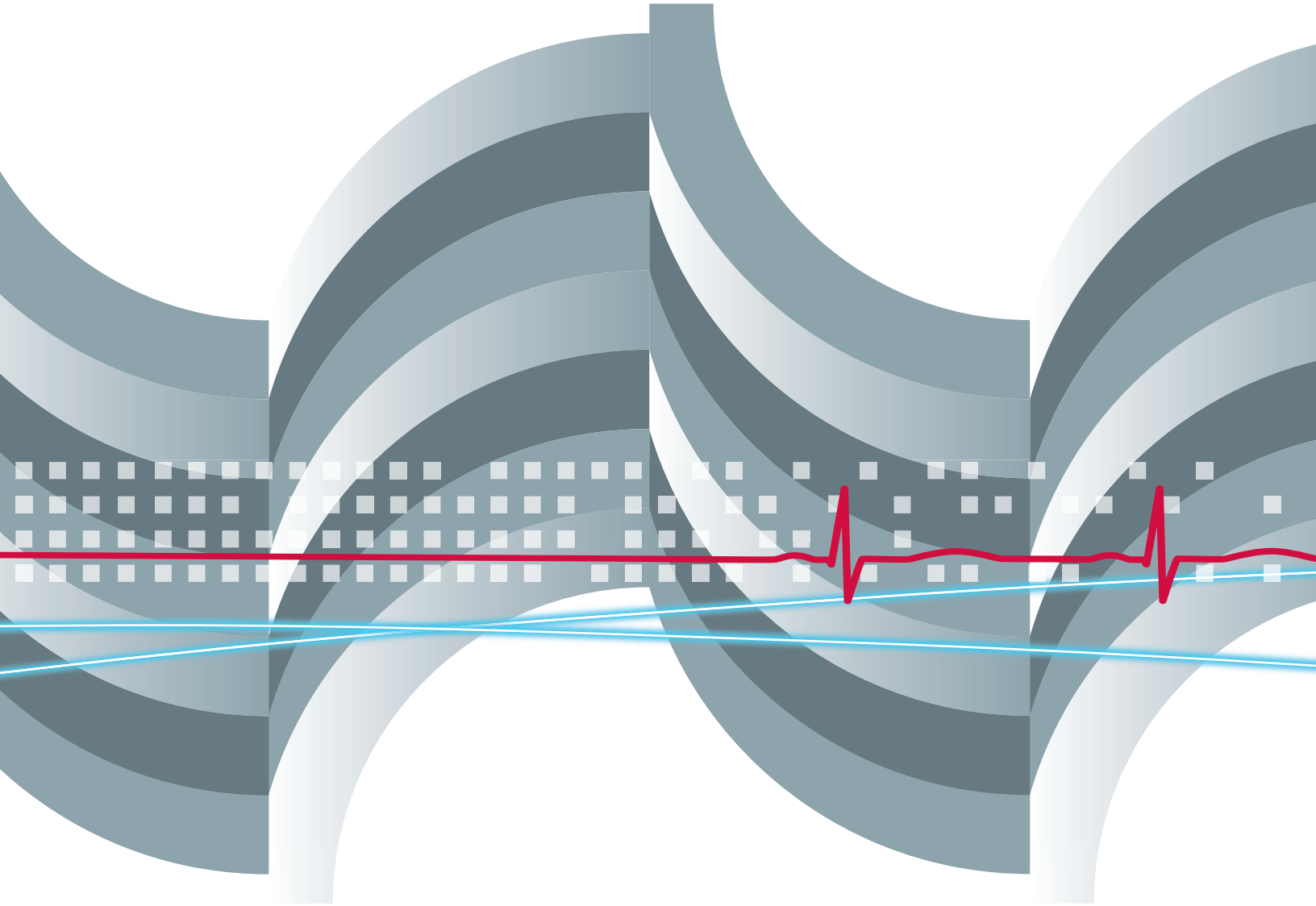
ATA **Home Telehealth Toolkit** 2009



American Telemedicine Association
Quality Healthcare Through Telecommunications Technology

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TABLE OF CONTENTS

Section 5 - Human Resources

Section 6 - Technology

Section 7 - Business Issues & Reimbursement

Section 8 - Accreditation & Documentation Requirements

Section 9 - Performance Improvement & Outcome Evaluation

Section 10 - Marketing

Section 11 - Resources

Introduction

The ATA Home Telehealth and Remote Monitoring SIG Toolkit Task Force, a group of clinicians and academicians involved with delivering or overseeing the delivery of home telehealth services, has developed this toolkit to provide guidelines and procedures for the design and delivery of home telehealth services for the benefit of patients, their families, and clinicians. These guidelines and procedures apply to:

1. Establishing a new home telehealth program
2. Revising or reviewing an existing program

Home telehealth can move the locus of care for patients with chronic diseases from hospitals into the home, improving quality of life and patient satisfaction, while decreasing use of expensive services such as inpatient stays and emergency room visits. Home telehealth may be particularly beneficial for a variety of at-risk populations such as the frail elderly who have mobility limitations and diminished access to transportation. These technology applications allow home care services to include geographically distant locations where access to care is limited. Home care agencies can now provide a level of care to these distant areas without the issue of nursing staff coverage.

Home telehealth is neither a single health care intervention nor a simple vehicle to facilitate care delivery. Instead it is a "package of care" that can involve a range of health care interventions whose delivery is mediated via a number of different innovative information technologies.

Use of Toolkit

Anyone who wants to provide or is already providing home telehealth services can use this toolkit. The toolkit content includes common requirements that should be considered when providing home telehealth services. Examples of existing policies, procedures, protocols, and other helpful forms and information are provided from successful home telehealth programs to supplement these requirements.

Section 1 - Organizational Responsibility

1.1 - Ethics

The same professional ethical principles that apply in any face-to-face patient/client interaction apply to telehealth encounters.

- Organizations providing home telehealth services and their employees will uphold the values, ethics and missions of their organization and comply with all laws and regulations in their respective regions.

- Employees of an organization that provide home telehealth services will conduct all professional activities with honesty, integrity, respect, compassion and good faith in a manner that will reflect well on the organization and service and will maintain competence and proficiency in their profession by undertaking a personal program of assessment and continuing professional education.

- An organization providing home telehealth services will provide training specific to issues related to privacy, patient and family rights, and security to all personnel involved in the provision of home telehealth services.

1.2 - Risk Management

Organizations providing telehealth services should manage risks within the telehealth program by:

- Ensuring they have a documented risk management plan that includes an assessment of organizational risk related to home telehealth on an on-going basis; including:

    - Agency annual program evaluation;
    - Clear policies and procedures related to documentation;
    - Clinical record reviews;
    - Clinician competency evaluations; and
    - Employee performance evaluations.

- Ensuring that equipment acquisition, maintenance, and quality assurance is set in both policy and practice;
- Having specific guidelines for recruitment, evaluation and training of staff;
- Clearly defining the roles, responsibilities and accountability of the different individuals or groups within the organization involved in providing telehealth services;
- Having clear policies regarding maintenance and storage of patient records;
- Having clear policies regarding equipment failure and accuracy; and
- Providing patient education on procedures in case of suspected equipment failure.

1.3 - Commitment to Quality Improvement

Providers of home telehealth services should establish a quality improvement and evaluation program for those services that includes:

- Integration with the provider's general quality assurance efforts;
- Specific responsible parties;
- Patient related data collection including appropriate quality indicators; and
- Stakeholder satisfaction protocols that include surveys of patient, family, staff, physicians, and referral sources.

Section 2 - Program Planning

2.1 - Why Do A Needs Assessment?

It is important to target patient populations that are appropriate for the successful deployment of home telehealth services. Current home telehealth literature supports a variety of disease conditions that have been managed successfully. Conducting a needs assessment will help determine:

1. Sufficient patient-based need for home telehealth services at your agency
2. How and where the services will be integrated into the existing infrastructure or if new programs should be implemented
3. Whether there will be sufficient cost savings/cost avoidance to sustain services Match clinical need with type of technology for best practice
4. Outcomes data, which would support your agency's mission or vision
5. Support for P4 P (pay for performance) initiatives

2.2 - Performing Needs Assessment

Some of the most common patient populations that could benefit from home telehealth include patients with the following diagnoses:

1. Hypertension
2. Diabetes
3. Heart failure
4. Coronary artery disease
5. COPD
6. Wounds
7. Pain management
8. Stroke
9. Fall risk
10. Depression
11. Functionally impaired
12. Dementia
13. Palliative Care
14. Mental health care
15. Weight reduction

Data on the above populations needs to be researched for the agency or site in which the home telehealth program will be located. The data will support the project and hypothesis for your initiative. In addition to doing a patient needs assessment it is recommended that clinicians be surveyed to determine what services are currently being provided, where gaps in services exist, and the level of interest in augmenting current care with home telehealth services. The staff assessment will provide information on barriers to the project early, so solutions can be planned., such as fear of equipment, concern regarding increased work, or impact on visit frequency.

2.3 - General Patient Selection Criteria

To determine who may be an appropriate referral for home telehealth services, commonly with chronic health conditions used criteria include but are not limited to:

1. Eligible home care patients with established high-use, high-cost consumption patterns
2. Homebound patients

3. Patients who can follow simple commands to operate equipment, or who have a caregiver able to assist them
4. Limited access to health care providers
5. Patients who have a history of repeated hospitalizations
6. Patients who have a physician who will agree for patient to enroll in program
7. Patients who have physical / cognitive ability to learn new processes
8. Patients who have the ability to learn the equipment use and monitoring needed via verbal and written communication
9. Patient show are willing and able to participate in the program
10. If unable, have a care-giver able and willing to participate

2.4 - General Patient Exclusion Criteria

1. Home/residential environment that is unsafe for patient, staff or equipment
2. Documented violence/aggression
3. Active substance use
4. Patients who decline participation in the informed consent process
5. Patients without access to a telephone and electricity
6. Patient with visual deficits
7. Patients who are unable to read, or follow instructions
8. Home has no pest control problems
9. Home has flat and level area to place equipment on

2.5 - ATA Clinical Guidelines

Refer to the guidelines found on the ATA website at www.americantelemed.org

The patient/caregiver/home assessment: During a face-to face encounter, a comprehensive patient assessment needs to be completed in order to accurately apply inclusion and exclusion criteria. A face-to-face visit may be completed in the home, hospital, office, clinic, school, etc This assessment can be referred to as a risk assessment to identify the patient's need for telehealth as it relates to the criteria established.

Patients who require special assistance must be identified prior to installing home telehealth. Organizational policy and procedures need to be developed and implemented to manage language or physical barriers in order to assure that these patients are not discriminated against.

During a face-to-face visit, the caregiver will be evaluated to determine his or her willingness and ability to assist the patient in home telehealth encounter as appropriate.

During a face-to-face visit, a home assessment must be conducted to determine access to utilities and safety concerns appropriate for equipment installation and care.

2.6 – Tools

2.6.1 - Program Needs Assessment Chart

PROGRAM NEEDS ASSESSMENT CHART

Date:
Current Average Daily Census:
Sample Size:

Reason for Home Care	Service Frequency (Average)	Estimate LOS on Service (Average)	Risk Level (H,M, L)	Appropriate for Telehealth (Y/N)	Equipment Type (Video, Non Video)	Payor	Comments
CHF							
COPD							
Diabetes							
Wound Care							
Polypharmacy							
Mental Health							
HIV/AIDS							
Maternal & Child Care							
Asthma							
Multiple – 2							
Multiple – 3							
Multiple - 4							
(Other)							

* Home Care Association of New York State, Inc.

Section 3 - Patient Protections

3.1 - Privacy and Confidentiality

Patient privacy and confidentiality will be maintained in accordance with HIPAA and accreditation standards.

Program staff will:

- Respect patient's rights
- Recognize each patient as an individual with unique healthcare needs
- Provide services focused on the individual's needs and personal dignity
- Respect the confidentiality of all health information

The following attachments are examples of tools used with patients who are receiving home telehealth services. Each tool can be customized to meet the requirements and guidelines of your agency or healthcare organization. Tools will vary based on the types of services provided and the types of conditions and diagnoses in the population being treated.

3.2– Tools

3.2.1 - Telemonitoring Informed Consent Policy

Telemonitoring Informed Consent Policy

Purpose

Provide documentation of patient informed consent for participation in the telemonitoring program

Policy

All patients must sign an informed consent to participate in the telemonitoring program at _____ (agency name). Patients who are deemed unable to sign must have a

Procedure

1. The staff at _____(agency name) will review consent form for telemonitoring prior to using the monitor with the patient and/or caregiver
2. The patient will be requested to sign the consent form.
3. The telemonitor equipment will not be initiated if the patient refuses to sign the consent form. The patient may contact the agency if he/she has further questions regarding the informed consent procedure.

3.2.2 – Patient Rights

Patient Rights

All telehealth patients have rights and it is up to the service provider to inform them of same. These rights include, but are not limited to the following:

- To be treated with dignity, respect and courtesy without discrimination
- To have privacy concerning healthcare services
- To receive quality service
- To receive service from competent service providers
- To report concerns regarding service delivery to telehealth management
- To self-determination and the right to accept risk
- To participate in decisions, state preferences and make choices regarding care/service
- To refuse intervention
- To make choices in personal lifestyle
- To maintain relationships with family and friends
- To have their body and property respected and protected

It is the responsibility of each employee, volunteer and student to safeguard the rights of the client.

Confidentiality

All information regarding any individual referred to and/or registered with the Program is confidential. Only authorized individuals, according to the RHA policies, may release confidential client information.

Agency name:
Date:

3.2.3 - Telehealth Consent Form

(Facility name)
(Program name)
Telehealth Consent

Patient's name:_____ SSN:_____

I give permission to my telehealth care team to provide home telehealth services to me. _____ has explained the details of these services to me. I will be using _____ as my home telehealth device.

Authorization to obtain and release information

- I give permission to my telehealth care team to obtain any and all clinically necessary information on where care has or will be provided to me.
- I also give permission for my telehealth care team to release any clinically necessary information about my health to any individuals that have been or might be involved in my care.

Authorization to collect, analyze, store and share outcome data

- I give permission to my telehealth care team to collect, analyze, store, and share outcome data from the care I receive and that this may include health information.
- I understand that my health information may need to be shared with others inside and outside (agency name) and if so none of this data will identify me.
- I understand that occasionally, when required by law, information about me may be shared with others that reveal my identity.
- I understand that individuals who are either directly or indirectly involved in my care for the purposes of treatment, billing, and daily operations may review my health information and records.
- I understand that I have the right to see my data by written request to (agency name) telehealth care team.
- I also understand that I have the right to refuse my telehealth care team to collect, analyze, store, and share my data at any time. By refusing this will not affect my usual healthcare but will prevent me from participating in the telehealth program.

Authorization to capture video images during a telehealth visit

I authorize my telehealth care team to take photographs or images of me. These images or photographs will be kept confidential and only used for my care and treatment.

Patient responsibilities

- I understand that my telehealth care team will be helping my primary care provider, not replacing them. I agree to provide accurate answers about my condition(s), medications, and treatments. I recognize that if I do not answer truthfully or use the equipment as instructed that this might result in serious harm happening to me.

- I understand that while the equipment is in my home I will follow the instructions given to me by my telehealth care team about its care. If the equipment becomes damaged I will notify my telehealth care team immediately: (phone number to call)

I have read and understand the above information and consent to participate. I agree that the equipment will be returned to the (agency name) when my participation in this program is over.

Patient Signature **Date**

Witness **Date**

Home Telehealth: Patient Responsibilities

Prior to deploying a [insert name of equipment] to a patient's home, an assessment for home telemedicine has been made by an RN. The assessment includes a review of diagnoses, patients' ability and willingness to use home telemedicine equipment, utilization of resources and a home evaluation. Patients with [diagnoses or other eligibility criteria] are eligible to receive the [equipment]. Additional criteria includes [examples: high resource use including multiple inpatient admissions and/or frequent ER or unscheduled clinic visits, and/or patients at high risk for decompensation, a home safety evaluation], and approval from the patient's primary care provider.

To obtain a [equipment] the patient (or when appropriate a designated care giver) agrees to and verbalizes understanding of the following:

- The [equipment] will not be used as an emergency response device; it will be used to monitor vital signs and review vital sign data, respond to questionnaires and surveys, access educational material, get reminders and receive messages from clinicians.
- The [equipment] is the property of the (agency) and is on loan to me to assist in meeting my healthcare needs and may be called back to the (agency) for repair, software upgrade and/or discontinuation of use. Serial numbers have been logged for tracking equipment including sensors that have been issued to perform specific vital sign measurements.
- Training must be completed before using the [equipment].
- After information security and confidentiality concerns and risks are explained to patients and/or designated caregivers a Computer Access Agreement is signed and returned to the System Manager and Information Security Officer.
- The [equipment] will be used by the designated patient and caregiver only and will be used to maintain or improve patients' health; other family members or friends will not use it.
- Access codes and password will not be shared with anyone.
- To prevent calls from being blocked and allow data to be received, the [equipment] will only be connected to the telephone number that has been registered with the System Manager.
- Any damage, theft or tampering of the [equipment] will be reported immediately to the System Manager.
- Security measures will be taken in accordance with state and federal guidelines to protect the availability and confidentiality of patient data however [equipment] users understand that there is a risk that data may be lost or compromised.

EQUIPMENT SAFETY FLYER
Audio-video

1. Use equipment only after checking it to be sure wires were not damaged in transit.

2. Only connect equipment to electrical outlets with a grounding feature. Use an adaptor plug for outlets without a grounding feature.

3. Be sure to bundle wires and stow them where they are not easily tripped over or run over by wheelchairs.

4. Take care not to eat or drink beverages when using equipment. Do not set beverages down beside equipment as damage may result from inadvertent spills.

5. Protect equipment from accidents by keeping pets and small children out of the area where it is located.

6. Do not use during electrical storms.

6. If any incidental damage should occur, discontinue use and contact the _____office at_____.

3.2.6 - Home Telehealth Program Skills Validation Tool

Home Telehealth Program Skills Validation Tool		
Patient name: **ID:**		
Competency Elements-In-home messaging device	**Date Met**	
1. Understands power and phone connections. (need for continuous power)		
2. Checks phone for dial tone after connection. (understands connection to answering machine)		
3. Presses the button below the word *"continue"* on the screen.		
4. Is able to go through tutorial.		
5. Understands and demonstrates which buttons to push to answer questions appropriately.		
6. Understands how information is sent to software program.		
7. States the procedure for contacting technical support and program staff for any equipment or power failures.		

Date:_____

Patient:_____

Witness:_____

3.2.7 - Home Telehealth Program Skills Validation Tool

Home Telehealth Program Skills Validation Tool		
Patient Name:	**Date:**	
Competency Elements Telemonitoring Patient Home Unit	**Not Met**	**Date Met**
1. Explains power and phone connections.		
2. Explains buttons: green to answer the phone and blue to send the blood pressure readings back to telehealth nurse.		
3. Demonstrates how to answer phone: Presses green button when phone rings.		
4. Demonstrates how to take his/her blood pressure. Demonstrates appropriate cuff placement.		
5. Using the stethoscope placement card, demonstrates where to place and how to hold stethoscope.		
6. Verbalizes understanding of the following concepts: ▪ When the telehealth nurse disconnects from the visit, the green light may stay on. If the light stays on for longer than one minute, the patient should disconnect manually. Understands that if the green light is on the phone line is tied up. ▪ If the first time the telehealth nurse calls the connection is not made, the patient needs to turn the green light off on their unit so the phone line will be open for the case manager to try again.		
7. Patient and/or caregiver verbalize process for calling program office for problems and to medical center phone advice line after administrative hours.		
8. Verbalizes care of equipment-no picking up in case of dropping, no cleansers on equipment, ensures all connections are in place.		

Date:_____

Patient:_____

Witness:_____

3.2.8 – Home Telehealth Consent: Patient Education Note

HOME TELEHEALTH CONSENT
PATIENT EDUCATION NOTE

There are various ways of documenting patient care. Below is an example of a problem-oriented documentation of an in-home visit that included patient consent for telehealth, the patient education that followed and plan for action.

- Use of home telehealth was discussed and the patient is receptive to receiving home telehealth services for education, disease management information and/or monitoring of vital signs including pain and video conferencing.

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- Patient was assessed for appropriateness to participate in home telehealth and has verbalized willingness to learn home telehealth technology. Patient has no special aids and there were no barriers identified that would impact participation on home telehealth. The patient's home has a grounded/tested/safe 3-prong electrical outlet that can be used for the home telehealth vital sign monitoring units. Patient has signed home telehealth consent, photo release and Information Security agreements and understands this is not an emergency response system or device and needs to follow 911 procedures in case of medical emergency. Patient understands he /she cannot use phone while machine is transmitting data. The patient's primary care provider is aware and a schedule for using the equipment was reviewed. Questions were addressed and answered to patient's satisfaction. The patient was also educated about available community resources including Meals-on-Wheels, home care services, senior citizen centers and support groups. Patient has been educated about available Medicare/Medicaid licensed JCAHO accredited home care and community based agencies.

