

TELEMEDICINE
***MAKING AFFORDABLE AND QUALITY
CARE AVAILABLE TO EMPLOYEES***


The University of Texas Medical Branch


Morningside Ministries

TELEMEDICINE

Alvin Loewenberg, President/CEO
Morningside Ministries
San Antonio, Texas


Morningside Ministries

Before We Begin....
A Little Bit About UTMB and
Morningside Ministries


The University of Texas Medical Branch


Morningside Ministries

University of Texas Medical Branch



UTMB

UTMB founded in 1891 as a Medical Department.
Currently has 70 buildings, 2,500 students, 1,000 faculty and 13,000+ employees.
Part of the UT System and has 4 schools, 3 institutes of advanced study, network of hospitals and clinics for primary and specialty care as well as research departments.



University of Texas Medical Branch



Hurricane Ike





Morningside Ministries

- Serving Senior Adults for more than 48 years in San Antonio and Boerne, Texas
- Offer Independent Living, Assisted Living, Memory Care, Skilled Nursing and a Senior Center on three campuses
- Fifteen-unit hospice July 2009
- Over 800 residents reside with us
- More than 650 employees



How it all began...



How it all began...

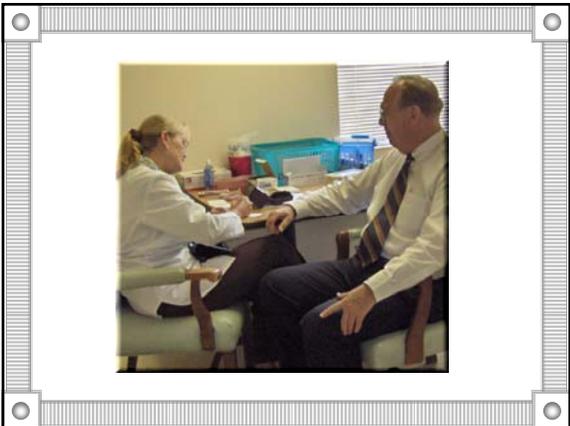


How it all began...













Telemed Cart



- An innovative, single-unit clinical telemedicine unit for remote care
- Electronic medical record, videoconference system, and medical peripherals included
- Portable with rapid-deploy packaging

At Remote Sites



What Are The Benefits Of This Technology?

- Allows patient to receive care when and where it is needed
- Removes geography as a barrier to care
- Offers under-represented medical specialties in rural areas
- Has demonstrated cost effectiveness
- Successful use of telemedicine in correctional facilities and employee health

What Are The Benefits?



- Offers Chronic Care Management
- Increased/improved access to care
- Very serious conditions caught early

What Are The Benefits?



- Reduced time away from work site
- Increased productivity
- Employer cares

What Are The Benefits?



- Reduces inappropriate ER utilization
- Reduces Urgent Care utilization

What Are The Benefits?



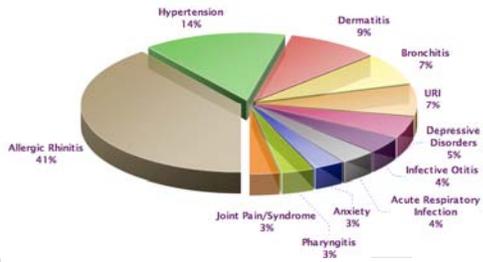
- Convenient
- Available to employees' immediate family
- Can be a recruitment tool

What Are The Benefits?



- 'Accidental' discovery:
Utilize technology for distance learning

Morningside Clients



What Can Telemed Treat?

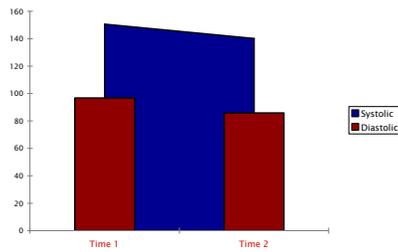
- Non-emergent primary care diagnoses and treatment services (with the exclusion of procedure oriented treatments)
- Some typical medical problems seen and treated by our telemedicine clinics are:
 - Minor episodic medical problems: upper respiratory conditions, urinary tract infections, rashes, strains and muscular skeletal problems. Travel medicine advices and appropriate medical prophylaxes. We also offer medical consults/second opinions.

What Can Telemed Treat?

- In cooperation with your employee's private primary care physician and specialty care physicians, we can efficiently and effectively manage many chronic disease states, such as but not limited to the following:
 - Hypertension
 - Diabetes
 - Endocrine disorders
 - Mental health problems
 - Obesity
 - Tobacco cessation
 - Chronic Pulmonary insufficiencies

Outcomes

Blood Pressure Monitoring for Hypertension



Potential Barriers



Not A Fear of Flying
A Fear of "FAILING"



Confidence in Provider



Fear That Technology Causes Lack
of Intimacy in Doctor/Patient
Relationship



Concerns Regarding Reimbursement



How Reimbursed

- AT&T GRANTS
- One dollar per pay period membership fee
- \$5 or \$10 co-pay
- \$45 for non-members
- Filed with Morningside 's Health Insurance Carrier
- Budget \$80,000 annually for the service

Lack of Space and Privacy







**CURRENTLY ENROLLING
FOR 2009/2010**

Enrollment currently in process...

