meets the same standards as in-person face-to-face care. This does not require a major research-oriented effort. At the first level, systems should be in place for the support staff or provider to log whether communication over the system was adequate for the clinical purposes intended. This is especially important early on in the program to make sure there are not technical glitches or user errors in the system use which can be readily addressed.

Basic questions of patient and provider satisfaction are important to address at the beginning of the project to garner input to help improve the implementation of the service. A basic survey with a few questions and opening for comments may be adequate. As providers are often too busy to reliably complete such paperwork, you might consider having a support staff member involved in facilitating the telehealth services to verbally ask the provider a couple of rating questions on adequacy of the system for clinical needs and if there were any problems. For long range outcome measures on the benefits or impact of telehealth, it will be important to develop a plan for how that data will be collected and used. Your evaluation program can be guided by the following questions:

- For operational QA, how can you collect information on day-to-day quality of system performance so the technical service staff can detect and address system problems in a timely way?
- How can your program monitor and detect errors in use of the system that could be addressed in a timely way with targeted training?
- What goals and performance standards underlie the telehealth program which calls for clinical measurement efforts?
- How can you garner input from providers and patients on perceived benefits of telehealth for delivery of services without undue burdens of time and effort?
- Can existing data collection for your EMR and the QA systems built on it serve to reveal the impact of the telehealth services with minimal modification (e.g. a code field for telehealth)?
- How will data on patients served with telehealth be compared to usual care?
- How can your assessment take into account the extra staff efforts required for the program so organizational cost benefits may be estimated?

Key Program Planning Resources

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RESOURCES FOR PLANNING DEVELOPMENT OF TELEHEALTH PROGRAMS

Topic Table

Visioning Telehealth Benefits	Licensure and Credentialing	Training and Certification Standards
Planning Guides	Reimbursement	Program Evaluation
Needs and Readiness Assessment	Business Planning	Clinical Guidelines by Application
Clinical Operations Best Practices	Technology Assessment and Selection	Business Planning and Sustainability
Program Staffing	Room Design	Evidence Base for Telehealth

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