- Patient will be placed on home telehealth and has verbalized understanding that the home telehealth technology is not an Emergency Response System, understands and verbalizes how to obtain urgent and emergent care and the need to promptly report changes in health condition to their health care provider. Questions have been discussed and answered satisfactorily.

- The primary care provider has been notified and agrees to the patient's participation in home telehealth. A plan for scheduling home telehealth activities and out-of-range parameters for vital signs has been established. Disease specific patient education and disease management surveys will be made available.

Section 4 - Process of Care

This content was developed to serve as a suggested foundation for implementing a successful home telehealth program that incorporates all required elements for provision of services, competency, and accreditation.

4.1 - Management of Services

In order to develop a successful telemonitor program, patient inclusion and exclusion criteria must be clearly defined. The first step is performing a needs assessment. This information will provide you with a solid foundation for patients who are at risk and who will benefit from telemonitoring. All patients admitted to the agency should be evaluated for a telemonitor. (Refer to Section 1 for Needs Assessment and Selection Criteria)

Another key component of successful telemonitoring programs is the management of these patients. The RN case manager should be the primary point person working in collaboration with the telemonitoring nurse. A weekly reporting system helps to facilitate information and ideas between the case manager and telemonitor nurse. Visits should always be decreased starting on the second week in the episode and then adjusted accordingly. It is also important to develop a monthly tm versus non-tm RN visit report to track progress.

As telemonitoring services are usually provided by homecare agencies, it is also beneficially to partner with your local hospital, physician group, and/or clinic. This will promote a seamless reporting and communication system

Before initiating a program decisions about care management need to be made. The following questions should be addressed before implementing any home telehealth program:

- Who will be managed?
- How will they be managed?
- When will they be managed?
- Who will provide the services?

The answers to these questions can be found in data obtained through the needs assessments. Clinicians most likely to provide services include: nurses, social workers, dieticians, rehab therapists, pharmacists, and physicians. Once these questions have been answered then policies, procedures, informed consent, and protocols can be initiated.

4.2 - Policies and Procedures

4.2.1 – Program Policy Outline

Name of Project/Program

PURPOSE:

To establish policy, responsibility, and procedures for the (name of program/project).

POLICY:

(name of program/project) utilizes a seamless interdisciplinary approach to coordinating care across all settings, episodes of illness and at the appropriate level of care. Care coordination involves a process of needs identification and service coordination designed to maximize function and independence while also recognizing an individual's right to self-determination. The fundamental components of care coordination are screening, assessment, care planning, implementation, monitoring and evaluation.

RESPONSIBILITY:

(Program/project name) is under the direction of the (who) for (agency name). The (who) is responsible for the daily operation of the program including training of staff and patients in the use of telehealth equipment.

PROCEDURE:

A. Eligibility for (program/project name): All patients and caregivers as applicable will be assessed for enrollment in the program/project. The following criteria are considered in selecting patients:

1. Have chronic conditions, including but not limited to, congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), diabetes mellitus (DM), hypertension (HTN), and conditions such that technology and care coordination could improve resource utilization and clinical outcomes.

2. Receives home infusion therapy or needs palliative care due to terminal illness.

3. Has a wound (surgical, vascular or pressure) that requires care.

4. Requires more than one nursing home visit per week due to severity of illness and need for monitoring, management or education.

5. Patients will have had two (2) or more hospital admissions or emergency room visits in the preceding fiscal year.

6. Will be enrolled in a Primary Care Clinic with greater than fourteen (14) outpatient visits in the preceding fiscal year.

7. Have greater than ten (10) active medication prescriptions.

8. The home environment is such that daily care and medical problems can be managed in the home. Access to utilities and safety concerns are addressed for appropriate installation of equipment.

9. The patient and caregiver accept the technology in the home.

10. The patient and caregiver demonstrate competency in using and maintaining telehealth equipment.

11. Other circumstances that may improve quality of life and improve clinical outcomes.

B. Exclusion criteria:

1. Is unwilling or unable to give consent.

2. Is unwilling or unable to operate telehealth equipment.

3. Is uncooperative or combative.

4. Does not have a compatible phone line.

5. Does not have a history of non-compliance or behaviors such as active substance use that might impact on the safety of staff and equipment in the home.

C. Referrals: Referrals to the (program/project name) will be accepted from (who). Referrals will be answered within seven (7) working days from referral request date.

D. Initiation of care: The following criteria will be used to enroll new patients into the (Program/ Project):

1. Informed written consent will be obtained from the patient or caregiver before initiation of the technology.

2. A baseline survey for assessing function and well-being will be administered at the start of the project and at designated intervals during the project.

3. A patient telehealth satisfaction questionnaire will be administered at appropriate intervals after the start of the project for each patient.

4. An initial home or office visit will be done to conduct an initial assessment and to review installation and instruction of equipment.

5. During the home or office visit, an assessment will be conducted to determine access to utilities and address any safety issues related to installation of equipment.

6. During the home or office visit, patients and/or caregivers will demonstrate competency in

equipment use and maintenance.

7. Audio/video visits and telephone calls may be provided when needed by physicians, nurse practitioners, registered nurses, social workers, rehab therapists, dietitians or others within the scope of practice of the interdisciplinary team.

8. Patients and/or caregivers will be given instructions on whom to call in case of an emergency.

E. Coordination of Care: Care coordination is provided to ensure the implementation of program/project goals, to avoid duplication of services, and to ensure continuity of care in the event of consultation with other professionals, admission to the hospital or discharge to other levels of care settings.

1. Informal communication with the primary care providers as needed. In addition, an updated progress note or quarterly note will be generated to communicate to the primary care providers the patient's progress in the program.

2. Will collaborate with the primary care team regarding changes in a patient's condition as needed through telephone, and notes.

3. Audio/video visits and other services provided by the (program/project team) will be entered into the patient record. The base station will be located in a secure office. Access to the online software will be by password to protect patient confidentiality.

4. Home visits, office visits, and video technology visits will be scheduled by the (project/program staff) according to the needs of patients.

5. If a patient is admitted to the hospital, the (program/project staff) will follow the course of hospitalization and follow up after discharge as appropriate.

6. In the event of a natural disaster that causes power failure, all patients will have (discuss back-up plan for equipment used). After this time, if power is not restored, patients will be contacted by phone until the power is restored to the appliance. For audio/video telehealth equipment, in the event of power failure, all patients will be contacted by phone until power is restored.

F. Accessibility: The (program/project name) office is open from 7:30am to 4:30pm, Monday to Friday. During the administrative workweek, patients and caregivers can call the program office for questions or problems. On off-tours, weekends, and holidays, patients and caregivers are instructed to call the after hours Telecare Line. Staff will at that time determine if evaluation is indicated. Emergencies are to be referred to 911 as appropriate.

G. Discharge: (program/project name) may be terminated when:

1. The patient is admitted to a nursing home setting as a long-term or permanent placement.

2. The patient/caregiver no longer wish to participate in the project.

3. The patient has permanently relocated outside of (agency area).

4. The patient has achieved clinical goals.

When (program/project) services are terminated, the equipment will be retrieved at that time and patient satisfaction, self-efficacy, and function will be assessed as appropriate. The summary of care and recommendations for further intervention will be incorporated into the medical record.

H. Safety Management: Staff members will follow established guidelines and practice safety procedures and regulations of the (agency name). Patient and caregiver safety will be a priority during planning and implementation of care. Staff will participate in programs and inservices regarding safety by (agency name) and will use professional assessment skills and good judgment in all work-related activities.

1. Patient Safety: The initial assessment will include patient and caregiver safety in the home. Include in written patient material will be safety and appropriate use of equipment.

    a. Patient accidents/incidents will be reported to the primary provider and the risk management team, and documented as appropriate. Incident reports will be completed per (agency name) protocol.

    b. Patient accident/incidents, which must be reported as required by State statute, to the State Department of Children and Family Services abuse hotline, include patient abuse, neglect, and living conditions which place the patient in imminent danger.

2. Staff Safety: All accidents/incidents involving employees will be reported as soon as possible to the immediate supervisor.

    a. Staff will contact the patient/caregiver prior to making the initial home visit, and schedule at a mutually convenient time.

    b. The (project/program staff) will assess if the neighborhood or house appears unsafe. If uncomfortable with the situation, the appointment may be rescheduled, and two staff members return together at a later date/time. Patient/caregiver will be notified of delay.

    c. The (staff) will always be notified of planned home visits and visits will be scheduled during daylight hours.

    d. Staff members will not enter a home unless invited to do so by the patient or caregiver. Should a problem be encountered, the visit will not be made. The patient will be contacted as to their intentions regarding program inclusion.

    e. Staff will keep cell phones on at all times while in the field.

REFERENCES:

American Telemedicine Association: Telehomecare Clinical Guidelines

American Geriatrics Society (2000). Care Management Position Statement.

FOLLOW-UP RESPONSIBILITY:

(name of supervising person and agency)

RECISSION

This Policy will remain in effected until rescinded.

Telemonitoring Policy

Purpose
The purpose of the telemonitoring policy is to provide guidelines for the home telemonitoring process

Policy
_____(agency name) will follow protocols, policies, and procedures for patient selection, informed consent, infection control, initiation of care, monitoring, and discontinuation of telemonitoring.

Procedure
Follow policies for:

- Telemonitoring Protocol
- Patient Selection Criteria
- Informed Consent Form
- Infection Control Policy

Initiation of Care

- Referrals are accepted per agency policy. Referral sources may request telemonitoring for patients and referrals may be screened for potential telemonitor patients
- Clinicians will review the telemonitoring process with patients
- Consent will be obtained on the initial visit to set up the telemonitor. This visit will be an instructional session for the patient and a test transmission will be conducted. Any questions and concerns regarding equipment use or safety will be addressed with the patient

Discontinuation of Telemonitor

- Inform patient discharge plans
- Provide discharge teaching and disease management information
- Inform Telemonitor RN of discharge
- Arrange for removal of telemonitor from home

Source: Home Telehealth Reference 2005

Atlantic Health Sciences Corporation
Corporation des sciences de la santé de l'Atlantique

Hospital to Home Monitoring Program

Program Description
Post Cardiac Surgery Home Monitoring Program
July 11, 2001

Purpose:

To provide a continuum of nursing care to the post cardiac surgery patient from their home by conducting Real Time Interactive Telehealth Assessments, via the plain old telephone system (POTS).

Philosophy:

We believe:

- Home monitoring ensures early detection of postop complications. Thus, facilitating prompt clinical intervention, enhanced clinical outcome and quality of care.
- The use of Home Monitoring to continue patient education is directly related to reduced medical resource utilization.
- 24 hour immediate clinician access is an excellent support mechanism given the high anxiety levels of the patients and their caregivers.
- Telehealth nurses act in the capacity of patient advocate by liaising with interprovincial ER personnel, GP's, community services, and cardiac surgeons.
- Patient satisfaction is an indication that home monitoring has had a positive effect on their immediate post surgery recovery.
- Home monitoring facilitates a portion of our continuum of care previously missed.

Outcome Objectives:

1. Client care will be enhanced by participating in a scheduled virtual visit each day for seven days following discharge from hospital.

This will be accomplished by:

   a. Maintaining statistical information regarding reaccess to the healthcare system and/or subsequent readmissions through maintenance of a daily intervention log.

b. Ensuring equipment reliability through regular inspection and testing by a biomedical engineer.
c. Recruiting the patient (and caregiver) preoperatively for enrollment in the Hospital to Home Monitoring program.
d. Assembling a patient chart containing demographic information, patient history, and cardiac surgery particulars. (i.e. ECG pre and postop, postop CXR, preop echo for valve surgery patients, cath report)
e. Provide the patient's caregiver with adequate training sessions in the use and operation of the Hospital to Home Monitoring equipment.
f. Obtaining a baseline ECG, HR, SPO_2 and patient assessment prior to discharge.
g. Conducting daily virtual, interactive assessments including vital signs, weight and data transmission.
h. Relaying assessment data to the appropriate medical personnel for treatment and/or advertence of complications.
i. Assigning a telehealth nurse "on call" duty to accommodate 24 hour clinician accessibility and timeliness of care.
j. Completing transmission evaluation form for troubleshooting purposes and follow through to appropriate hospital technical personnel.

2. Patient/Caregiver will be satisfied with the service.

This will be accomplished by:

a. Establishing a nurse/patient/caregiver relationship during their hospital stay.
b. Providing the caregiver with adequate teaching in regards to the setup and use of the home monitoring equipment.
c. Obtaining a signed consent acknowledging that the caregiver understands and is comfortable with the use of the Home Monitoring equipment.
d. Providing time for the patient and their caregiver to ask questions prior to their discharge from hospital and again at the end of each virtual visit.
e. Providing emotional support and encouragement during teaching sessions and home visits.
f. Providing a teaching booklet containing the instructions on the setup and use of the Home Monitoring equipment.

3. Communication among nurses and physicians involved in the patient's care will be effective.

This will be accomplished by:

a. The telehealth nurse contacting by phone the appropriate medical personnel (i.e. Cardiac surgeon, nurse associate, family doctor, or emergency triage nurse) and providing a detailed report to that person.
b. Sending by fax the appropriate records to the referred medical personnel.
c. Ensuring appropriate documentation is completed according to AHSC protocol.
d. Communication follow-up between the medical personnel/agencies involved.

4. All partners in this process will be familiar with their roles and effective in performing them.

This will be accomplished by:

a. Developing clear role definitions. (see policy and procedure manual)
b. Conduct regular performance appraisals to ensure nurses comply within defined role.
c. Following up to ensure nurses training needs have been met.
d. Assessing orientation needs for all newly hired nurses. Completing orientation documentation.
e. Developing and familiarizing each nurse with standard care protocols.
f. Following up to ensure protocols remain current.

5. Quality of service will be monitored.

This will be accomplished by:

a. Patient satisfaction questionnaire and feedback.
b. Chart reviews.
c. Follow-up of facilitated visits (local/remote general practitioner, emergency department and patients admitted to local hospital).
d. Maintenance of technical performance log.
e. Performance appraisals of telehealth RN's based upon established nursing standards.
f. Facilitating change to improve service as required.

6. There will be general acceptance of this mode of providing service.

This will be accomplished by:

a. Sending a letter to the patient's family doctor explaining the program and that the patient will be participating in it.
b. Providing statistical information on clinical data collected during virtual visits (Daily Intervention Report).
c. Increase number of patients discharged with unit.
d. Educate within the New Brunswick Heart Centre, Atlantic Health Sciences Corporation and beyond our standard practice of home monitoring.
e. Continue to validate equipment and procedures by quality reviews.

Accessing the Service:

According to equipment availability patients will be approached to participate in the Home Monitoring Program. Based on equipment availability, the telehealth nurse will consult with the

nurse associate to determine patients at greater risk for developing complications, thereby making them a priority.

1. Exclusion Criteria:

    a. Patients who require transfer to their local hospital.
    b. Patients who have been discharged with an Extramural Hospital referral for care; excluding INR check.
    c. Long stay patients who have surpassed 10 – 14 days postop unless the existing complication is vital sign or ECG related.
    d. Patients who will require dialysis treatment several times per week (not home for calls – too tired from dialysis to participate in calls).

2. Inclusion Considerations:

    a. Patients who have had heart surgery during this admission to hospital.
    b. Working phone line in their home or place of stay (friend/hotel).
    c. A working grounded electrical outlet accessible to plug in home unit.
    d. Patient must have a caregiver at home who can commit to the required teaching sessions prior to patient's discharge.

Functions:

1. Obtaining Informed Consent

    a. A "Telehealth Consent" will be obtained.
    b. Upon completion of teaching sessions a signed "Equipment Loan Agreement" will be obtained.
    c. Prior to discharge from hospital a signed "Release of Medical Information" will be obtained.

2. Assessing

    a. During each virtual visit the nurse will complete a standard clinical questionnaire developed to determine patient status.
    b. During each virtual visit the caregiver will use the hand held camera so the nurse can visualize the patient's incisions.
    c. During each virtual visit the nurse will obtain, record, and trend the patient's blood pressure, 3 lead ECG, SPO_2, temperature and weight.

3. Treatment

    a. Telehealth nurse will determine what types of medical services are required based on established clinical protocols.

b. Medical treatment will be provided by the patient's family doctor unless emergency services are required. In which case, the patient will go to their local emergency department.
c. Clinical information will be forwarded as required to family doctor or emergency department personnel via phone report with telehealth nurse followed by faxing of appropriate patient data.
d. Follow-up communication will be facilitated by the telehealth nurse.

Referrals

1. Family doctor referral

   a. The telehealth nurse will first complete a nursing assessment of the patient.
   b. The telehealth nurse will contact the family doctor via phone to communicate her concerns and, if applicable, fax required chart data i.e. 3 lead ECG (having obtained prior informed written consent to do so).

2. Emergency department referral

   a. The telehealth nurse will first complete a nursing assessment of the patient.
   b. The telehealth nurse will contact the triage nurse in the patient's local emergency department and give her/him a complete report. Pertinent clinical data will be faxed (if the triage nurse is unavailable, report will be given to the charge nurse or MD).

Follow-up

1. The nurse will chart all pertinent data on chart upon sending patient to the local emergency department.
2. Any return information received from remote clinicians or family physicians will be charted as such. i.e. remote RN stated "…….".
3. A clear indication of patient's status on Home Monitoring Program will be charted to facilitate legal coverage of Atlantic Health Sciences Corporation. i.e. patient discharged from program.
4. If the patient has been admitted to their local hospital, the telehealth nurse will contact the patient's nurse for follow-up information and document according to hospital procedure until the date of their predetermined discharge from home monitoring program.

Education

1. The telehealth nurse will continue to advise/teach the patient and caregiver on such issues as diet, activity, medications, rehab, activities of daily living, sternal protection, potential complications and recovery expectations.
2. On the patient's last home visit, they will be provided with the phone number to the Cardiovascular Health and Wellness program in their local area, and advised to contact their family MD or local ER with any further concerns.

Documentation

1. Upon completion of each virtual visit the nurse will document all pertinent information in the patient's chart as well as in the on call book.
2. When a patient pages the nurse during off duty hours, the nurse will document the patients concerns and any advice given in the "on call progress notes".
3. A clear indication of patient initiating call will be made in the appointment book. Also, as to whether the call was made after hours, during working hours and what type of clinical presentation.

Patients initiating call not on the program will be documented as above only using the acronym NOP for "not on program". This will facilitate statistical information gathering on this population.

Telemonitoring Patient Satisfaction Survey

Purpose

A survey will be completed by patients and/or caregivers as part of the telemonitoring evaluation process

Policy

The survey will be mailed or delivered to patients and/or caregivers

Procedure

1. The patient and/or caregiver will be requested to complete the satisfaction survey
2. _____(agency name) will mail or hand deliver the survey to the patient and/or caregivers when the monitor is discontinued
3. The information form the survey will be used as part of the evaluation process for telemonitors

4.3 - Protocols

4.3.1 – Disease Management Protocol

Program/Project Name
Disease Management Protocol

All patients enrolled in the Program/Project name using the in-home messaging device will have:

1. Assignment of an appropriate dialogue, single, dual, or trimorbid that reflects their primary medical problem. If these problems should change then the appropriate dialogue will be substituted.

2. Monitoring of their questions and answers daily, during the administrative work week

3. Daily review of "red flags" to determine need for intervention. The (staff member) will assess the red flags for individual patterns and contact the veteran and/or primary care provider as warranted. Referrals to the primary care provider or evaluation area will be made for a significant change in condition.

4. A follow-up phone call whenever there has been at least three consecutive days without a response to the daily questions. Patients are instructed to contact the program office if they will be out of town or otherwise unable to answer their daily questions.

5. A quarterly progress note with co-signature by their primary care provider and other progress notes or consults as appropriate.

6. Preventive maintenance per vendor contract. The in-home messaging device does not meet accreditation criteria for inclusion in the preventive maintenance program and is so tagged by Biomedical Engineering.

7. Appropriate disinfection of their device in accordance with the vendor contract for such care.

4.3.2 – Audio-Video Telemonitoring Protocol

Program/project Name
Audio-Video Telemonitoring Protocol

All patients enrolled in the Program/Project using audio-video home teleheath equipment will have:

1. Been selected due to their high-risk medical problems that would benefit from frequent monitoring with peripheral biometric devices or have psychosocial issues that might benefit from frequent face-to-face contacts.

2. Scheduled visits at their convenience and based upon the severity of their disease state.

3. Regular review of their symptoms to determine need for intervention. The (staff member) will assess symptoms and contact the primary care provider as warranted.

4. Consideration to change to other technology if they request to do so and have been assessed as needing more or less monitoring due to a change in their health.

5. A quarterly review note with signature by their primary care provider.

6. Preventive maintenance per agency policy. The audio-video unit (videophone) does not meet the accrediting body's criteria for inclusion in the preventive maintenance program and is so tagged by Biomedical Engineering. The audio-video unit with biometric devices does meet inclusion criteria and is tagged with a green preventative maintenance sticker. Maintenance of their home telehealth equipment will happen at every televisit, and their home unit will be inspected per Biomedical Engineering criteria that is at least annually.

7. Appropriate disinfection of their home telehealth unit in accordance with vendor specifications. All telemonitors with biometric devices will be sanitized per Biomedical Engineering.

4.3.3 - Telemonitoring: Monitoring Guidelines

Telemonitoring: Monitoring Guidelines

Purpose

These guidelines are designed to provide consistency in the way telemonitor patients are evaluated and monitored. They also provide a framework for triaging patients on a telemonitor while ensuring standards of practice are being followed.

These are only recommendations. Nurses assessing and evaluating telemonitor patients are expected to use their own clinical judgment to determine appropriate care for the patient

Vital Sign Parameter Guidelines

Blood Pressure	**Systolic >140 or <90**		**Diastolic >85 or <50**
Heart Rate	**>90 or <50**	**or**	**15 above or below baseline**
Weight	**>3lbs in 24hrs**	**or**	**5lbs in 1 wk**

Protocols for Alarms

- Green: Patients vitals are within normal limits- review
- Yellow: Incomplete data received from patient- call patient and instruct to retest
- Red: Patients vitals are outside set parameters
  - Review client trends
  - Call patient
  - Assess current health status
  - Review proper use of equipment
  - Request for patient to retest if necessary

- If patient is non-symptomatic:
  - Review readings
  - Reinforce previous teaching
  - Review disease process
  - Assess for changes in POC and follow up appointments with MD

- If patient is symptomatic with normal trends:
  - Perform telephone health assessment
  - Assess if pt needs prn visit or can wait until scheduled visit
  - Contact case manager if necessary
  - Contact MD if necessary

- If patient is symptomatic with abnormal trends:
  - Perform telephone health assessment
  - Call case manager to discuss plan of care

- Assess for prn visit
- Contact MD
- Assess if patient needs office visit or emergent care

Telephone Triage should include but is not limited to:

- Medication compliance and schedule
- Time of transmission (before or after medication)
- Proper placement/use of equipment
- Disease process
- Stress/anxiety
- Consistency of clothing when obtaining wgt

4.3.4 - Telecare Cardiac Plan of Care

TELECARE CARDIAC PLAN OF CARE

PROBLEM LIST
KNOWLEDGE DEFICIT RELATED TO DISEASE PROCESS:
INSTRUCT ON DISEASE PROCESSES, MANAGEMENT AND S/S OF COMPLICATIONS RELATED TO CHF.
NOTIFICATION TO HEALTH CARE TEAM AND PHYSICIAN OF SIGNIFICANT CHANGES IN CONDITION.

FLUID VOLUME MANAGEMENT
EDUCATION ON MANAGEMENT OF FLUID RETENTION, COMPLIANCE TO LOW SODIUM DIET, MEDICATIONS, ELEVATION OF EXTREMITIES AND NOTIFICATION TO PHYSICIAN OF S/S OF FLUID RETENTION.

MEDICATION MANAGEMENT
EDUCATION ON MEDICATION MANGEMENT UTILIZING MED BOX AND WRITTEN SCHEDULE.

FALL RISK PREVENTION
EDUCATION ON FALL PREVENTION, MAINTAIN CLEAR PATHWAYS, USE OF ASSISTIVE DEVICES, ENERGY CONSERVATION.

3 PRN VISITS FOR CARDIAC COMPLICATIONS.

GOALS
PATIENT WILL VERBALIZE UNDERSTANDING OF DISEASE PROCESS AND WHEN TO CALL THE HEALTHCARE TEAM
PATIENT WILL VERBALIZE UNDERSTANDING OF MEDICATION MANAGEMENT PROGRAM
PATIENT WILL DEMONSTRATE SYSTEM FOR SYMPTOM MANAGEMENT

REHAB POTENTIAL GOOD FOR PT TO IMPROVE IN KNOWLEDGE OF MANAGEMENT OF CHF AND DIABETES AND REPORT SIGNIFICANT CHANGES IN CONDITION TO PHYSICIAN. PT WILL DEMONSTRATE COMPLIANCE TO MEDICATION AND INDEPENDENCE IN MANAGEMENT OF CHF AND DIABETES.

DISCHARGE PLAN TO SELF WHEN PT BECOMES INDEPENDENT WITH MANAGEMENT OF DISEASE PROCESSES OF CHF AND DIABETES

TELECARE MONITORING NURSE PLAN OF CARE
DISEASE MANAGEMENT RELATED TO CHF
ASSESS AND EDUCATE MEDICATION MANAGEMENT SYSTEM-PT USES MED BOX WITH WRITTEN SCHEDULE
MONITOR WT, VITALS DAILY AND PRN RETESTS
BP SYSTOLIC 90-130
BP DIASTOLIC 50-80
PULSE 60-100
WEIGHT NOTIFY MD OF WT GAIN 3 LBS IN 3 DAYS
O2 SAT 92-100%
TRENDS REPORT TO PHYSICIAN MONTHLY AND BEFORE MD APPTS
PROBLEM LIST MANAGEMENT:
EDUCATE PT ON NORMAL VITAL SIGNS
CHF: EDUCATE PT TO MONITOR SELF FOR EDEMA; SOB OR CHEST PAIN.
HELP PT DETERMINE IF CHEST PAIN IS FROM ANGINA OR VOLUME OVERLOAD.
EDUCATE PT ON WHEN TO CALL SN OR MD FOR CHANGES OF STATUS,
EDUCATE PT ON LOW ADDED SALT DIET AND CORRELATE WT GAIN WITH SODIUM INTAKE.

Example of Daily Work Schedule

Time	Calls	End Date	Time	Calls	
8:05	**PATIENT "A"**	MAR 2	***(8:05)***	**PATIENT "L"**	MAR 3
8:45	**PATIENT "B"**	MAR 1	***(8:45)***		
9:30			***(9:30)***	PATIENT "N"	MAR 4
10:10	**PATIENT "D"**	MAR 4			
10:55	**PATIENT "E"**	FEB 28			
11:35	**PATIENT "F"**	FEB 28	TEACHINGS		
12:15	**LUNCH**		**10:00**	TEACHING #2FOR PATIENT"R"	
1:15	**PATIENT "H"**	MAR 2	**11:00**	TEACHING #2 FOR PATIENT "S"	
1:55	**PATIENT "I"**	MAR 3	**1:00**	TEACHING # 2 FOR PATIENT "T"	
2:35			**2:00**	TEACHING #1 FOR PATIENT "U"	
3:15	**PATIENT "K"**	MAR 1	**3:00**	TEACHING #1 FOR PATIENT "V"	

RM #	NAME	*POD	DR	TIME	#1	#2	Sys	C S T	C S M	D M	RECRUITS
9	PATIENT "O"	**4**	B	2:35	*	*	#10	*	*	*	**RECRUIT ALL 3 OF TOMORROWS SURGERIES**
8A	PATIENT "P"	**4**	P	**11:35**	*	*	#05	*	*	*	**RECRUIT 1 OF WEDNESDAY'S SURGERIES**
6B	PATIENT "Q"	**4**	F	10:55	*	*	#04	*	*	*	
6D	PATIENT "R"	**3**	F	3:15	*		#14	*	*	*	
8B	PATIENT "S"	**3**	B	8:45	*		#07	*	*	*	
11	PATIENT "T"	**3**	P	9:30	*		#19	*	*	*	DISCHARGES
14	PATIENT "U"	**2**	F	1:15			#08	*	*	*	**PATIENT "L"**
12	PATIENT "V"	**2**	B	8:05			#02	*	*	*	**PATIENT"M"**
											PATIENT "N"

*Post op day

4.4.2 – Physician Letter

Physician Letter

Date:

Dear Dr. _____

Your patient _____ is participating in the *Hospital – Home Monitoring Program* formerly known as the *VITAL* Project. This program has now been incorporated into our routine care for our cardiac surgery patients. We hope that this program will provide a little extra support for patients for the first few days at home.

Patients will have a direct link to the NB Heart Centre 24 hours a day for this time period. Your patient will be contacted daily for approximately one week by a specially trained cardiac nurse. Using the program equipment, this nurse will take your patients' blood pressure, pulse O_2 saturation, 3 lead ECG, and visualize their surgical incisions. The nurse will also question your patient as to how they are generally feeling. In addition, the patient can also call the nurse at anytime for questions or concerns.

Specific protocols have been written so that if your patient is experiencing a medically related problem, the nurse will advise your patient to contact your office or go to their local emergency department, whichever is appropriate for that problem.

Feel free to contact us at (___) ___-____ if you have any questions, concerns, or would like further information.

Regards,

4.4.3 – Home Telehealth Services Patient Risk Assessment Tool

Home Telehealth Services Patient Risk Assessment Tool

Patient Name:_____Episode number:_____
Referral Date:_____Date:_____ Initial Reassessment* (see below)

Patient Assessment for Eligibility	YES	NO	COMMENTS
Diagnosis of Chronic disease prone to exacerbation Specify:			
Unstable Vitals or Labs-Specify:			
Requires frequent monitoring and symptom management			
Recent or history of multiple hospitalizations/E.R. visits within 60 days			
Recent or history of frequent and/or unscheduled physician visits			
Resides in a medically underserved (i.e., no primary doctor, clinic follow- up, limited insurance accepted)			
Medication changes occurred within the last 60 days?			
Recent or history of PRN home care visits			
Is patient non-compliant with medical appointments?			
Has a history of non-compliance adhering to disease management recommendations?			
Does patient refill prescriptions accordingly?			
Does patient take medicine as directed and prescribed?			
Alert and oriented			
Able to comprehend and follow directions			
Has decreased endurance			
No vision deficits			
Able to read			
Has manual dexterity			
Patient lives alone?			
Patient has difficulty traveling to and from home for med ical appointments (i.e. needs HHA to escort, safety concerns, decreased endurance)			
*** FOR REASSESSMENT ONLY**			
Have any threshold violation occurred for the above patient within the last 60 days?			
If yes, were PRN home care visits performed?			
How many?			
Has the threshold violations resulted in treatment changes?			
if yes, specify (i.e. medicine, visit frequency)			
Telehealth Nurse Manager Signature			**Date:**

Home Telehealth Clinical Assessment

Purpose: To screen patients for appropriate admission to the telehealth program. In person assessment of patients is required to complete this checklist.

Patient Information

Name of Patient		ID
Address		Phone number
Primary Diagnoses	Secondary Diagnoses	
Reason for admission to home care		
Case Manager/Primary Nurse		
Physician		

Patient Assessment

□ Requires two or more skilled nursing visits per week
History of□ frequent unplanned ED/Clinic visits and/or one hospitalization in the past six months
Recent□ nursing home stay for rehabilitation (M0175)
Living situation: With family;□ caregiver Alone□ Alone, may need assistance□ with equipment (MO340, M0350)
Difficulty leaving home□ for medical appointments – due to disability or geographic location (M0690, M0700, M0730)
□ History of difficulty adhering to disease management recommendations
Rural□ or difficult to reach geographical living situation
□ Requires ongoing symptom management related to dyspnea, fatigue, pain, cough, edema, medication side or adverse effects (M0420, M0430, M0490)
Requires assistance with□ medication management (8 or more medications, new complex medication regimen or needs instruction on use of a new medication)

□ Multiple or new co-morbidities	
Clinical indicators and diagnoses: (M0230, M0240, MO246) CHF□ (428.0-428.9) Other□ Cardiac (402, 410, 414, 427, V12.5) COPD□ (491.2, 492.8, 496) □ Diabetes (250) Wound□ Care (M0440, M0445, M0468, M0482) □ Depression (296.2, 296.3, 311, V79.0) □ Mental Health (290-299) □ Maternal/Child Health (V20-V29)	□ HIV/AIDS (042, V08, 795.71) (or any HIV related condition) □ Individual with Disabilities Any cancer or□ related condition that requires monitoring

Patient's Functional Abilities

Able to read and safely connect to or use a telemonitoring unit	YES □ NO □
Able to understand directions	YES □ NO □
Can patient see and hear adequately to use monitor	YES □ NO □
Adequate manual dexterity	YES □ NO □
Able to perform & communicate the results of self-monitoring activities	YES □ NO □
Patient agreeable to technology	YES □ NO□

Recommendation:

Telehealth recommended: Video □ Non Video □

Telehealth not recommended/not appropriate [explain]

_____

Notes_____

_____

_____

_____

Clinician Signature Date

Home Telehealth Discharge Note Template

Date:

Re.: (name) Program Enrollment

Dear _____,

This letter is to inform you that you have been disenrolled from the (name) Program due to one of the following reasons:

__Moved from the service area

__ No telephone service

__ Unable to contact

__ No longer receiving primary care at the healthcare organization name

__ No longer in need of home telehealth services

__ Patient/caregiver no longer desires to use (name of technology)

___Enrolled in hospice program

You will continue to receive primary care from your assigned team. If you have any questions, please call us at (phone number)

Sincerely,

Home Telehealth Team

Section 5 - Human Resources

5.1 - Program Implementation – Staff Buy In

In developing and implementing an effective telehealth care program your strategy for implementation will depend on what the culture of your organization is and how significant a change this will be for your organization.

A careful review should be made prior to program implementation to determine:

- How the adoption of technology will affect your staff;
- Organizational commitment to education and training, including projected learning curve for employees and clinicians;
- Documentation for the new processes and procedures;
- Technology support for clinician; and
- What forms of communication will be utilized between the office and field staff to keep everyone "in the loop"

Considering that most organizational change occurs from the top down it is essential that, while the change may be occurring from the top down, and to maximize buy in, the staff need to believe that they are an integral part of the decision making process. You can include your staff in telehealth disease management program development, by:

- Asking employees/clinicians for their ideas and solutions to possible problems;
- Including staff early in the change process;
- Early identification of those employees/clinicians who are ready to adopt change and get their buy in first. They can assist with being the organization champions; and
- Ensuring that program requirements are clear, that they can be validated and confirmed.

It is essential that the staff understand that the technology is being introduced because the organization believes that its usage will truly have a positive impact on the quality of the patient care delivery system

Questions that should be asked and explored prior to introduction of technology to enhance buy in include:

- How will this change benefit our agency, our staff and its customers?
- How will this change be supported by Leadership?
- Will the implementation of the technology support our mission?
- Is the timing right?

Make sure to involve everyone affected by the change in the process.

The following examples are provided to help meet accreditation, credentialing & privileging requirements of the agency or organization using home telehealth services. Each agency or healthcare organization may have its own rules and regulations governing credentialing and privileging of its providers. This process also should apply to those individuals who are delivering home telehealth services as well. Sample orientation, training, and competency documents are provided below.

When hiring staff for a home telehealth program a dedicated training curriculum should be in place to assist staff. If staff selected are already within the organization, their job descriptions need to include the specific requirements and responsibilities expected of home telehealth service providers. Choosing staff that is enthusiastic, self-motivated, and open-minded to change would help move your program forward.

Including staff in the process of selection and purchasing equipment for the program is key to success. When staff is part of the decision-making process, they are more likely to see the big picture and accept the technology.

5.2 - Competency Elements

These are examples of potential elements to include in developing a competency for your telehealth clinicians:

- Integrates home telehealth into practice for assessment, diagnoses, identification of problems and outcomes, development of interventions for a treatment plan, evaluation and need for referrals.

- Establishes a therapeutic relationship with the patient that transcends the technology.

- Assesses and adjusts communication techniques to maximize the clinician-patient relationship.

- Assesses and implements technologies needed to meet the goals mutually established between clinician and patient.

- Demonstrates competent knowledge level of specific telehealth technology being employed for patients.

5.3 - Tools

5.3.1 – Functional Statement for Continuing Care Telehealth Nurse

FUNCTIONAL STATEMENT, PERFORMANCE STANDARDS, AND REQUIRED COMPETENCIES FOR: CONTINUING CARE/CASE MANAGEMENT TELEHEALTH STAFF NURSE

Functional Statement

SCOPE: Demonstrates leadership in delivering and improving holistic care through collaborative strategies with others in the management of patients through the continuum of care.

DIMENSION I: PRACTICE				
STANDARD	**COMPETENCY**	**MET**	**NOT MET**	**OUTCOME/COMMENTS**
Applies the nursing process at the unit/team/work group level to improve care. Demonstrates leadership by involving others in improving care.	• Performs comprehensive health history review of system, physical, psychosocial assessment. • Develops, updates, and revises the plan of care including home telehealth services. Serves as a resource to staff in developing the plan of care. • Regularly utilizes data from other disciplines in assessing and planning care. • Organizes and prioritizes care for patients and for those assigned to supportive nursing staff. • Demonstrates a high level of skill in carrying out nursing and physician orders, individualizing care based on sound clinical judgment. • Utilizes established standards of care, standards of practice, policies, and procedures. • Serves as a resource to others. • Incorporates age specific concepts into the assessment and care of patients.			
Leads patient and family education	• Includes patient/family in establishing plan of care, treatment goals and discharge plan. • Teaches patient and family effectively, based on patients identified learning needs. Serves as a role model to others in teaching skills. • Initiates and leads family meetings involving			

	appropriate disciplines. • Performs assessment of patient care needs and prepares patients and their families requiring community based or hospital based services • Prepares patient referrals to community agencies and nursing care facilities to ensure continuity of qualified comprehensive care. • Accurately documents and reports care.			
Promotes and participates in the interdisciplinary approach to planning for patient care.	• Applies knowledge and understanding of community resources, services and reimbursement systems. • Serves as liaison with home care agencies, hospices, nursing homes, rehabilitation centers, Meals on Wheels and others for continuing care of patients receiving services. • Initiates and participates in multidisciplinary discharge planning conferences and ward discussions about post-hospital care for patients. • Makes ward rounds to assess patient needs and acts as a resource to all disciplines connected with the discharge planning process. • Provides information and recertification of continuing care orders for patients receiving community agency services and re-evaluates continuing care needs. • Expedites and facilitates obtaining needed medication, supplies and equipment in selected cases.			

DIMENSION II: QUALITY OF CARE				
STANDARD	**COMPETENCY**	**MET**	**NOT MET**	**OUTCOME/COMMENTS**
Initiates/participates in performance improvement activities that result in improved outcomes.	• Takes a leadership role in performance improvement activities. • Evaluates the quality and appropriateness of patient care. • Serves as a role model to others by teaching strategies for modifying practice based on performance improvement finding/recommendations. • Utilizes critical thinking skills in identifying and resolving problems that impact on patient care. • Participates in multidisciplinary patient care meetings.			

DIMENSION III: PERFORMANCE				
STANDARD	**COMPETENCY**	**MET**	**NOT MET**	**OUTCOME/COMMENTS**
Evaluates practice of self and others using professional standards, relevant statutes and regulations.	• Independently identifies areas of strengths and professional practice developments. • Formulates professional goals. • Develops a plan to meet those goals. • Utilizes current nursing literature, workshops and seminars to enhance professional development.			
Takes action to improve performance.	• Engages in self-performance appraisal and of others on a regular basis. • Evaluates and guides performance of personnel who provide patient care. • Serves as a role model in fulfilling commitments. • Independently seeks out and accepts additional responsibilities.			
Serves as a model within Community Health nursing	• Acts as a resource/consultant to all hospital disciplines relative to educating them about the continuing care and case management processes.			

	• Acts as a resource/consultant to community agency personnel about the VHA System and facilitates care for the veteran patient. • Adheres to Nursing Service and Medical Center philosophies, policies, procedures and communicates/interprets them to others.			

DIMENSION IV: EDUCATION/CAREER DEVELOPMENT				
STANDARD	**COMPETENCY**	**MET**	**NOT MET**	**OUTCOME/COMMENTS**
Acquires knowledge and skills to in expertise in area of practice.	• Utilizes education resources. • Reads professional journals and incorporates relevant information into practice. • Completes all mandatory reviews.			
Participates in educational activities to improve clinical knowledge and enhance role performance.	• Attends continuing education programs. • Identifies needs for staff education. • Presents unit in-services. • Provides meaningful learning experiences for students and orientees.			

DIMENSION V: COLLEGIALITY				
STANDARD	**COMPETENCY**	**MET**	**NOT MET**	**OUTCOME/COMMENTS**
Educates colleagues and/or students.	• Demonstrates courteous, effective interpersonal skills. • Serves as a role model, interacting in a professional manner utilizing effective verbal, written, and listening skills. • Facilitates communication and decision making among members of the health care team. • Promotes mutual respect among colleagues/coworkers and community health agencies.			
Serves as preceptor or mentor.	• Serves as a preceptor to new staff. • Serves as a consultant to others in area of			

	expertise. • Evaluates results of own teaching and • modifies practice accordingly.			

DIMENSION VI: ETHICS				
STANDARD	**COMPETENCY**	**MET**	**NOT MET**	**OUTCOME/COMMENTS**
Supports and enhances patient self-determination.	• Incorporates the ANA Code of Ethics into practice. • Demonstrates personal and professional integrity. • Serves as a patient advocate.			
Serves as a resource to patients and staff in addressing ethical issues.	• Initiates action to resolve ethical and legal issues in practice. • Maintains ADP Security. • Maintains patient confidentiality. • Participates in Ethics consultations.			

DIMENSION VII: COLLABORATION				
STANDARD	**COMPETENCY**	**MET**	**NOT MET**	**OUTCOME/COMMENTS**
Uses group process to identify, analyze and resolve care problems.	• Demonstrate leadership and decision making skills. • Assesses patients requiring nursing home placement and participates in planning for extended care. • Elicits cooperation and facilitates collaboration. • Contributes to unit functions through active participation at meetings. Review • minutes of meetings unable to attend. • Collaborates with the multidisciplinary team. • Initiates referrals for all aspects of patient care related to continuity of care as needed. • Utilizes critical thinking skills in resolving conflicts. • Assists veterans, family and staff in coping with			

	stressful situations. • Initiates projects to improve care, eliciting cooperation of others. • Attends and participates in Nursing Service Committees, unit level programs as representative, or facilitates the work of committees or programs at the unit level. • Demonstrates flexibility in meeting needs of continuing care services.			

DIMENSION VIII: RESEARCH				
STANDARD	**COMPETENCY**	**MET**	**NOT MET**	**OUTCOME/COMMENTS**
Uses a body of research to validate and/or change work group.	• Incorporates current research findings in daily practice in developing unit in-services. • Identifies, analyzes and resolves patient care problems resulting in improved care. • Recognizes the need for change; develops viable alternatives. • Demonstrates the ability to facilitate change.			

DIMENSION IX: RESOURCE UTILIZATION				
STANDARD	**COMPETENCY**	**MET**	**NOT MET**	**OUTCOME/COMMENTS**
Identifies and assesses resource utilization and safety issues.	• Initiates effective actions in emergencies (Code 5, Code 2, RACE) • Demonstrates ability to order and/or use equipment safely and effectively. Reports unsafe medical devices. • Practices universal precautions. • Utilizes personal protective equipment appropriately. • Recognizes situation where unsafe practices are occurring and takes immediate action to resolve. • Reports physical and environmental hazards.			

	• Utilizes cost-effective preventative techniques in patient care and demonstrates ability to apply Medicare/Medicaid guidelines in determining home plan and care. • Demonstrate ability to apply Fee Basis home health reimbursement directives in determining home care plan. • Demonstrates ability to implement home telehealth as appropriate. • Demonstrates ability to apply Homemaker/Home Health Aid reimbursement directives in determining home care plan. • Adhere to all safety and health standards, regulations and work practices. • Demonstrates knowledge of electrical safety and emergency plans. • Demonstrates knowledge of role in internal and external disaster plan. • Keeps Program Director, Continuing Care, appraised of care, services approved and paid for by VA CT			

_____

Employee Date

_____

Head Nurse/Manager Date

Revised 06/02

Competency: Care Coordinator
Community Care Coordination Service

COMPETENCE ASSESSMENT

Facility: _____ [date]

HIGH PERFORMANCE DEVELOPMENT MODEL - CORE COMPETENCIES

Position-Specific Competencies including TECHNICAL SKILLS

Initial Assessment ___Ongoing Assessment _____ (Check One)

Name: _____

Service/Section:_____ _____ **Position/Grade:** _____

VALIDATION: MR-Medical Record; DO- Direct Observation; T- Test; SCL-Skills Check List; S- Simulation; PS- Patient Survey; R Rounds
EF- Employee Feedback; V- Verbalize; D-Demonstration; PR-Peer Review; RD- Return Demonstration
NOTE: Include equipment competencies (if applicable), safety, infection control, etc. Use competencies which are high risk, problem prone, and/or low volume.

COMPETENCY LEVEL: E=Education/Training Required; S=Competent - Self-Directed Education/Training may be desired; C= Competent Through Education/Training/Exp

COMPETENCY	BEHAVIORS	SELF ASSESSMENT		COMP LEVEL			Validation Methods/Comments/ Supervisor's Initials & Date
		I feel I have the knowledge and ability to perform these functions	I request additional education and/or experience	E	S	C	
Infection Control	*Understands/applies proper standard precautions*						
Environment of Care	*1.Understands/applies proper Safety Management*						
	2. Understands/applies Life Safety management/fire protection procedures						
	3. Understands/applies Hazardous material/MSDS/Waste management						
	4. Understands/applies Emergency preparedness						
	5. Understands/applies Security management *6. Understands/applies Utility systems failure response*						
Emergency Response	*Understands/applies Emergency Codes*						
Information Management	*1. Understands/applies proper Use of VISTA and/or PC software* *2. Understands/applies proper ADP Security* *3. Understands/applies Confidentiality of patient & employee information*						

COMPETENCE ASSESSMENT

Facility: _____

HIGH PERFORMANCE DEVELOPMENT MODEL - CORE COMPETENCIES
Position-Specific Competencies including TECHNICAL SKILLS

(Continued)

COMPETENCY	BEHAVIORS	SELF ASSESSMENT		COMP LEVEL			Validation Methods/Comments Supervisors initials & Date
		I feel I have the knowledge and ability to perform these functions	I request additional education and/or experience	E	S	C	
CLINICAL PRACTICE: Uses a systematic process to assess patients and facilitate care.	Provides leadership in the assessment, planning, intervention, evaluation and revision of a plan of care for patients integrating appropriate technologies.						
	Provides initial and ongoing assessment of patients to identify needs issues, care goals and appropriate resources necessary for care management.						
	Assesses and adjusts communication techniques to maximize the clinician-patient relationship.						
	Identifies resources and critical factors for achieving desired outcomes for discharge, post hospitalization recovery and health maintenance/improvement.						
	Sets clinical care goals, short and long term, in collaboration with patient, provider(s), and family members.						
	Functions as a systems coordinator for the plan of care; monitors progress through the expected hospital course and intervenes as appropriate to facilitate achieving patient outcomes within anticipated timeframes. Coordinates care and discharge planning with the patient's primary care provider and team.						

COMPETENCY	BEHAVIORS	SELF ASSESSMENT		COMP LEVEL			Validation Methods/Comments Supervisors initials & Date
		I feel I have the knowledge and ability to perform these functions	I request additional education and/or experience	E	S	C	
CLINICAL PRACTICE (con't)	Collaborates with patient and care providers in any and all settings where care is being provided to evaluate and update changes in the therapeutic plan of care.						
	Recognizes complex situations that impact patient care and intervenes, using sound judgment, professional attitude and appropriate channels.						
	Maintains a working knowledge of resources available in the community. Seeks out information from community resources toward improvement in patient outcomes.						
	Appropriately documents own interventions and reviews appropriate health team documentation of patient treatment plans. Involves the primary care provider when indicated to treat changes in the patient's condition						
	Maintains "threshold" competencies by attaining satisfactory behaviors for: attendance, completion of mandatory training, adhering to dress code, wearing ID badge, practicing infection control and safety.						
QUALITY OF CARE: Provides leadership in improving the quality and effectiveness of patient care.	Develops and leads interdisciplinary teams to improve organizational performance. Recognizes impediments to health care delivery and uses problem-solving/ performance improvement approaches to improve outcomes.						
	Participates in performance improvement activities related to the service line quality improvement process.						
	Evaluates need and initiates interdisciplinary ad hoc committees/process action teams for constructive problem solving.						

COMPETENCY	BEHAVIORS	SELF ASSESSMENT		COMP LEVEL			Validation Methods/Comments Supervisors initials & Date
		I feel I have the knowledge and ability to perform these functions	I request additional education[11] and/or experience	E	S	C	
QUALITY OF CARE (cont.)	Tracks and trends issues related to care delivery and role implementation.						
PERFORMANCE Implements standards of professional practice to meet regulations and standards of accrediting bodies.	Develops and implements interdisciplinary standards of practice and care at the station level for the Care Coordinator role.						
	Participates in VISN-wide standards development for the role. Conducts self-reviews of current practice and seeks constructive feedback from peers.						
	Takes accountability for exchange of ideas to help others in the VISN learn more about care coordination and the use of technology for home care.						
EDUCATION Implements an educational plan to meet changing program needs; maintains current knowledge.	Identifies personal learning needs and assumes responsibility for own professional growth.						
	Develops and implements an educational plan to enhance program development and professional performance. Attends all mandatory training.						
	Develops, coordinates and presents educational programs toward improving productivity, patient outcomes and treatment modalities.						
	Demonstrates equipment competencies in setting up, using, and troubleshooting technology equipment used in the telehealth project. Provides training for ancillary staff or others in the facility to learn about telehealth.						

COMPETENCY	BEHAVIORS	SELF ASSESSMENT		COMP LEVEL			Validation Methods/Comments Supervisors initials & Date
		I feel I have the knowledge and ability to perform these functions	I request additional education [11] and/or experience	E	S	C	
EDUCATION (cont.)	Serves as a preceptor for students seeking learning experiences on both the undergraduate and graduate level and evaluates outcomes.						
COLLEGIALITY/ Coaches colleagues in team building; shares expertise.	Leads and works collaboratively with interdisciplinary groups in a cohesive manner.						
	Facilitates open dialogue among peers, supervisors and staff.						
	Communicates effectively with patients, families/significant others and the health team members.						
ETHICS	Conducts self in a professional manner in many clinical and administrative settings.						
Teaches and assists others in ethical matters.	Provides leadership to the interdisciplinary team in identification and addressing of ethical issues surrounding care management and professional practice.						
	Maintains the privacy, confidentiality, and security of the patient's medical records.						
	Builds an atmosphere of trust with patients and caregivers; is an advocate for patient rights, developing an ongoing relationship toward improved outcomes of care.						
	Ensures patients are informed of their choices regarding use of telehealth.						
	Obtains informed consent from the patient to permit the telehealth equipment in the home and collect data to assess outcomes of care.						
COLLABORATION Uses the group process to identify, analyze, and resolve care problems.	Develops and leads interdisciplinary groups as appropriate.						
	Establishes ongoing relationships with professional/health related groups within the community.						
	Initiates appropriate referrals and consultations to						

	other clinical services.						
COMPETENCY	**BEHAVIORS**	**SELF ASSESSMENT**		**COMP LEVEL**			**Validation Methods/Comments Supervisors initials & Date**
		I feel I have the knowledge and ability to perform these functions	I request additional education and/or experience	**E**	**S**	**C**	
COLLABORATION (cont.)	Presents accurate information about the Telehealth project in interdisciplinary and public forums, without violating patient confidentiality.						
	Fosters good public relations when interpreting philosophy, policies/procedures, goals and objectives to staff, patients and the public.						
RESEARCH	Bases practice on current knowledge/ trends/ technological advances and/or research findings (Review of the Literature).						
Collaborates with others in research activities to improve care	Uses systematic inquiry for problem-solving and uses results of evaluations to improve patient care.						
	Participates in interdisciplinary research-related activities as appropriate.						
RESEARCH (con't)	Manages data for evaluation of patient care outcomes and utilization review as related to the project.						
	Makes contributions to the profession by publishing, being a member of a task force or committee, consulting, developing educational media, scientific inquiry, or using creative approaches to enhance the quality of tele-care.						
RESOURCE UTILIZATION	Advocates fiscal responsibility in the management of patient care through effective utilization of resources.						
Manages program resources to facilitate safe, effective, and efficient care.	Demonstrates effective program resource management skills (including documenting and reporting).						
	Suggests ways to improve quality while remaining fiscally responsible.						
	Ensures that a safe environment is maintained for patients and staff.						
	Manages the home placement of available telehealth equipment for the best utilization by the patients enrolled in the Care Coordinator's panel						

VA Competency: Care Coordinator
Community Care Coordination Service

COMPETENCE ASSESSMENT

HIGH PERFORMANCE DEVELOPMENT MODEL - CORE COMPETENCIES
Position-Specific Competencies including TECHNICAL SKILLS
AGE SPECIFIC COMPETENCIES

Initial Assessment _____ **Ongoing Assessment**_____ **(Check One)**

NAME: _____ **Service/Section:** _____ **Grade:** _____

The following VALIDATION method codes may be used: T-Training Session; A-Article Reviewed; H-Handout Read; MR-Mandatory Review; P-Policy Review; D-Demonstration; RD Return Demonstration; I-Inservice; F-Feedback; OR-Orientation; PR-Peer Review;OB Observation; O-Other (specify)

COMPETENCY LEVEL: E= Education/Training Required; S=Competent – Self-Directed Education/Training may be desired; C= Competent Through Education/Training/Experience

COMPETENCY/ OUTCOME (Age Specific Considerations)	BEHAVIORS *If not applicable note "N/A" in Comments Section	SELF ASSESSMENT		COMP LEVEL			Comments & Supervisor's Initials
		I feel I have the knowledge and ability to perform these functions	I request additional education and/or experience	E	S	C	
1. Communication 2. Diagnostic 3. Medication Equipment 4. Psycho-social 5. Growth and Devel. 6.Food/nutrition 7. Assessment	*a. Interacts in a respectful manner, considerate of age and physical abilities (i.e., sight and hearing needs).* b. Provides assistance to individuals in a manner that takes into account their special needs or age related needs.						
Position Specific: Uses knowledge of age-related needs of patients throughout the life span through the continuum of care: from early adulthood(18-44), through middle adulthood(45-59) and late adulthood(60+)	Recognizes impact of age-specific care needs and incorporates this into the assessment process. Also incorporates these age-specific needs into care as reflected by modification of treatment plans and attainment of excellent communication in all activities, especially in patient education and obtaining informed consent for telehealth in the home.						

5.3.4 – Home Telehealth Nurse Orientation Checklist

Employee Name _____ **Supervisor** _____

	Supervisor Initials	Employee Initials	Date
1. Introduction to:			
( ) Supervisory staff			
( ) Clerical staff	_____	_____	____
( ) Peers			
( ) Interdisciplinary team members	_____	_____	____
2. Review of:			
( ) Position description/Functional statement	_____	_____	____
( ) Performance standards/competencies	_____	_____	____
( ) Job responsibilities	_____	_____	____
( ) Productivity standards	_____	_____	____
( ) Supervisory expectations	_____	_____	____
( ) Clinical privileges/Scope of practice	_____	_____	____
( ) Licensure requirements	_____	_____	____
( ) Mandatory training	_____	_____	____
( ) Continuing education requirements	_____	_____	____
( ) ATA Clinical Practice Guidelines for Home Telehealth	_____	_____	____
( ) Policy manual/protocols	_____	_____	____
3. Organizational Overview:			
( ) Organizational structure	_____	_____	____
( ) Agency organization	_____	_____	____
4. Overview of:			
( ) Agency mission and vision	_____	_____	____
( ) Program mission, vision and functions	_____	_____	____
( ) Performance Measures	_____	_____	____
5. Overview of Services:			
( ) Medical Programs *(as appropriate)* :			
- Primary Care	_____	_____	____
- Ambulatory Care clinics/programs	_____	_____	____
- Hospital care	_____	_____	____
- Surgery programs	_____	_____	____
- Medicine programs	_____	_____	____
- Neurology	_____	_____	____
- Rehabilitation	_____	_____	____
- Emergency Department	_____	_____	____
- Assisted Living Facilities	_____	_____	____
- Nursing Home Care	_____	_____	____
- Other _____	_____	_____	____
( ) Mental Health Programs *(as appropriate)* :			
- Psychiatry Primary Care	_____	_____	____
- Mental Health Clinic	_____	_____	____
- Trauma/PTSD Program	_____	_____	____
- Substance Abuse Treatment	_____	_____	____
- Inpatient Psychiatry	_____	_____	____
- Transitional living programs	_____	_____	____

	Supervisor Initials	Employee Initials	Date
( ) Community Resources:			
- Meals on Wheels	_____	_____	____
- Assisted living facilities	_____	_____	____
- Board and Care/Residential Care homes	_____	_____	____
- Rape crisis/domestic abuse resources/shelters	_____	_____	____
- Homeless services/shelters	_____	_____	____
- HUD & other subsidized housing	_____	_____	____
- Hospice programs/services	_____	_____	____
7. Tour of Facility and Program Area:	_____	_____	____
8. Instructions:			
( ) Telephone system (local and long-distance)	_____	_____	____
( ) Paging system	_____	_____	____
( ) Consulting other providers/programs	_____	_____	____
9. Instructions on using Computer:			
( ) Mailman & mail groups	_____	_____	____
( ) Electronic progress notes, CPRS, GUI	_____	_____	____
( ) Entering workload/Event Capture	_____	_____	____
( ) Accessing patient data	_____	_____	____
( ) Electronic consults	_____	_____	____
( ) Electronic leave requests	_____	_____	____
( ) Use of printers	_____	_____	____
( ) MS Exchange/Outlook	_____	_____	____
10. Workload & Reimbursement:			
( ) Coding	_____	_____	____
( ) Billing	_____	_____	____
( ) Workload reports	_____	_____	____
( ) Budget	_____	_____	____
11. Applicable Agency Policies:			
( ) Performance appraisals/evaluations	_____	_____	____
( ) Leave usage	_____	_____	____
( ) Incentive awards program	_____	_____	____
( ) State laws on adult/children abuse and neglect reporting	_____	_____	____
( ) Agency patient abuse policy	_____	_____	____
( ) Breaks and lunch	_____	_____	____
( ) On-the-job injuries	_____	_____	____
( ) Documentation standards	_____	_____	____
( ) Ethics referrals	_____	_____	____
( ) Confidentiality	_____	_____	____
( ) Employee health	_____	_____	____
( ) Smoking policy	_____	_____	____
( ) Program specific policies	_____	_____	____
( ) HIPAA	_____	_____	____
12. Home Telehealth equipment:			
( ) Technical standards & requirements	_____	_____	____
( ) Live demonstration with return demonstration	_____	_____	____
( ) ANA Core Principles on Telehealth	_____	_____	____
( ) ANA Competencies for Telehealth Technologies	_____	_____	____

	Supervisor Initials	Employee Initials	Date
13. Orientation to Performance Improvement			
( ) Mandatory PI training hours	_____	_____	____
( ) Chartering teams	_____	_____	____
( ) Practice evaluation	_____	_____	____
( ) Supervisory chart audits/Peer review	_____	_____	____
( ) JCAHO standards & surveys	_____	_____	____
( ) CARF standards & surveys	_____	_____	____
14. Mandatory Training:			
( ) Fire and Safety	_____	_____	____
( ) Hazardous Communication	_____	_____	____
( ) Utility Management	_____	_____	____
( ) Disaster Plan	_____	_____	____
( ) Universal Precautions	_____	_____	____
( ) Security	_____	_____	____
( ) Patient Rights	_____	_____	____
( ) Customer Service	_____	_____	____
( ) Standards of Ethical Conduct Review	_____	_____	____
( ) EEO (including complaint process)	_____	_____	____
( ) Sexual Harassment	_____	_____	____
( ) Other_____	_____	_____	____

EMPLOYEE SIGNATURE: _____ Date:_____

SUPERVISOR SIGNATURE: _____ Date:_____

5.3.5 – Telehealth Equipment Training Skills Validation Tool

Telehealth Equipment Training Skills Validation Tool		
Employee:	STAFF	
Competency Elements Telemonitoring Base Station Unit	**Not Met**	**Date Met**
1. Explains power and phone connections. (Turns on computer)		
2. Opens Icon, enters password (user, user).		
3. Clicks on patient or demonstrates how to add a new patient. (Adds phone number -- 8, area code + number to video phone section)		
4. Once patient is selected, clicks on "Make a Call", enables speaker phone or picks up receiver.		
5. Reminds patient it will take 30 seconds or so to connect and during this time there will be no audio or visual link.		
6. Demonstrates how to take a snap shot, use high resolution and quarter frame size shots.		
7. Remembers to let the patient know it is time to disconnect. Reminds the patient that if green light remains on after 1 minute to push it again to disconnect system. Hangs up speaker phone.		
8. Exits program appropriately and documents encounter.		

Date:_____

Employee:_____ Title:_____

Preceptor:_____

Telehealth Equipment Training Skills Validation Tool		
Employee:		
Competency Elements Telemonitoring Patient Unit	**Not Met**	**Date Met**
9. Explains power and phone connections.		
10. Explains buttons: green to answer the phone and blue to send the blood pressure readings back to care coordinator.		
11. Demonstrates how to answer phone: Presses green button when phone rings.		
12. Demonstrates how to take his/her blood pressure. Demonstrates appropriate cuff placement.		
13. Using the stethoscope placement card, demonstrates where to place and how to hold stethoscope.		
14. Verbalizes understanding of the following concepts: γ When the telehealth nurse disconnects from the visit, the green light may stay on. If the light stays on for longer than one minute, the patient should disconnect manually. Understands that if the green light is on the phone line is tied up. γ If the first time the telehealth nurse calls the connection is not made, the patient needs to turn the green light off on their unit so the phone line will be open for the case manager to try again.		
15. Instructs patient and/or caregiver on process for calling program office for problems and to phone advice line after administrative hours.		
16. Verbalizes care of equipment-no picking up in case of dropping, no cleansers on equipment, ensures all connections are in place.		

Date:_____

Employee:_____ Title:_____
Preceptor:_____

Section 6 - Technology

6.1 - Choosing the Right Technology

Choosing the right technology or technologies is crucial to the success of your telehealth program. The technologies are evolving rapidly and potential providers of home telehealth services need to make sure their purchases best suit their clinical, logistical and financial needs. Factors to take into consideration include:

1. Targeted population and their monitoring needs (refer to Section 2)
    a. Estimated length of stay on service
    b. Ability to use the technology
    c. Chronic or acute disease states
2. Availability and quality of phone line, broadband, internet connections and compatibility of technology with what is available in your area, especially in rural areas
3. Data needs – amounts and timeliness of data (some data is transmitted instantaneously and some is stored and sent later, at a predetermined time)
4. Overall and hidden costs, including reporting capabilities
5. Interoperability with existing point of care or electronic records systems and ***cost*** of making that interconnectivity live
6. Purchase, lease or rent
7. Ability to do digital camera uploads for wound care, if appropriate to your program
8. Language capabilities
9. Extent of web based access – MD, case manager, family, patient, etc.
10. Number of types of different equipment needed – depending on program type, it may be more efficient to have different levels of equipment. "One size does not fit all."
11. Remote programming capabilities
12. Availability of educational modules
13. Add – ons such as medication management modules
14. Start small and grow as needed to make sure those expensive units aren't sitting on the shelf waiting for a patient!

Talk to as many vendors as possible to give you an idea of what technologies are available and make sure your purchase fits the patients and your program's needs.

Many providers are now using more than one type of telehealth equipment so as to best meet their patients' needs while conserving valuable financial resources. Technology selected should meet the needs of the population being served.

6.2 - Help Desk

The following factors should be considered before purchasing any telehealth equipment:

Interoperability:

Applies to technologies that can interface together and create shared information structures. Many technologies plug-and-play with each other, so you can make the most of whatever devices you choose. Generally HL 7 or DICOM have been recognized standards for compatibility.

Scalability:
Telehealth equipment should be able to have expanded options and capabilities built into them so that equipment does not become obsolete. Added features should not be part of the base unit because it could increase cost and added features could be offered again as an option when needed.

Vendor Accessibility:
How available is the vendor in terms of equipment demonstrations, production and delivery of equipment, equipment trouble-shooting and maintenance.

Compatibility:
Not only should telehealth equipment be compatible in terms of interoperability, but it also should be compatible with earlier versions of itself. Before purchasing, it is suggested that discussions with the vendor occur to determine if the company is committed through research and development to improve their equipment.

Reliability:
Before purchasing equipment, staff in telehealth programs need to determine if the equipment will reliably function as intended; if patients will be able to use the equipment, and whether equipment will have minimal down time when it is non-operational.

6.3 - Home Telehealth Equipment

There are many vendors that have home telehealth products. It is suggested that you attend the American Telemedicine Association (ATA) Annual meetings and exhibitions. These exhibitions are the largest technology exhibitions in the country and can greatly reduce expenses in trying to see all that is available. It also provides participants with opportunities for hands on demonstrations. In addition to this holding equipment fairs locally for vendors who will come and display technology also is a suggested approach for helping select appropriate equipment.

Regardless of where you see the technology at an exhibition or at your own facility, it is highly recommended that whatever technology you select that you ask the vendor to allow you to pilot test the equipment in your own backyard. Often the technology works wonderfully in the exhibition hall, but when you get it to your facility or start installing it in patients' homes there may be problems. Most vendors will provide one unit to allow for pilot testing.

Once the technology has been decided upon and pilot tested it is also suggested that other customers of the vendor be contacted as a reference. The vendor should be able to provide this contact information. This process is helpful in identifying any problems or pitfalls that may have gone undetected in your demonstrations and pilot testing.

6.4 - Environmental Issues

When conducting a video telehealth encounter, there are some environmental factors that can affect the quality of the encounter. Planning ahead for them will help you have a successful program.

Background scenery:
Wall backgrounds should be solid and not have wallpaper prints. Wall colors should be light to help video cameras focus better. Light gray is recommended to help contrast skin tones. Paint should not cause reflections, so flat interior paint is recommended.

Lighting:
Florescent lights in the ceiling can cause faces to appear darker than normal. Freestanding incandescent lamps that can provide additional lighting may be used especially in rooms that get no sunlight. Choose the time of your visit based on the placement of the equipment and daylight available in the room. Don't place the unit in front of a window. Be sure to test the unit with lighting to get the best possible picture.

Noise level:
Take into consideration any noise in the home that could affect the quality of the transmission, including fish tank pumps, ceiling fans, televisions, and radios.

6.5 - Back-up for Equipment Failure (See Section on Risk Assessment)

A plan for continuation of services in the event of equipment failure or disruption should be outlined in your program policy and procedures. Customer support options provided by each vendor also should be described in your policy and procedures. You also may want to keep a log of any problems you have with the equipment, such as disrupted connections, failed video connections or inability to transmit vital sign data. Your patients should be provided education on what to do and who to call if they become aware that the equipment is not functioning correctly.

6.6 - Information Management and Security

All technologies selected for providing home telehealth services and all staff procedures related to patient health information must comply with the requirements outlined in the Health Insurance Portability and Accountability Act (HIPAA).

6.7 - Equipment Maintenance and Infection Control

Home telehealth equipment may or may not meet accrediting agencies' definitions for durable medical equipment (DME). If technology does meet the requirements, then the healthcare organization providing these services should have policies and procedures in place describing the maintenance and infection control process. Vendor guidelines for maintenance and infection control should be incorporated into these procedures. It is important to follow the vendor guidelines because failure to do so could nullify

existing warranties on the equipment. Instructions on care and disinfection of equipment should be part of the training and education of all staff and patients as well.

6.8 - Technology Dos and Don'ts

Do	Don't
Know your patient population: literacy level, education level and socioeconomic status because these things often impact whether patients will accept the technology.	Market your technology as computers. Older patients especially are often intimidated by computer technology and might not accept the technology.
Choose technology that is simple.	Assume patients know about the Internet or other types of technologies-don't take anything for granted.
Choose technology for the right reasons; always put the patient's needs first.	Expect the patient to be able to use the technology without coaching or repetition.
Provide as much upfront education on the technology as possible; reinforce if necessary.	Worry if you continually need to reinforce the use of the technology.
Establish a staff comfort level with the technology	Assume staff will accept and "sell" the technology
Establish the technology as a "standard of care" for appropriate patients.	Assume that all patients will benefit from home telehealth.

6.9.1 – Equipment Maintenance Policies

Agency Name

DATE

EQUIPMENT MAINTENANCE

I. PURPOSE:

To establish policy, responsibility and procedures for the (agency name)

II. POLICY:

Selected patients will receive one of two types of audio/visual devices. The goal of this project is to provide safe, clean, and working equipment to meet the patient needs. (Agency name) plans for effective selection, delivery, setup and maintenance of equipment.

III. RESPONSIBILITY:

Who has responsibility for delivering equipment, ensuring accurate functioning, and safe use by patients? List responsible agencies, individuals or other entities.

IV. PROCEDURE:

Maintenance of the audio/video equipment is suggested as follows:

A. The Blood Pressure Meter:

1. Avoid extremes in temperature, humidity, direct sunlight, shock and dust.
2. Clean the monitor, cuff and tubing with a dry, soft cloth or a cloth dampened with tap water and a mild detergent if desired. Never use alcohol, benzene, thinner or other harsh chemicals to clean the monitor, cuff or tubing.
3. Avoid storing the cuff or tubing tightly folded or twisted.
4. The blood pressure cuff will be calibrated against a manual cuff yearly for accuracy.

B. In-Home Messaging Device.

Clean with a soft cloth or a cloth dampened with tap water, a mild detergent, antibacterial or antiseptic solution.

C. Terminal Decontamination of Equipment.

1. When removed from the home, the In-Home Messaging Device or Videophone will be taken from the residence and placed in a plastic bin, where it will return to the (agency name).

2. The plastic bin containing the unit will be left covered for twenty-four (24) hours.
3. The In-home Messaging Device will be wiped down with a germicidal/anti-microbial disposable cloth. The used cloth will be disposed in the general trash. The unit will then be placed in its original box, brought to the mailroom, to be mailed back to vendor.
4. The Videophone unit will be taken to (who and where)for decontamination.

D. Equipment Inspection and Quality Control.

1. Audio-visual equipment will be inspected per agency policy in keeping with OSHA, JCAHO, and other appropriate entities.
2. All Videophone units will utilize the supplied surge protectors in the home
3. In-Home Messaging Device units will be maintained and inspected per vendor contract.

E. Placement of Videophone and In-Home Messaging Device Appliance into Patient's Home:

1. Each individual Videophone and In-Home Messaging Device appliance will be delivered to the (agency name)in it's own sealed box, which will include it's own electrical adapter, telephone line connector, set up guide, user information pamphlet and important patient information leaflet.
2. The units will be stored in the (where?). They will be located in a secured, locked room away from patients and unauthorized staff.
3. The (who will be responsible?) will deliver the new, unused unit in it's own box to the patient's home.
4. The Videophone or In-Home Messaging Device unit will be installed into the patient's telephone line and electrical outlet. The In-Home Messaging Device unit is self-programmed to test the patient's telephone line.
5. The set up guide, user information pamphlet and important information leaflet for the device will be left with the patient and will not be returned if the unit is removed from the home. The original box for the Videophone or In-Home Messaging Device unit will be brought back to the (agency) where it will be stored in the event of unit removal due to defect or disenrollment of the patient from the program.

V. REFERENCES:

American Telemedicine Association: *Telehomecare Clinical Guidelines* American TeleCare Guidelines for Maintenance of Equipment,
Videophone Operating Instructions

Medical Center Policy Memorandum No.138-11-98 Attachment F *Medical Equipment Management Plan*

VII. FOLLOW-UP RESPONSIBILITY

(Who?)

Signatures

6.9.2– VA Equipment Maintenance Policies

Department of Veterans Affairs
(medical center name)

Service Date
Clinical Memorandum No. #

POLICY & PROCEDURE ON CLEANING & MAINTAINING EQUIPMENT

I. PURPOSE:
To insure proper maintenance of equipment -
To prevent cross contamination -
To establish quality control in clinical equipment maintenance -

II. POLICY:
Clinical equipment will be appropriately cleaned and maintained per individual manufacturer's recommendations.

III. PROCEDURES:

A. Wear gloves to protect the hand, and wear goggles if splashes or fumes can infiltrate the eyes.
B. Orientation for professional staff will include proper cleansing and maintenance of clinical equipment which includes:
    1. Blood Pressure Cuff
    2. Stethoscope
    3. Glucometers
    4. Scales
    5. Pulse Oximeters (if applicable)
C. Caution will be used in site selection for blood pressure cuffs and barriers used if they might be in contact with open areas, rashes, or wounds. Soiled cuffs can be wiped with a disinfecting towelette . If gauge is in need of calibration, follow instructions per manufacturer's warranty or send biomedical engineering.
D. Stethoscopes will be cleaned with alcohol or antibacterial cleanser.
E. Adult scales will be wiped after each use with a wet paper towel.
F. Pulse oximeters and glucometers will be cleaned after each use per individual manufacturer's recommendations.
G. Always read the label on the disinfectant and follow directions
H. Use disinfectants in a well-ventilated room.
I. Telecare machine will be wiped down with a disinfecting towelette before reissuing.

IV. REFERENCE:
None.

V. RESCISSION:
None.

VI. REVIEW DATE: Date

Service Chief signature

6.9.3 – Procedures for Disaster, Disruption and Corruption

Disaster Avoidance
Each Server and Device is checked for malicious code (computer viruses) once per quarter.

Disruptions

Limited or Serious Disruption
In the event of a limited disruption (temporary disruption not associated with damage or loss of assets, e.g., power failure, lasting up to five days) or serious disruption (repairable damage to equipment or facility, or replaceable loss of key personnel, data, software, etc., (e.g., equipment breakdown, lasting one to two weeks):

In general, when there is any disruption of service, the facility will continue the provision of care to our veterans through the utilization of our network of services that are currently available within the VA, or will contract for those services as indicated by the estimated time for disruption. In any instances of service disruption, the System Administrators and project manager will be immediately alerted of the service disruption and estimated time of disruption. Depending on the length of time estimated for the service to be disrupted, the following actions will be taken by program officials (i.e., System Administrator, Director/Continuing Care & Case Management and Project Manager/Home TeleCare, etc.):

- When service is minimally disrupted (estimates of disruption less than 2 hours), the Director/Continuing Care & Case Management and Project Manager/Home TeleCare will notify the Director/HBPC and Chief, APRN/Primary Care. Nurse case management staff and Home Based Primary Care nurses managing patients enrolled in the home TeleCare are contacted. The nurse case managers have the discretion to call those patients under their management (based on patient's disease management state), or to wait for service resumption.

- In those instances where service is disrupted for greater than two hours, the program director and/or System Administrator will contact case managers, care providers and patients of the service disruption. All nurse case managers and care providers will be expected to review the medical history of each patient on home telemedicine services to determine what level of support is required for the patient (i.e. maintain in the home under regimen, storing information on the Vital Sign Box (VSB); maintain in the home, but have patient call in results of self testing device (STD) to the case manager; maintain in the home, but provide home care nursing services; or initiate placement of the patient within a skilled care institution) for the period of time that service is disrupted. All home TeleCare patients ("end-users") will be informed of service disruptions lasting longer than two hours and will be instructed as to the course of treatment and monitoring plan. Nurse case managers have access to a list of all patients enrolled in the home TeleCare project by accessing the database residing on the "M" drive/common file. This file is also accessible via remote access service (RAS) from the care provider's home. In addition, the Resource Manager, Home TeleCare Project Manager and the Director, HBPC keeps a written log of all patients on home TeleCare.

Service Specific Information for Handling a Serious Disruption
In instances of specific problems, the System Administrator and/or his/her designee will take the following actions.

Temporary Damage to the Facility or Facility Infrastructure
In the event of temporary damage to the facility or facility infrastructure (electricity, cooling, lighting, plumbing, networking, etc.):

- Secure system to avoid further damage
- Coordinate with Facilities Management Service (FMS) as to services restoration

Loss of Key Personnel
In the event of a loss of key personnel:

- Cross train personnel to avoid loss of coverage
- Follow documented system policies and procedures

Corruption of Database or System Software
In the event of a corruption of database or system software:

- Coordinate with vendor personnel for software configuration/ patching & updates, security updates, etc.
- Utilize database back-ups to restore to uncorrupted state.

Component Failure (CPU, rack switch, server components, power supplies)
In the event of a component failure:

- Coordinate with vendor personnel for trouble-shooting procedures and the timely replacement of system components

6.2.2.5 POTS or T1 Failures (Storm damage, hacker damage, etc)
In the event of Plain Old Telephone Service (POTS) or T1 Failures:

- Coordinate with CIO Telecommunications section and facility telecommunications to re-establish phone service.

Major and Catastrophic Disruption

In the event of a major (irreparable damage to equipment or facility, or loss of key personnel, data, or software, lasting for two weeks to one month) and catastrophic disruption (total loss or near total loss of facility and its contents or people, i.e., earthquake, lasting in excess of one month):

In general, where there is a major or catastrophic disruption of service, the facility will continue the provision of care to our veterans through the utilization of our network of services that are currently available within the VA, or will contract for those services as indicated by the estimated time for disruption. In any instances of major or catastrophic disruption, the System Administrators and project

manager will be immediately alerted of nature of the service disruption and will take the following corrective actions.

- To ensure that our patients are cared for in a timely fashion, the project manager and/or System Administrator will contact nurse case managers, care providers and patients of the service disruption. All case managers and care providers will be expected to review the medical history of each patient on home telemedicine services to determine what level of support is required for the patient (i.e. maintain in the home under regimen, storing information on the VSB; maintain in the home, but have patient call in results of STD to the case manager; maintain in the home, but provide home care nursing services; or initiate placement of the patient within a skilled care institution) for the period of time that service is disrupted. In those cases where specific skilled nursing care and/or monitoring is required, the case manager will arrange for nursing services to be provided through the HBPC program or will contract for home care services using approved home care agencies in the patients geographic area. All home telemedicine patients will be informed of service disruption and will be instructed as to the course of treatment and monitoring plan that is required for there disease state/management.

- In instances of major or catastrophic disruption of service, the System Administrator and/or his/her designee, will contact the vendor representative(s) of the nature of the service disruption, after first ensuring that patient care is no longer compromised. The System Administrator and/or his/her designee will coordinate with vendor representative(s), the replacement of and/or re-establishment of service to our patients.

Service Specific Information for Handling a Major and Catastrophic Disruption

In instances of specific problems, the System Administrator and/or his/her designee will take the following actions.

Irreparable Damage to the Facility or Facility Infrastructure
In the event of irreparable damage to the facility or facility infrastructure (electricity, cooling, lighting, plumbing, networking, etc.):

- Secure system to avoid further damage
- Coordinate with Facilities Management Service (FMS) as to services restoration and/or relocation to another part of the facility
- In the event that an off-site location is required, the patient database will be transported and installed on a "mirrored" system with vendor or another off-site location

Loss of Key Personnel
In the event of a loss of key personnel:

- Follow documented system policies and procedures available
- Contract with vendor personnel for systems support
- Recruit and/or contract for system personnel to be trained by vendor support personnel

Corruption of Database or System Software
In the event of corruption of database or system software:

- Coordinate with vendor personnel for software configuration/ patching & updates, security updates, etc.
- Utilize database back-ups to restore to uncorrupted state

It is important to note that in the event that full restoration is not possible; all critical elements of patient information are available with the VISTA record of each Home TeleCare patient. This data would be retrievable through fileman data search and would require re-input of data into the various data structures of the database.

Component Failure
In the event of component failure (CPU, rack switch, server components, power supplies, etc.):

- Coordinate with vendor representative(s) for the replacement of "mirrored" system and//or system components

POTS or T1 Failures
In the event of POTS or T1 failures (Storm damage, hacker damage, etc):

- Coordinate with CIO Telecommunications section and facility telecommunications to re-establish phone service to another location within the facility or to off-site location depending on ability to resume operations within the current physical plant.

Evacuation

During Business Hours
Should evacuation be necessary, employees should leave the building via the closest exit as described in the facility safety management plan and move as far away from the building as necessary with regard to the type of threat and emergency. Once they leave the building, they will wait there for further instruction from management or local authorities.

During Non-business Hours
If a disaster occurs during non-business hours, employees should be advised to stay home or go to their homes as soon as they hear of a threat to their office or facility. They should wait at home for a phone call from management or a supervisor advising them when and where to report to begin carrying out office recovery tasks.

Assisting the Disabled
The service shall identify people with physical, mental, or sensory impairments, document their work locations, and identify "buddies" to assist the disabled when a disaster occurs.

ADP Restoration

The service department will keep an updated inventory list of all ADP equipment (see Appendix A)

The devices listed on the critical device list (see Appendix A) are vital to the operations of the service department and should be restored as soon as possible.

APPENDIX A – PROTECTIVE MEASURES FOR DISASTER AVOIDANCE

1. Fire prevention, detection, suppression and protection

    a. *Prevention*: Place printers, copiers, and other equipment that have a relatively high potential risk of fire in areas that have true floor-to-ceiling walls constructed of masonry or other fire-retardant material; be sure cleaning solvents and other flammables are kept in closed storage; and keep the amount of paper stock and other fuel sources in areas to a minimum.

    b. *Detection*: Smoke detection devices should be considered under any raised floors, mounted on the suspended ceiling, and above the suspended ceiling.

    c. *Suppression*: Locate portable handheld fire extinguishers near exit doors and near equipment (printers, copiers, etc.) that have a high potential for fire. Portable extinguishers should be a dry chemical or Halon type, rated for electrical and paper fires. The location of portable extinguishers should be clearly marked. If portable extinguishers are in an area with a raised floor, they should be co-located with floor pullers.

    d. *Protection*: Data, software, documentation, and similar assets may be protected from fire damage by fireproof storage containers and off-site storage.

2. Water prevention, detection, and protection/correction

    a. *Prevention*: Computer equipment should be located in an area where the potential for flooding is low; assets placed above the ground floor significantly reduce the potential for damage or loss when a flood does occur. Rerouting water pipes is an appropriate countermeasure, but may be extremely expensive depending on the size and location of the area where the equipment is housed. Electrical and communication cables that pass through perimeter walls need to be in conduits and sealed. Openings around water pipes and air ducts must also be sealed.

    b. *Detection*: Whenever a water source is in or near an area housing computer equipment, use of water detectors should be considered.

c. *Protection/Correction*: Three approaches can be used to protect ADP assets after flooding or water leakage has occurred: removing assets from the affected area, covering the asset if the leak originates above the asset, and removing water. Covering the asset requires placing plastic sheeting near the assets to be protected. Removing water requires installation of drains or pumps, or using wet/dry vacuums. Installing drains or pumps is effective only if there is an area where water may be safely discharged.

3. Electric Power Supply

a. *Microcomputers*: The primary electrical threats to microcomputers are spikes, surges, and outages. As a general rule, all microcomputers should have real spike and surge protection.

b. *Mainframe computers*: UPS, diesel generators, and secondary power feeds from separate power substations protect mainframes for extended power outages. The transformers and motor generators needed to produce the stable high voltage required by mainframes also protect them from transient electrical events such as spikes, surges, and dips.

c. *Environmental Support Equipment*: If a mainframe-based network is intended to operate for extended periods on a UPS or generator, air-conditioning equipment must have similar electrical continuity.

d. *Access Control Mechanisms*: For access mechanisms that require electricity (e.g., card key systems), alternate power arrangements must be considered. Strictly controlled distribution of bypass keys to key personnel should also be considered. Since most of these systems are generally microcomputer-based, spike and surge protection is also required.

4. Natural Disasters

No countermeasures, other than relocation, are available to reduce the likelihood of a natural disaster. Countermeasures that may be used to minimize the effects include:

a. earthquake-resistant building structures

b. “shock mounting” equipment to withstand earthquakes

c. lightning rods to dissipate lightning strikes

d. shutters to protect against glass breakage in windstorms

Natural disasters may produce secondary effects such as electrical spikes, fires, and flooding.

5. Housekeeping

Good housekeeping procedures minimize potential fire hazards by preventing an excessive buildup of trash, minimize operational disruption due to dirt or dust accumulations on magnetic

storage devices, and ensure that sensitive waste products are destroyed in accordance with the level of sensitivity. Countermeasures that are appropriate for ADP-related housekeeping activities include:

a. *Standard Operating Procedures*: Documenting housekeeping procedures ensures that cleaning personnel understand the policies and procedures for cleaning areas where sensitive activities are conducted (e.g., procedures for disposing of sensitive material, procedures for gaining access to secured areas, and cleaning procedures for electronic equipment).

b. *Destruction of Sensitive Material*: When documents that contain sensitive information are no longer required, they should be destroyed in a manner that protects the confidentiality of the data.

c. *Screening of Cleaning Staff*: Ensure that the past performance of cleaning staff that have access to critical ADP assets does not represent a pattern of behavior that could be detrimental to ADP operations and security.

6.10.1 - Home Monitoring Program Equipment Loan Agreement

HOME MONITORING PROGRAM
EQUIPMENT LOAN AGREEMENT

I, _____, caregiver to _____ for the duration of the Home Monitoring Program have been instructed and trained in the use and operation of the Home Monitoring equipment and supplies. I have had an opportunity to ask questions and have had all of them answered to my satisfaction.

I hereby agree to comply with the requirements and proper use of the Home Monitoring equipment and supplies as instructed. I agree to use the electrical outlet tester supplied, to ensure that the equipment will be plugged into a grounded electrical outlet. If a grounded outlet cannot be found, I agree to notify the nurse.

I understand that the use of an extension cord or three prong electrical outlet adapter is not permitted.

I hereby acknowledge that the Home Monitoring Program is NOT to be used for emergencies. I understand that in case of an emergency, I am to access the emergency response system (911 system) in my local area.

I hereby agree to return the Home Monitoring equipment and supplies by SMT bus on the day of the last phone appointment with the nurse. I understand to reverse the transportation charges to the NB Heart Centre.

Printed Name of Caregiver	Signature of Caregiver	Date

Telephone number of caregiver	Address of caregiver

Printed Name of Witness	Signature of Witness	Date

6.10.2 – Virus Scan Log

VIRUS SCAN LOG

All computers and devices should be scanned for viruses once per week. Please log the scan on the following form. Keep a copy of the log with the department's contingency plan. When the scan is complete, the person performing it should initial in the final column. Make photocopies of the form as necessary.

Service Department _____

Year: _____ **PC PM Number** _____

Log Date	Viruses Found	Initial

Service Department _____

Year: _____ **PC PM Number** _____

Log Date	Viruses Found	Initial

6.10.3 – Telehealth Trouble Shooting Log

Telehealth Trouble Shooting Log

Date	Name	Problem	Model & Vendor	Resolution	Comments

6.10.4 – Enrollment Technology Installation

Enrollment Technology Installation
Screening Tool

Date:_____ Program/project:_____
Facility:_____

Eligible for Office Enrollment: *(check all that apply)*

_____► Travel time to residence one hour or more one-way
_____► Comfortable with technology as demonstrated by education session
_____► Demonstrates understanding of technology installation
_____► Unavailable during business hours for home visit due to employment
_____► No functional limitations related to installation
_____► No cognitive limitation related to installation (able to read)
_____► Caregiver available and able to install equipment
_____► Patient or caregiver declines home visit
_____► Using own personal computer equipment
_____► Not using any VA durable medical equipment that needs to be installed
_____► Patient reports no electrical or phone connectivity issues

Ineligible for Office Enrollment: *(check all that apply)*

_____► Difficulty understanding technology as demonstrated by education session
_____► Functional limitations related to installation (arthritis, blindness, paraplegic etc)
_____► Cognitive limitations related to installation (unable to read, dementia, etc)
_____► Cognitive impairment without a caregiver
_____► Lives alone (by itself not a qualifier, in tandem with other qualifiers)
_____► Caregiver unavailable and unable to install equipment
_____► Audio-video technology of any kind
_____► Patient reports electrical and/or phone connectivity issues

Check all that apply:

_____Office enrollment
_____Phone call recommended within 1 day of enrollment
_____Phone call recommended within 7 days of enrollment
_____Phone call recommended within 14 days of enrollment
_____Home visit recommended within 30 days of enrollment
_____Home visit recommended within 60 days of enrollment
_____Home visit recommended within 90 days of enrollment
_____Home enrollment

Reviewer name/title:_____

Section 7 - Business Issues & Reimbursement

Capital investment for purchase of telemonitoring equipment can be expensive. Therefore a sound business plan is critical. ROI strategies can include visit reductions, increased nurse productivity, new business/competitive advantage and reduced nursing costs.

Grants and other fund development opportunities should be explored as well.

7.1 - Reimbursement

Reimbursement for telehealth varies dramatically based on payer. ATA has worked for many years in legislative circles to improve reimbursement for telehealth activities. They continue to be a leader in this area.

7.2 - Government Sector

The Veterans Health Administration (VHA) is reimbursed through the Veterans Equitable Reimbursement Allocation (VERA) Model. Funds are allocated through Congress. This model sets up basic and complex levels of care that each veteran patient is assigned. Basic levels reimburse at much lower levels than those that are complex. Currently the reimbursement model does not recognize care coordination and home telehealth activities. VHA has implemented a new coding system for telehealth and care coordination workload. This workload will now be captured and considered in the VERA reimbursement model. New workload codes are being piloted and these will continue to spread out nationally to all 21 Networks in the VHA system.

7.3 - Medicare

The use of Telehealth under the Prospective Payment System (PPS) was included in the Budget Act of 2000 and included activities that promote efficiency or improves quality of patient care. CMS passed legislation in December of 2000, which allows for the use of telehealth in the delivery of care to patients covered under the Medicare PPS payment system. However, telehealth encounters do not currently count toward your episodic visits and cannot be used to trigger a higher payment. So in essence, telehealth is allowed under the episodic payment an agency receives; however, home telehealth services are not recognized as substitutes for traditional home visits.

Home telehealth services are addressed in Medicare regulations and recert clarifying language has been adopted in their rules. Much legislative lobbying by many organizations and associations, including the ATA, has been going on for several years to address reimbursement issues surrounding home telehealth services.

In the newly passed Medicare Bill, there are some telemedicine provisions. There is also a section (721, page 456) that introduces new chronic care improvements. These improvements are done under defined elements of a care management plan that includes “The use of monitoring technologies that enable patient guidance, through the exchange of pertinent clinical information,

such as vital signs, symptom information, and health self-assessment." There are currently two demonstration projects underway. This is potential support for remote clinical data collection efforts.

7.4 - Medicaid

There are several state-legislated Medicaid programs that reimburse for home telehealth. Utah, Kansas, Oklahoma, and Minnesota are among those who reimburse on a per visit basis for telehomecare services. Pennsylvania and New York reimburse on a monthly basis. Several other states have either passed legislation to begin reimbursing for telehomecare encounters or are seriously considering the option.

7.5 - Managed Care Organizations / Commercial

Home teleheath can be a win for payers in that it provides high quality comprehensive care, decreases emergency room visits and hospital admissions and shifts care to a less expensive level of care. Home health agencies need to convince the payer that it is a win-win opportunity for them to provide low-cost quality care to their members.

When negotiating with an MCO or commercial insurer for telemonitoring reimbursement, try to negotiate the same visit rate that you are currently receiving for in-home visits. You should also know what the lowest rate is you are willing to accept. Other payment options would include a PMPM or case rate to demonstrate the decrease in cost to the payer. For instance, offer to care for some of their most costly CHF patients for a period of time and prove to them how you can decrease their ER and inpatient admission costs through use of telehealth.

Utilize a live-demonstration of a home telehealth encounter to convince the payer that home . telehealth is skilled care. Having the right people at the meeting can make or break your presentation. Insurance case management staff, medical directors and disease management folks are key players to win over to the value of utilizing home telehealth. During your presentation, use key examples of their own members that you have provided traditional home care to and show how you can save them money with telehealth.

7.6 - Private Pay

While this is a growing area of interest for home health providers and remote monitoring vendors, the number of agencies providing telemonitoring services on a private pay basis is still relatively small. Targeted marketing for this segment of the population should be directed towards higher income caregivers or family members desiring telemonitoring services, i.e., who resides out of town.

7.7.1 - Developing a Business Plan for Home Telehealth

A sound plan provides details about day-to-day operations of the program. Several factors that are key to the program's success should be researched prior to implementing the program. These include:

► Need for home telehealth services
► Community interest or support for using these services
► Agency or organizational support for providing these services
► Size of target patient population
► Willingness of third-party payers to reimburse for these services

General Outline

► **Cover sheet**
► **Table of contents**
► **Executive summary**
► **Detailed description of the home telehealth program**
► **Marketing plan and analysis**
► **Financial plan**
► **Management plan**
► **Supporting documents**

Executive Summary:
This is usually one to two pages in length and is a synopsis of the entire business plan.

Program Description:
This section describes in detail what home telehealth services will be delivered and what if anything makes this program unique. Because home telehealth programs are service-oriented the following questions must be considered; what types of services will be provided, how will these services be provided, who will provide the services, and when and to whom will they be provided. It is also recommended to describe the potential for future growth as well as any anticipated barriers in providing services. It should also provide specifics on any regulatory, licensing, credentialing or other legal agreements. It is easy to think of this section in much the same way as you would the operating policies and procedures of the program.

Marketing Plan & Analysis:
Marketing is vital to the success of any home telehealth program. It is important that all internal and external stakeholders be identified early on in the planning process. A good understanding of the needs of the target population is crucial. In addition knowing what incentives there might be as a result of participating in the program could be important selling points for service providers. The marketing analysis should address whether or not the program can successfully meet the expectations of its stakeholders. It should also address if there are any comparable programs in the area that would be in direct competition with the new program and if so, how to present a positive image. Advertising strategies should be included in the plan.

Financial Plan:

The agency or organization initiating the home telehealth program needs to do a financial assessment of their own viability to provide services. In the plan all operating costs, capital technology equipment and supplies, staffing requirements and projected income and reimbursement must be listed. It is recommended if the agency or organization does not have a financial planner that an expert consultant be used to do a balance sheet to determine profit and loss income projections. These projections should be for at least two years out from the start of the program based on quarterly findings. A budget spreadsheet is recommended for tracking all costs to the program.

Management Plan:

In this section the program manager will need to address how the experience of the organization or agency will help make this program successful. In addition, what will the supervisory chain of command be? What types of employees will need to be recruited and hired? How will these employees work together to fulfill the mission of the home telehealth program? Education, training, evaluation, and competency assessment of employees should be addressed here. Also any accreditation or certification issues should also be spelled out here. The plan also addresses salaries, benefits, incentives, and awards that will be available to employees.

Tips for a Winning Grant Proposal

1. **Always follow the directions.**
   Be sure you read carefully all instructions and follow them to the letter even if you think they are ridiculous and don't make sense. Pay attention to detail. If this is not done it can reflect poorly on your submission.

2. **Begin early! Don't wait until the last minute.**
   Start your research and preparation right when you get the idea to do a proposal. Writing a successful proposal takes time and effort don't sell yourself short but not allowing enough time to find the information you need. Highlight all the important elements in the instructions and be sure to organize your proposal in the same way.

3. **Make sure you are a good fit.**
   Don't force your agency into the guidelines of the proposal. Either you fit what they are looking for or not. Don't waste your time trying to make yourself look like you are what they are looking for when you don't meet the basic elements of the proposal.

4. **Data, Data, Data**
   Don't make sweeping statements without having hard data to support them. If you promise that this proposal plans to reduce for example hospital admissions then be sure to include how many admissions there are now and why this is a problem. Always connect your percentages to numbers for example. If you say we have increased telehealth encounters 76%, be sure to give the numbers that back that statement up.

5. **Clarity & Readability**
   Don't put a proposal together that is difficult to read, very small print, and long margins with no white space. Nothing makes a reviewer crankier than to have to get a magnifying glass to read your content. Whenever possible use images, figures, graphs but only if these pictures or images compliment your content. Don't go on and on about the same thing. There is a lot to be said for conciseness.

6. **Don't oversell your need**
   Focusing too heavily on the problems could hurt your chances. That you need the money is a given or why else would you be applying? Instead write a clear explanation of how you plan to meet these needs or resolve problems.

7. **Proof read**
   With the existence of spell check errors should not be a problem. However, if cutting and pasting within a document occurs chances for errors increase. Let several people proof read especially those who have no knowledge of the proposal topic. This often helps see problems that the writers are too close to see even after reading and re-reading the proposal.

8. Collaboration is the key

Successful proposals show all kinds of partnerships both internally and externally to the organization. A proposal that shows many interests caring about the need or trying to resolve the problem will stand out when reviewed.

9. Be a good reporter

Remember the most interesting news stories are those that address who, what, where, when, and why in the first few paragraphs. Be sure to include the local angle and statistics. Also stating how the agency, community, population etc will be changed by the proposal is another piece of information reviewers look for.

10. Keep your promises

Take a good look at what you are promising with the resources you will have. Can you actually achieve your goals? If your goals seem lofty and unreasonable this will come across in your proposal to reviewers who will dismiss your efforts as unachievable and a waste of funding.

Adapted from: Indigent Care Success

7.8.1 – Consent for Telehealth Services, Private Pay

(Your agency) HOME HEALTH SERVICES CONSENT FOR TELEHEALTH SERVICES- PRIVATE PAY

The telehealth equipment and services provided by the homecare representative have been explained to me in detail.

AGREEMENT between (your agency) and

_____

Patient's Name

Start Date: _____

The following equipment has been agreed upon for lease:

Remote Nurse	☐ **$ per month**
Blood Pressure Unit	☐ **$ per month**
Pulse Oximetry	☐ **$ per month**
Scale	☐ **$ per month**
Consult with MD	☐ **$ each Consult**

This fee will include all monitoring services, batteries and any necessary troubleshooting of equipment in the home.

The equipment is to be used by the above-mentioned patient only.

(Your agency) reserves the right to remove the leased equipment for improper usage.

I understand that I will be responsible for payment of the services and equipment rendered to me. Payment is due within 14 days of receipt of the bill. If payment is not received within 30 days, all equipment will be removed from the home.

I have read and understand all terms of this Agreement.

Patient Signature:_____ Date:_____

RN Signature:_____Date:_____

Section 8 - Accreditation & Documentation Requirements

8.1 - Applicable Standards

Accreditation in the healthcare setting is a voluntary process sought by healthcare organizations to assure the public that their processes, practices and procedures demonstrate the delivery of excellent, safe, quality health care. The Community Health Accreditation Program, Inc. (CHAP) and the Accreditation Commission for Healthcare (ACHC) are independent, non-profit accrediting organizations that target healthcare organizations in the community setting.

The Joint Commission, on the other hand, accredits almost 15,000 health care organizations in the United States. These organizations are in settings such as:

- Ambulatory Care
- Behavioral Health Care
- Critical Access Hospitals
- Disease-Specific Care
- Health Care Staffing Services
- Home Care
- Hospitals
- Laboratories
- Long-Term Care
- Office-Based Surgery Practices

Health care organizations seek Joint Commission accreditation to:

- Improve patient care
- Enhance community confidence
- Provide a report card
- Offer an objective evaluation of performance
- Stimulate quality improvement efforts

By asking for accreditation, health care organizations agree to be measured against national standards. An accredited organization continuously makes efforts to improve the care and services it provides.

There is no accreditation provided by The Joint Commission exclusive for Telehealth. Rather, accredited institutions and healthcare agencies with a Telehealth program comply with The Joint Commission's standards and elements of performance when they demonstrate safe Telehealth practice and provide quality Telehealth care. Integrated in The Joint Commission's Provision of Care standards are physicians' order for telehealth and care plans that include telehealth. Incorporated in the Leadership standards are the goals and vision of the Telehealth program. Maintenance and infection control measures relating to the use of the telehealth equipment are integrated in the Environment of Care standards. Settings more likely to have a telehealth

program include hospitals, ambulatory care, behavioral health care, home care, and disease-specific care.

8.2 - Disease Specific Care Certification

The Joint Commission's Disease-Specific Care (DSC) certification is designed to evaluate disease management and chronic care services provided by a variety of health care organizations. In the brochure titled The Joint Commission's Certification for Disease-Specific Care - Demonstrate Your Commitment to Excellence and Improved Outcomes (*undated*), certification is described as "a voluntary review of a clinical program that delivers care to a defined patient population." Home telehealth and care coordination programs may be especially suited to this type of certification because of their emphasis on disease and chronic care management through the use of technology. Certification is a voluntary process that is not required for accreditation but is in addition to whatever accreditation the organization or program holds.

The Joint Commission awards one-year certification to disease-specific programs that demonstrate:

1. Compliance with consensus-based national standards
2. Effective use of established clinical practice guidelines to manage and optimize care
3. An organized approach to performance measurement and improvement activities

After the first year, additional one-year extensions can be granted contingent upon the submission of acceptable documentation that shows that the program or organization continues to comply with standards.

First Year Requirements	Second Year Requirements
Off-site and on-site evaluation by a JCAHO reviewer: • Standards compliance • Clinical practice guidelines • Performance measurement activities	Off-site review of submitted documentation: • Updated guidelines information • Assessment of standards compliance • Demonstrated performance efforts

Disease-specific programs certified by The Joint Commission (10/07) include the following although not limited to):

Acute coronary syndrome
Alzheimer's Disease
Arthritis
Asthma
Brain Injury
Cancer
Coronary Artery Disease
Chronic obstructive pulmonary disease
Depression
Diabetes
Epilepsy
Emphysema
Heart Failure
Hemophilia
High risk pregnancy
HIV/AIDS
Hypertension
Ischemic heart disease

Low back pain	Osteoporosis
Migraines	Parkinson's disease
Multiple Sclerosis	Sickle cell disease
Obesity/bariatric surgery	Wound Care

An advanced level of certification is also available in areas such as:

- Chronic kidney disease
- Inpatient diabetes
- Primary stroke centers
- Lung volume reduction surgery
- Ventricular assist device

Of 685 disease-specific programs in 496 organizations accredited by The Joint Commission in 2008, the majority (63%) of organizations have a primary stroke program. Others include heart failure, acute myocardial infarction, acute coronary syndrome, diabetes, abdominal aortic aneurysm, coronary artery disease, coronary artery bypass, chronic obstructive pulmonary disease, asthma, joint replacement (knee and hip), wound care, bariatric surgery programs and others.

In the community setting, there are other accreditation organizations beside The Joint Commission. These include including the Community Health Accreditation Program (CHAP) and the Accreditation Commission for Health Care, Inc. (ACHC.)

Section 9 - Performance Improvement & Outcome Evaluation

A performance plan is selected based upon pertinent measures. Measures selected reflect the requirements of agencies in their accreditation or certification process. The performance plan incorporates satisfaction survey results from patients, families, staff, and providers. This information is used to change service delivery to improve care.

9.1 - Data Collection Process

When designing an evaluation, one must select the 1) patient population of interest; 2) health care / telehealth service to be provided; and 3) appropriate measures. The patient population can be defined in two ways. First, the population can be defined by diagnosis, e.g., patients with chronic illnesses such as heart failure, diabetes, obstructive lung disease or mental health problems. The second way is to define common problems experienced by the target population, e.g., medication management, and over-utilization of certain services.

The health care or telehealth service to be provided can be defined along a continuum of care (e.g., from urgent/emergency care to routine to care delivered at home), by provider (e.g., MDs, specialty, primary); (RN); (allied health), by services offered (care, consultation, remote monitoring, and / or educational), or by telemedicine communication mode or delivery (e.g., store & forward, Web based consultation and teaching, e-mail, phone, or interactive video).

The third axis represents the important outcome measures selected for the particular population and service delivered. Outcomes include clinical/functional/quality of life outcomes, utilization of health services and patient/provider satisfaction. Patient demographics may also be collected. Examples include age, gender, race, marital status, medical diagnosis, insurance coverage, education level, and geographic location, e.g., state/county [rural vs. urban].

9.2 - Clinical / Functional / Quality of Life Outcomes

Clinical outcomes will relate directly to the population receiving services. For example, if the population is defined by diagnosis, e.g., patients with diabetes or hypertension, then important clinical outcomes include stabilization of HgbA1c and/or blood pressure. If the population is defined by a health care problem, e.g., medication management, then the outcome measure relates to that problem. For example, medication compliance can be assessed using pill counts, pharmacy refills, laboratory testing, and patient self-report.

Functional outcomes can address physical, social, or cognitive/psychological function. Examples of physical function measures include the Katz Index of Activities of Daily Living (ADL) or Functional Independence Measure (FIM). Social function can be assessed using scale such as the Social Support Questionnaire. Cognitive/psychological function can be assessed using scale such as the Geriatric Depression Scale.

The most commonly used generic measure of quality of life is the SF-36 or SF-12. Disease specific instruments are useful as well. The Minnesota Living with Heart Failure Questionnaire is a good example.

A full description of the functional status and quality of life tools listed above can be found in: McDowell, I. & Newell, C. (1996). Measuring health: a guide to rating scales and questionnaires, 2nd. ed. New York: Oxford University Press.

9.3 - Utilization Data

The following should be considered when tracking utilization outcomes in the target population.

1. Number of hospital admissions
2. Number of hospital bed days of care
3. Number of emergency department (ED) visits
4. Number of unscheduled/walk-in clinic visits
5. Number of pharmacy prescriptions
6. Number of lab tests
7. Number of outpatient procedures
8. Number or frequency of phone calls to providers/home care agency
9. Number of home care visits
10. Number of days on remote monitoring

9.4 - Patient/Provider Satisfaction

A few telehealth-specific patient satisfaction surveys have been developed. An example is provided below. Another survey can be found in the following reference:

Demiris, G., Speedie, S., & Finkelstein, S. (2000). A questionnaire for the assessment of patients' impressions of the risks and benefits of home telecare. Journal of Telemedicine and Telecare, 6, 278-284.

The ATA Home Telehealth SIG worked to develop a satisfaction item bank for the development of satisfaction surveys. This item bank also can be found on the ATA website.

The Department of Veterans Affairs created a Provider Satisfaction Item Bank to help staff develop Satisfaction Surveys.

9.5.1 - Telemonitoring Quality Improvement Policy

Telemonitoring Quality Improvement Policy

Purpose
The purpose of the Quality Improvement Policy is to ensure that the home telehealth quality improvement measures are incorporated into the agency's existing program

Policy for Monitoring Quality of Home Telemonitoring Services
The evaluation of quality home telemonitoring services will include but is not limited telemonitor patient satisfaction survey and policy for monitoring improvement in outcomes. The policy incorporates the following:

Policy for Monitoring Patient Satisfaction
- Home telemonitoring quality improvement will include a satisfaction survey for patients with telemonitoring
- Surveys will be reviewed per agency protocol

Policy for Monitoring Improvement in Outcomes
Improvement in outcomes will include review of the following:
- Telemonitor utilization
- Disease related measures
- Cost per case
- Average number of visits for telemonitor and nontelemonitor patients
- Average OASIS case mix weight
- Nursing productivity
- OBQI: acute care hospitalization rate
- OBQI: emergent care rate

Source: Home Telehealth Reference, 2005. Appendix, Glossary, and Resources, A-40

9.6.1 – Patient Satisfaction Survey

Home Telehealth
Patient Satisfaction Survey using Panasonic Tele Homecare Unit

Patient Name:_____

Reason for Home Telemedicine:
1. Management of Congestive Heart Failure __
2. Management of Diabetes Mellitus __
3. Management of Chronic Obstructive Pulmonary Disease ___
4. Management of or follow-up for Spinal Cord Injury or Dysfunction ___
5. Management of other chronic disease state ____
6. Follow-up for post-operative procedure ___
7. Follow-up care for skin integrity ____
8. None of the above; other ____

Please rate the following statement as I (strongly agree), 2 (agree), 3 (neutral) and 4 (disagree), 5 (strongly disagree)

The home telemedicine unit worked well.

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

The home telemedicine unit was easy to use.

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

The technology saved me from having to travel to the VA Medical Center for a visit

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

I think the providers have a better understanding of my care issues than they would have with a regular telephone call.

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

I am glad this technology is available for consultation between clinicians involved with my care and myself.

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

I would rather use this technology than come in for a visit.

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If there were problems with the home telemedicine units the problems were resolved in a timely manner (less than 48 hours)

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

Thank you for completing this survey.

9.6.2 – Survey Questions for Geriatric Patients

Patient

1. I am comfortable using the equipment.
2. The staff seemed comfortable using the equipment.
3. Interruptions during my TeleHealth appointment affected me in a negative manner.
4. The blood pressure cuff is easy to put on my arm.
5. The weight scale is easy to use.
6. The glucometer that measures my blood sugar is easy to use.
7. I was adequately trained to operate the equipment.
8. Home technology was easy to learn to use.
9. Overall I am comfortable with home Telehealth as a way to deliver care.
10. Home technology is easy to use.
11. Home technology is easy to understand.
12. Home technology works like it is suppose to.
13. Home technology works when I need it to.
14. Home technology helps get my health questions resolved in a timely way.
15. Home technology helps monitor my health condition.
16. Home technology is making a difference in my life.
17. Using home technology has helped me stay healthier.
18. Having staff monitor my health with the technology has made me feel more secure.
19. My health is (see scale below) than it was before I used the technology.
20. Home technology helps me to better manage my health and medical needs.
21. Staff is respectful and courteous.
22. My family members/caregiver seemed comfortable while using the equipment.

Provider

1. Patients needed frequent instruction from me on how to use the equipment.
2. I am able to identify patient problems using home technology.
3. I am able to develop a plan of care for my patient using home technology.
4. I am able to meet my patients' needs by using home technology.
5. I like Telehealth as a means for delivering home care.
6. Home technology is better than using the telephone alone.
7. I would recommend using home technology to other patients.
8. I would recommend using home technology to other healthcare professionals.

Equipment

1. Home technology is easy to use.
2. Home technology works like it is suppose to.
3. Home technology works when I need it to.
4. The blood pressure cuff is easy to use
5. The stethoscope is easy to use.
6. The pulse oximeter that measures oxygen level is easy to use.

7. The weight scale is easy to use.
8. The glucometer that measures blood sugar is easy to use.
9. The picture or image quality is good.

9.6.3 – Survey Questions for Video Patients

Patient

1. I am comfortable talking about my health and other concerns using the audiovisual equipment in my home.
2. I am comfortable talking with family members/caregiver while using the audiovisual equipment.
3. I am comfortable talking with staff (RN, LPN ,NA etc) while using the audiovisual equipment.
4. I feel comfortable using the audiovisual equipment.
5. The staff seemed comfortable using the audiovisual equipment.
6. Family members seemed to be comfortable using the audiovisual equipment.
7. The audio video encounters changed by daily routine.
8. I was comfortable with the changes in my daily routine.
9. The audiovisual equipment did not interfere with me paying attention to what family members/caregiver were saying during my appointment.
10. The audiovisual equipment interfered with me paying attention to what the staff said during my appointment.
11. The audiovisual equipment interfered with my appointment.
12. The audiovisual equipment seemed to distract my family members/caregivers during my appointments.
13. The interruptions affected my appointments.
14. The staff seemed to pay attention to me during my appointment.
15. The audio-video equipment is easy to use.
16. The stethoscope is easy to use.
17. The picture or image quality is good.
18. I like being able to see my blood pressure or other test results on the screen.
19. Outside interruptions at my home (location) interfere with my visits.
20. Using audio-video equipment interferes with my ability to pay attention to my patient.
21. Talking to the staff (RN, MD etc…) over the audio-video equipment is just like talking to them in person.
22. I am more involved in my care using the home technology.
23. Home technology encourages me to ask more questions than in face-to-face visits.

Provider

1. I am comfortable using audio-video equipment to deliver care to patients.
2. Compared to in-person visits, home technology has helped me keep the length of my visits to a reasonable time frame.
3. I spend more time during the first 5 TeleHomecare encounters establishing rapport with my patient than compared to time spent establishing rapport during the first 5 in-home visits.

Equipment

1. The audio-video equipment is easy to use.

2. Using audio-video equipment does not interfere with my ability to pay attention to my patient.
3. Talking to the staff (RN, MD etc…) over the audio-video equipment is just like talking to them in person.
4. I am comfortable using audio-video equipment to deliver my care.
5.

Data (non-video):

1. I like being able to see my blood pressure or other test results on the screen.
2. The software is easy to use.
3. The software makes it easy for me to monitor large numbers of clients.

9.6.4 – VA Telemedicine Provider Satisfaction Survey

Department of Veterans Affairs
Telemedicine Provider Satisfaction Survey Data Bank

Instructions:

This item bank contains a selection of questions to be used when evaluating provider perceptions of telemedicine encounters. Items are categorized as appropriate to general system/equipment for all modalities; videoconferencing; store-and-forward applications; and home care. In addition, open-ended items are included along with suggested demographic data the evaluator should consider collecting.

For the items included in the general system/equipment for all modalities, videoconferencing, store-and-forward, and home care categories, two response scales are included at the end of the document. An agree/disagree response scale can be used with all of the questions. However, some of the statements may be more meaningful when they are answered in comparison with in-person consultations or patient visits. For these items, the Worse/Better scale may be chosen. These items have an * following them.

General System/Equipment Questions (all modalities)

1. The system is easy to use.
2. The image quality is good.
3. The training I received adequately prepared me for using the system.
4. I am able to increase my productivity with telemedicine.
5. Telemedicine adds to my workload.
6. Telemedicine consultation is a good use of my time.
7. Telemedicine consultation is a good use of my skills.
8. I am able to respond to a consultation request in a timely manner.*
9. I am able to develop a diagnosis.*
10. I am able to identify a patient problem.*
11. I am able to develop a treatment plan.*
12. I am able to meet my patient's needs.*
13. I like telemedicine as a way to deliver care.*
14. Telemedicine helps me resolve my patients' health problems in a timely manner.*
15. Telemedicine helps me to monitor my patients' conditions.*
16. Telemedicine improves patients' compliance with therapy.*
17. I am able to develop patient care plans using telemedicine.*
18. I am able to implement patient care plans using telemedicine.*

Videoconferencing

1. Outside interruptions at my location interfere with the appointment (e.g., equipment is located in high traffic areas).
2. Outside interruptions at the patient's location interfere with the appointment.
3. Using the system limits the amount of information I can obtain from the patient/family members.
4. I feel comfortable using the system to talk with patients/family members.
5. Using the system limits my access to family members.
6. Equipment/system limitations (e.g., limited view; static; transmission delay) interfere with the patient-provider interaction.
7. The equipment interferes with my interaction with other staff that are present with the patient.
8. The technician operating the equipment at the other end interferes with the consultation process.
9. The technician/patient at the other end is skillful in operating the equipment.
10. The technician at this end is skillful in operating the equipment.
11. Use of telemedicine disrupts the flow of work in my clinic.
12. It is difficult to schedule a videoconference appointment.
13. I am able to keep the length of the visit to a reasonable time frame.*
14. I am able to establish rapport with the patient.*

Store-and-Forward (including Web-based systems, imaging and pathology systems)

1. Data are displayed in a meaningful format.

Home Care

1. The heart/lung sounds are easy to distinguish with the stethoscope.
2. The [name peripheral device] is easy to use.
3. I feel that the results from the [name peripheral device] are accurate.
4. Patients need frequent instruction from me on how to use the equipment during our visits.

Open Ended Questions (all modalities)

1. What telemedicine equipment are you using?
2. What do you like about the system?
3. What do you not like about the system
4. What difficulties have you experienced?
5. What causes you the most problems?
   (1) Peripherals?
   (2) Connectivity?
   (3) Image quality?
   (4) Audio quality?
   (5) Scheduling visits?
   (6) Additional workload?
   (7) Operation of the equipment?
- By provider
- By patient
6. How could the system be improved?

7. Did you receive training on the system? Yes No
If yes,
Did you receive the appropriate level of training? Yes No
Did you receive high quality training? Yes No
If no, do you feel a need to receive training? Yes No
8. Are there specific patients or diagnostic groups for which telemedicine is not appropriate?
9. Are there specific patients or diagnostic groups for which telemedicine is particularly useful?
10. Do you also need to see patients in-person if using telemedicine?
If yes,
When/why? (e.g., first encounter with patient, during acute episodes or exacerbations)
11. What were your expectations for telemedicine before using the current system? Were your expectations met?

Demographics

1. Age
2. Gender
3. Years experience as a clinician
4. Years in VA
5. How long have you been using telemedicine as a way to deliver care?
6. On average, how many patients per week do you see via telemedicine?
7. On average, how many hours per week do you spend on patient care activities via telemedicine?
8. Do you receive workload credit for telemedicine visits?
9. Provider type (circle only one)

a) Physician
b) Nurse practitioner
c) Registered nurse
d) Licensed practical nurse
e) Physical therapist
f) Occupational therapist
g) Social Worker
h) Dietitian
i) Pharmacist
j) Psychologist
k) Other _____

10. Type of specialty (circle only one)

a) Primary Care
b) Medical
c) Surgical
d) Psychiatry/Mental Health
e) Home care
f) Spinal cord injury
g) Other _____

Response Scales

Agree/Disagree. An agree/disagree response scale can be used with all of the questions. The instructions for using this scale are as follows:
Please circle the number that best reflects the extent to which you agree with the following statements about telemedicine as a way to deliver care: (1) Strongly Disagree, (2) Somewhat Disagree, (3) Neither Disagree nor Agree, (4) Somewhat Agree, (5) Strongly Agree, (6) Not Applicable.

***Worse/Better.** Some of the statements may be more meaningful when they are answered in comparison with in-person consultations, patient visits, or telephone consultations. These statements are noted with an asterisk (*). The instructions for using a worse/better scale are as follows:
Please respond to the following items indicating whether telemedicine is (1) Much Worse, (2) Somewhat Worse, (3) The Same, (4) Somewhat Better, or (5) Much Better than in-person consultations or patient visits.

Section 10 - Marketing

While marketing your Telehealth program, one should consider three crucial goals: 1) embellish upon the use of a technical means to care for patients. 2) quality of care that will remain abreast with the ever-changing medical arena. 3) The benefits- organizational growth and financial stability that Telehealth programs can play in an organization.

Marketing a Home Telehealth program should begin during the planning phase and should include internal and external stakeholders. Sharing of information early on also will encourage buy-in from healthcare providers and other clinicians whose collaboration will be vital to the success of the program. In person presentations to key stakeholders, such as physician offices, assisted living facilities, and insurance companies will foster a relationship that will enhance referrals.

Additional areas for publicity include, educational programs, technology fairs, luncheons or related events can be used to enlighten the public and build a base of support for the program. Press releases to the local media: newspapers, TV, Internet and radio stations also should be

10.1 - Home Telehealth Marketing

Marketing is a business function that permits the segmentation of a population of people into potential customers, or markets, for a product or service. The goal is to identify the wants and needs of these customers, and to develop a communication and action strategy that creates customer desire for and consumption of a product or service.

In home telehealth care, there are three primary customer groups, or stakeholders: Patients, Providers and Payers. Successful marketing to each of these three groups requires an understanding of what is relevant to each; it requires an understanding of their needs and wants. Customer segmentation is crucial to targeting each group with a relevant message and with the right communication tactic at the most strategic time.

Marketing plans generally have the following format:

1. Executive Summary
2. Market Audit
3. Market Position
4. Market Strategies
5. Market Objectives
6. Market Actions

The Executive Summary is optional but useful in summarizing Market Position, Strategies, Objectives and Actions. It should not exceed five pages, and optimally, it should be two.

The Market Audit is an analysis of factors in the home health environment and within customer groups that would lead to more consumption of home health services.

The Market Position is the ***actual*** place that the home health care organization occupies in the minds of its targeted customers. Keep in mind that what customers perceive about an organization can be changed with careful planning of a targeted message that focuses on what those particular customers want and need.

Market Strategy is the path the home health agency will use to get to the Market Position its wants to occupy in the minds of its targeted customers. You could be satisfied with your current Market Position, but every position must be maintained, so a maintenance strategy also should be part of the plan. Most often, however, marketing is designed to reposition based on a changing or changed environment in home health care. This definitely would be the case when marketing home telehealth care in the prospective payment environment.

Marketing Objectives are derived from the Market Strategy. Objectives are specific, measurable and time-defined statements that help to translate Market Strategy into Market Actions, step by step.

Marketing Actions are derived from the Market Objectives. Actions are the specific steps that must be taken to implement each Objective. The achievement of each Objective contributes to the overall outcome, success or failure, of the marketing plan.

The following is a prototype plan for marketing a home telehealth program within a traditional home health agency. Each step in the marketing plan gives an abbreviated example of how things would be tailored based on the particular customer group being targeted: Patient, Provider, Payer.

10.2 - Market Audit

Home health care is one of the most frequent applications of telehealth in the United States. The top three reasons for using telehealth include increased access to care, increased quality of care, and more efficient uses of resources. Under the prospective payment system introduced earlier in this decade, home telehealth deployment has accelerated.

A number of studies have shown that some of the primary benefits that providers perceive for home telehealth programs include:

1. Patients were more focused on the nurse during instruction
2. Nurses could monitor family caregiver performance during wound care
3. Decreased provider travel time
4. Decreased doctors visits and phone calls to the doctor's office and home health agency
5. Visual element lets nurse see the medical problem rather than simply hear the problem described over the telephone

The primary benefits that patients have articulated for home telehealth include:

1. Increased and faster access to health care advice
2. Increased personal attention from nursing staff because staff did not seem to be in a hurry to get to the next home visit

3. Transportation and travel time savings if doctor visits became necessary without just-in-time home health advice
4. Reduced confusion over medication use
5. Televisit often shorter but more productive

Benefits that payers might perceive include:

1. Reduced hospitalizations, emergency department, and physician office visits
2. Incremental education results in better health/disease learning outcomes
3. More visits can be done for same disease episode

With the biggest demographic shift of the century taking place as the baby boom generation desires to "age in place," and, with a more technology-savvy generation of both patients and providers, the environment is ripe for home telehealth. Each targeted customer group – patients, physicians and payers – have definable needs and articulated benefits that can be crafted into marketing messages that work for each.

10.3 - Market Position

An organization has limited control over how customers perceive it, but perception can be influenced by target marketing. Focus groups with patients and physicians can provide insight into how a home health agency is perceived. Most often neither patients, physicians nor payers know what home telehealth is, so it is likely that repositioning is not necessary. Rather, the goal would be to create an expectation of what home telehealth can deliver in terms of benefits for patients and physicians. Currently, there is no reimbursement for home telehealth, but payers can be targeted for cost savings messages. Marlowe (1999) advises not to base market position on technology because competitors can close the gap too easily. Rather, market position can be based on faster access, a direct result of technology investment on the part of the home health agency.

Branding is an important part of Market Position. A brand is something that customers want regardless of their other options. A home health agency that offers added value by making televisits available to supplement in-home visits is creating a brand that differentiates it from agencies that do not have a telehealth option. Marketing the value-added of home telehealth can create a differentiated brand of home health that customers want.
A branded message for each customer segment could be the following:

- ✓ The value-added benefit for patients could be "just-in-time" nursing advice.
- ✓ The value-added benefit for physicians could be cost-savings for staff that don't have to spend time on the phone with recently discharged patients who are confused about wound care.
- ✓ The value-added benefit for payers could be reduced re-hospitalizations

10.4 - Marketing Strategy

A marketing strategy for use when patients are the focus of the marketing plan would be:

Increase patient demand for home telehealth by delivering timely nursing advice to patients and caregivers in the home.

A marketing strategy for use when physicians are the focus of the marketing plan would be:
Increase utilization of home telehealth by making physicians aware that nurses will supplement traditional in-home visits with televisits, providing better continuity of care and potentially better health outcomes.

A marketing strategy for use when payers are the focus of the marketing plan would be:
Return cost savings to home health agencies that use telehealth to reduce hospitalizations and emergency room visits per episode of care.

10.5 - Marketing Objectives

Objectives are derived from the marketing strategy and must be specific enough to include a reasonable time frame and be measurable so that one knows when the objective has been achieved. The objective for the marketing strategy targeting patients would be: Increase patient demand for home telehealth from the current five patient homes to 10 patients' home in the next fiscal quarter.

The objective for the marketing strategy targeting physicians would be: Increase the number of physicians willing to approve televisits as part of the home health plan of care for CHF patients from current two physicians to eight physicians within the next six months.

10.6 - Marketing Actions

Marketing actions are the actual tactics that are employed to implement a Marketing Objective. If the Objective is to increase patient demand for home telehealth from the current five patient's homes to 10 homes in the next fiscal quarter, a Marketing Action might be to print patient and/or caregiver testimonials in a brochure given to newly discharged patients who are eligible for home care.

A marketing tactic for an objective targeting physicians to increase the number of doctors willing to order televisits as part of the home care plan might be to document and provide to them improved outcomes for blood sugar control for those CHF patients with diabetes who benefited from a mix of traditional and home telehealth.

10.7 - Summary

The role of marketing is to determine what is relevant to patients and health care providers so their relationship can be solidified and made to be mutually beneficial. In the particular case of home health, the primary value added for patients is quicker access to nursing advice and caregiver support, and for physicians it is better health outcomes. Home telehealth is a proven performer in providing these benefits to the mutual benefit of both patients and providers.

10.8.1 – Sample Press Release

FOR IMMEDIATE RELEASE

Contact:
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Nurses See their Patients Without Leaving the Office

Area home health nurses and their patients are visiting one another without ever leaving home or the office.

"I never thought my nurse could listen to my heart or check my blood pressure without coming out to the house, but she can and we love the convenience," said Tom Johnson, 65, of White Plains. "It's just like my nurse was here in person."

The home telehealth program that Johnson is talking about uses your plain old telephone system and some simple television and converter equipment to make it possible for area nurses to televisit their patients without leaving the office.

"We decided to invest in this inexpensive technology so that we could give more consistent and timely care to our patients," said Jane Monroe, CEO of Better Care Home Health Agency in Titusville. "The federal government has been investing heavily in telehealth technologies, and we thought that one of the better fits for this type of technology would be in our patient's homes."

Nurses See their Patients

Monroe said that her agency uses a mix of in-home and televisits to extend the amount of nurse attention to their patients, and to help patients feel more comfortable that health care advice is available at the click of a button.

The American Telemedicine Association estimates that home telehealth is one of the top five applications of telemedicine technology in the country. At least 50 programs around the country are using different types of home telehealth, ranging from simple store-and-forwarding of vital signs, such as temperature, weight or blood pressure, to programs that use two-way interactive television systems so that nurse and patient can visit electronically.

Physicians must approve the use of televisits for home health agencies.

- More details.
- More details.
- More details.

For broadcast news releases, there should be accompanying sound bite(s) (10-15 seconds) and/or a video clip (15-20 seconds).

Section 11 - Resources

11.1 - Glossary of terms

This is a partial listing of the most commonly used words or phrases to describe home telehealth activities, equipment or requirements.

Application Service Provider (ASP): An ASP hosts a variety of applications on a central server. For a fee, customers can access the applications that interest them over secure Internet connections or a private network. This means that they do not need to purchase, install and maintain the software themselves; instead they rent the applications they need from their ASP. Even new releases, such as software upgrades, are generally included in the price

Asynchronous: This term is sometimes used to describe store and forward transmission of medical images or information because the transmission typically occurs in one direction in time. This is the opposite of synchronous (see below).

Authentication: A method of verifying the identity of a person sending or receiving information using passwords, keys and other automated identifiers.

Bandwidth: A measure of the information carrying capacity of a communications channel; a practical limit to the size, cost, and capability of a telemedicine service.

Bluetooth Wireless: Bluetooth is an industrial specification for wireless personal area networks (PANs). Bluetooth provides a way to connect and exchange information between devices such as mobile phones, laptops, PCs, printers, digital cameras and video game consoles over a secure, globally unlicensed shortrange radio frequency. The Bluetooth specifications are developed and licensed by the Bluetooth Special Interest Group.

Broadband: Communications (e.g., broadcast television, microwave, and satellite) capable of carrying a wide range of frequencies; refers to transmission of signals in a frequency-modulated fashion, over a segment of the total bandwidth available, thereby permitting simultaneous transmission of several messages.

Clinical Information System: Relating exclusively to the information regarding the care of a patient, rather than administrative data, this hospital-based information system is designed to collect and organize data.

CODEC: Acronym for coder-decoder. This is the videoconferencing device (e.g., Polycom, Tandberg,Sony, Panasonic, etc) that converts analog video and audio signals to digital video and audio code and vice versa. CODECs typically compress the digital code to conserve bandwidth on a telecommunications path.

Compressed video: Video images that have been processed to reduce the amount of bandwidth needed to capture the necessary information so that the information can be sent over a telephone network.

Computer-based Patient Record (CPR): An electronic form of individual patient information that is designed to provide access to complete and accurate patient data.

Data Compression: A method to reduce the volume of data using encoding to reduce image processing, transmission times, bandwidth requirements, and storage space requirements. Some compression techniques result in the loss of some information, which may or may not be clinically important.

Diagnostic Equipment (Scopes, Cameras & Other Peripheral Devices): A hardware device not part of the central computer (e.g. digitizers, stethoscope, or camera) that can provide medical data input to or accept output from the computer.

Digital Camera (still images): A digital camera is typically used to take still images of a patient. General uses for this type of camera include dermatology and wound care. This camera produces images that can be downloaded to a PC and sent to a provider/consultant over a network.

Digital Imaging and Communication in Medicine (DICOM): A standard for communications among medical imaging devices; a set of protocols describing how images are identified and formatted that is vendor-independent and developed by the American College of Radiology and the National Electronic Manufacturers Association.

Disease Management: A continuous coordinated health care process that seeks to manage and improve the health status of a carefully defined patient population over the entire course of a disease (e.g., CHF, DM) The patient populations targeted are high-risk, high-cost patients with chronic conditions that depend on appropriate care for proper maintenance.

Distance Learning: The incorporation of video and audio technologies, allowing students to "attend" classes and training sessions that are being presented at a remote location. Distance learning systems are usually interactive and are a tool in the delivery of training and education to widely dispersed students, or in instances in which the instructor cannot travel to the student's site.

Distant Site: The distant site is defined as the telehealth site where the provider/specialist is seeing the patient at a distance or consulting with a patient's provider. (CMS) Others common names for this term include – hub site, specialty site, provider/physician site and referral site. The site may also be referred to as the consulting site.

Document Camera: A camera that can display written or typed information (e.g., lab results), photographs, graphics (e.g., ECG strips) and in some cases x-rays.

Electronic Data Interchange (EDI): The sending and receiving of data directly between trading partners without paper or human intervention.

Electronic Patient Record: An electronic form of individual patient information that is designed to provide access to complete and accurate patient data, alerts, reminders, clinical decision support systems, links to medical knowledge, and other aids.

Encryption: A system of encoding data on a Web page or e-mail where the information can only be retrieved and decoded by the person or computer system authorized to access it.

Firewall: Computer hardware and software that block unauthorized communications between an institution's computer network and external networks.

Full-motion Video: This describes a standard video signal that allows video to be shown at the distant end in smooth, uninterrupted images.

Guideline: A statement of policy or procedures by which to determine a course of action, or give guidance for setting standards (Loane & Wootton, 2002).

H.320: This is the technical standard for videoconferencing compression standards that allow different equipment to interoperate via T1 or ISDN connections.

H.323: This is the technical standard for videoconferencing compression standards that allow different equipment to interoperate via the Internet Protocol (see below).

H.324: This is the technical standard for videoconferencing compression standards that allow different equipment to interoperate via Plain Old Telephone Service (POTS).

Health Level-7 Data Communications Protocol (HL-7): This communication standard guides the transmission of health-related information. *HL7* allows the integration of various applications, such as bedside terminals, radiological imaging stations, hospital census, order entries, and patient accounting, into one system.

HIPAA: Acronym for Health Information Portability Act.

Home Health Care & Remote Monitoring Systems: Home health care is care provided to individuals and families in their place of residence for promoting, maintaining, or restoring health; or for minimizing the effects of disability and illness, including terminal illness. In the Medicare Current Beneficiary Survey and Medicare claims and enrollment data, home health care refers to home visits by professionals including nurses, physicians, social workers, therapists, and home health aides. Using remote monitoring and interactive devices allows the patient to send in vital signs on a regular basis to a provider without the need for travel.

Informatics: The use of computer science and information technologies to the management and processing of data, information and knowledge.

Integrated Services Digital Network (ISDN): This is a common dial-up transmission path for videoconferencing. Since ISDN services are used on demand by dialing another ISDN based device, per minute charges accumulate at some contracted rate and then are billed to the site placing the call. This service is analogous to using the dialing features associated with a long distance telephone call. The initiator of the call will pay the bill. ISDN permits connections up to 128Kbps.

Interactive Video/Television: This is analogous with video conferencing technologies that allow for two-way, synchronous, interactive video and audio signals for the purpose of delivering telehealth, telemedicine or distant education services. It is often referred to by the acronyms – ITV, IATV or VTC (video teleconference).

Internet Protocol: The Internet Protocol (IP) is the protocol by which data is sent from one computer to another on the Internet. Each computer on the Internet has at least one address that

uniquely identifies it from all other computers on the Internet. IP is a connectionless protocol, which means that there is no established connection between the end points that are communicating. The IP address of a videoconferencing system is its phone number.

Interoperability: Interoperability refers to the ability of two of more systems* to interact with one another and exchange information in order to achieve predictable results (*refers to more than technical systems) (Bergman, Ulmer and Sargious, 2001). There are three types of interoperability: human/operational; clinical; and technical (Canadian Society for Telehealth, 2001). Interoperability refers to the ability of two or more systems (computers, communication devices, networks, software, and other information technology components) to interact with one another and exchange data according to a prescribed method in order to achieve predictable results (ISO ITC-215).

ISDN Basic Rate Interface (BRI): This is an ISDN interface that provides 128k of bandwidth for videoconferencing or simultaneous voice and data services. Multiple BRI lines can be linked together using a multiplexer (see below) to achieve higher bandwidth levels. For instance, a popular choice among telehealth networks is to combine 3 BRI lines to provide 384k of bandwidth for video-conferencing. It should be noted that BRI services are not available in some rural locations. One should check with their telecommunications providers on the availability of BRI service before ordering videoconferencing equipment that uses this type of service.

ISDN Primary Rate Interface (PRI): This is an ISDN interface standard that operates using 23, 64k channels and one 64k data channel. With the proper multiplexing equipment the ISDN PRI channels can be selected by the user for a video call. For instance if the user wants to have a videoconference at 384k of bandwidth then they can instruct the multiplexer to use channels 1 through 6 (6 x 64k = 384k). This is important because the user typically pays charges based on the number of 64k channels used during a videoconference. The fewer channels used to obtain a quality video signal the less expensive the call.

JCAHO: Acronym for Joint Commission on Accreditation of Healthcare Organizations.

Lossless: A format of data compression, typically of an order of less than 2:1, in which none of the original data information is lost when the image is reproduced.

Lossy: A process of data compression at a relatively high ratio, which leads to some permanent loss of information upon reconstruction.

Medical/ Nursing Call Center: A call center is a centralized office that answers incoming telephone calls from patients. Such an office may also respond to letters, faxes, e-mails and similar written correspondence. Usually staffed by nurses, call centers provide basic health information and instructions to callers but do not provide an official diagnosis of conditions or prescribe medicine. Call centers act as an initial triage point for patients.

Mobile Telehealth: The provision of health care services with the assistance of a van, trailer, or other mobile unit in which the health care provider might provide patient services at a distance from a normal medical facility. Services may also be provided through mobile technologies that allow a mobile vehicle equipped with medical technologies to attach to an existing health care facility, such as mobile CT, MRI, or TeleDentistry.

Multiplexer (MUX): A device that combines multiple inputs (ISDN PRI channels or ISDN BRI lines) into an aggregate signal to be transported via a single transmission path.

Multi-point Control Unit (MCU): A device that can link multiple videoconferencing sites into a single videoconference. An MCU is also often referred to as a "bridge".

Multi-point Teleconferencing: Interactive electronic communication between multiple users at two or more sites which facilitates voice, video, and/or data transmission systems: audio, graphics, computer and video systems. Multi-point teleconferencing requires a MCU or bridging device to link multiple sites into a single videoconference.

Network Integrators: Organizations specializing in the development of software and related services that allows devices and systems to share data and communicate to one another.

Originating Site: The originating site is where the patient and/or the patient's physician is located during the telehealth encounter or consult (CMS). Other common names for this term include – spoke site, patient site, remote site, and rural site.

Patient Exam Camera (video): This is the camera typically used to examine the general condition of the patient. Types of cameras include those that may be embedded with set-top videoconferencing units, handheld video cameras, gooseneck cameras, camcorders, etc. The camera may be analog or digital depending upon the connection to the videoconferencing unit.

Peripheral Devices: Any device that is attached to a computer externally, i.e. Scanners, mouse pointers, printers, keyboards; and clinical monitors such as pulse oximeters, weight scales, are all examples of this.

Pharmacy Solutions: The use of electronic information and communication technology to provide and support comprehensive pharmacy services when distance separates the participants.

POTS: Acronym for Plain Old Telephone Service.

Presenter (Patient Presenter): Telehealth encounters require the distant provider to perform an exam of a patient from many miles away. In order to accomplish that task an individual with a clinical background (e.g., LPN, RN, etc) trained in the use of the equipment must be available at the originating site to "present" the patient, manage the cameras and perform any "hands-on" activities to successfully complete the exam. For example, a neurological diagnostic exam usually requires a nurse capable of testing a patient's reflexes and other manipulative activities. It should be noted that in certain cases, such as interview based clinical consultations such as Telemental Health or Nutrition Services, that a licensed practitioner such as an RN or LPN, might not be necessary, and a non-licensed provider such as support staff, could provide telepresenting functions.

RHIO: Regional Health Information Organization (RHIO) and Health Information Exchange (HIE) are often used interchangeably. RHIO is a group of organizations with a business stake in improving the quality, safety, and efficiency of healthcare delivery. RHIOs are the building blocks of the proposed National Health Information Network (NHIN) initiative at the Office of the National Coordinator for Health Information Technology (ONCHIT).

Router: This device provides an interface between two networks or connects sub-networks within a single organization. It routes network traffic between multiple locations and it can find the best route between any two sites. For example, PCs or H.323 videoconferencing devices tell the routers where the destination device is located and the routers find the best way to get the information to that distant point.

Standard: A statement established by consensus or authority, that provides a benchmark for measuring quality, that is aimed at achieving optimal results (NIFTE Research Consortium, 2003).

Store and Forward (S&F): S&F is a type of telehealth encounter or consult that uses still digital images of a patient for the purpose of rendering a medical opinion or diagnosis. Common types of S&F services include radiology, pathology, dermatology and wound care. Store and forward also includes the asynchronous transmission of clinical data, such as blood glucose levels and electrocardiogram (ECG) measurements, from one site (e.g., patient's home) to another site (e.g., home health agency, hospital, clinic).

Switch: A switch in the videoconferencing world is an electrical device that selects the path of the video transmission. It may be thought of as an intelligent hub (see hub above) because it can be programmed to direct traffic on specific ports to specific destinations. Hub ports feed the same information to each device.

Synchronous: This term is sometimes used to describe interactive video connections because the transmission of information in both directions is occurring at exactly the same period.

System/Network Integration: The use of software that allows devices and systems to share data and communicate to one another.

T1/DS1: A digital carrier or type of telephone line service offering high-speed data, voice, or compressed video access in two directions, with a transmission rate of 1.544 Mbps.

T3/DS3: A carrier of *45* Mbps.

TCP/IP (Transmission Control Protocol/Internet Protocol): The underlying communications rules and protocols that allow computers to interact with each other and exchange data on the Internet.

Telecommunications Providers: An entity licensed by the government (the Federal Communications Commission in the U.S.) to provide telecommunications services to individuals or institutions.

Teleconferencing: Interactive electronic communication between multiple users at two or more sites which facilitates voice, video, and/or data transmission systems: audio, graphics, computer and video systems.

Telehealth and Telemedicine: Telemedicine and telehealth both describe the use of medical information exchanged from one site to another via electronic communications to improve patients' health status. Although evolving, telemedicine is sometimes associated with direct

patient clinical services and telehealth is sometimes associated with a broader definition of remote healthcare services.

Telematics: The use of information processing based on a computer in telecommunications, and the use of telecommunications to permit computers to transfer programs and data to one another.

Telementoring: The use of audio, video, and other telecommunications and electronic information processing technologies to provide individual guidance or direction. An example of this help may involve a consultant aiding a distant clinician in a new medical procedure.

Telemonitoring: The process of using audio, video, and other telecommunications and electronic information processing technologies to monitor the health status of a patience from a distance.

Telepresence: The method of using robotic and other instruments that permit a clinician to perform a procedure at a remote location by manipulating devices and receiving feedback or sensory information that contributes to a sense of being present at the remote site and allows a satisfactory degree of technical achievement. For example, this term could be applied to a surgeon using lasers or dental hand pieces and receiving pressure similar to that created by touching a patient so that it seems as though s/he is actually present, permitting a satisfactory degree of dexterity.

Teleradiology and Picture Archiving and Communications Systems (PACs): The electronic transmission of radiological images, such as x-rays, CTs, and MRIs, for the purposes of interpretation and/or consultation. Digital images are transmitted over a distance using standard telephone lines, satellite connections, or local area networks (LANs). Teleradiology also is beginning to include the process of interfacing with the hospital information systems/radiology information systems (HIS/RIS) in the transport of digital images. PACs provide centralized storage and access to medical images over information systems.

Ultrasound: A device that uses high-frequency sound waves to examine structures inside the body. It can rapidly detect tumors and other abnormalities, often right in the physician's office.

Universal Service Administrative Company (USAC): The Universal Service Administrative Company administers the Universal Service Fund (USF), which provides communities across the country with affordable telecommunication services. The Rural Health Care Division (RHCD) of USAC manages the telecommunications discount program for health care.

Videoconferencing Systems: Equipment and software that provide real-time, generally two way transmission of digitized video images between multiple locations; uses telecommunications to bring people at physically remote locations together for meetings. Each individual location in a *videoconferencing* system requires a room equipped to send and receive video.

Videoconferencing: Real-time, generally two way transmission of digitized video images between multiple locations; uses telecommunications to bring people at physically remote locations together for meetings. Each individual location in a *videoconferencing* system requires a room equipped to send and receive video.

WiFi: Originally licensed by the Wi-Fi Alliance to describe the underlying technology of wireless local area networks (WLAN) based on the IEEE 802.11 specifications. It was developed to be used for mobile computing devices, such as laptops, in LANs, but is now increasingly used for more services, including Internet and VoIP phone access, gaming, and basic connectivity of consumer electronics such as televisions and DVD players, or digital cameras. (Wikipedia)

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11.3 - Websites

Center for Telehealth and E-Health Law
http://www.ctel.org/

Federal Telemedicine Update
www.federaltelemedicine.com

Veterans Health Administration Telemedicine
http://www.va.gov/occ/

Telemedicine Information Exchange
http://tie.telemed.org

11.4 - Journals

Telemedicine Journal and e-Health
www.liebertpub.com

Journal of Telemedicine and Telecare
www.rsmpress.co.uk/jtt.htm

11.5 - Organizations

American Telemedicine Association
www.americantelemed.org

American Telemedicine Service Providers
www.atsp.org

The Joint Commission
http://www.jointcommission.org/

Community Health Accreditation Program
http://www.chapinc.org/