So far at 70%





THANK YOU FOR ATTENDING

TELEMEDICINE

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CARE AVAILABLE TO EMPLOYEES


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**PRESBYTERIAN
HOMES & SERVICES**
A Community of Care
 4290 Middle Settlement Road
 New Hartford, New York 13413
 (315) 797-7500



"Our mission is to excel in providing healthcare, housing and community services while promoting individual wellness and independence in a dignified manner."

SPECIALIZED CARE

- **Belief:**
Specialized Residences = Optimal Care
- **Focus:**
 - Parkinson Disease
- **Result:**
Presbyterian Home Parkinson Residence
The Nation's First Specialized Parkinson Residence in a Skilled Nursing Facility

MISSION STATEMENT

The Presbyterian Home for Central New York is committed, utilizing a holistic approach, to medically manage the specialized physical, social and psychological needs of the Parkinson and movement disorder community. We will provide a Parkinson and movement disorder residence along with outpatient services specifically designed to meet their comprehensive needs. Priority will be given to educating staff, customizing our plan of care to meet their unique pharmaceutical, neurological, dietary and therapy needs to maximize the potential of each individual.

We will explore creative interventions, utilizing the innovations of medical consultants, our medical team, staff and families along with the expertise of the person with Parkinson Disease. We are committed to provide services to the Parkinson and movement disorder community with compassion, dignity and respect always striving to inspire and comfort.

VISION STATEMENT

As regional leader, we serve the Parkinson and movement disorder community by providing for their specialized medical needs, comfort, independence and quality of life.

Our success will be measured by the satisfaction of those we serve and the inspiration we provide for others to replicate our program.



PARKINSON RESIDENCE - HISTORY

- Approached by Members of CNYPSG
- Consultation, Education, Planning
 - 2001: Residence Opened
- 2002: Introduction of "Bob's Room"
- 2006: Opening of Telemedicine Suite at Presbyterian Home



TELEMEDICINE & PARKINSON DISEASE

Parkinson Disease – Unique Challenges, Obstacles to Proper Treatment:

- nature of the illness – compromised mobility
- location – limited number of neurologists
- distance from specialists
- travel, when possible, compromises patient's condition at appointments

Parkinson Disease & Long-Term Care:

- up to 40% of Parkinson patients eventually need nursing home care
- access to neurologists is further limited
- estimate: more than half are not receiving optimal treatment

The Ideal Solution: Telemedicine



PRESBYTERIAN HOME TELEMEDICINE PROJECT

- 2006: Opening of Telemedicine Suite at Presbyterian Home
- 2007: First Collaboration with University of Rochester Neurology Dept.
 - Clinical Study of One Parkinson Patient
 - Results Presented at International Neurological Seminar, Summer 2008
- 2008: Second Collaboration with University of Rochester
 - Clinical Study with Expanded Number of Parkinson Patients
 - Results to be Published in Leading Neurological Journal in 2009
- 2009: Continued Collaboration with University of Rochester
 - Clinical Study with Number of Patients Further Expanded
 - Twice as Many Parkinson Patients as Previous Year Will Receive Telemedicine Visits
 - 2009:
University of Rochester to Present Completed Presbyterian Home Studies at Movement Disorder Society's 13th International Congress of Parkinson Disease & Movement Disorders in Paris



THE PEOPLE

- Patients:
 - members of CNYPSG
 - residents of Presbyterian Home
 - non-resident Parkinson patients
- Doctors:
 - Kevin Biglan, MD, University of Rochester
 - E. Ray Dorsey, MD, University of Rochester
- Presbyterian Home Staff:
 - Scott Brehaut, MD, Medical Director
 - Tony Joseph, Administrator
 - Sandy Smith, Director of Information Technology
 - Lucy Viti, RN, Director of Nursing
 - Anna Appler, RN, Nurse Manager Parkinson Residence
 - Jo Grogan, Director Adult Day Health Program
 - Polly Di Cesare, Director of Social Services
- Technology Planning & Consultation:
 - Ed Lipson, PhD, Syracuse University
 - Paul Gelling, SenSyr, LLC
 - John Mullo, Technology Consultant



THE EQUIPMENT

- Host Facility:
 - Previously Used:
 - Dell personal computer with dual monitors and Logitech camera
 - Turtle Beach cameras
 - CollabWorx SIM software
 - Currently Using:
 - Polycom software and equipment
 - Turtle Beach camera and laptop
 - widescreen television
 - Time Warner business class broadband connection
 - 6mbps by 1.5 mbps
- Recipient Facility:
 - personal computer
 - broadband connection



THE RESULTS

STUDY ONE:

- patient expressed satisfaction with the care he received
- over the course of five visits, trihexyphenidyl and donepezil were discontinued and the dosing and timing of the remaining medications were adjusted
- after six months of telemedicine care, the patient reported fewer dyskinesias
- after six months, the patient's "on time" had increased from 20% to 40% of the waking day
- Mini-Mental Status Examination scores improved from 21/30 to 30/30 at the 4th visit
- by the final visit, the illusions and behavioral concerns resolved, was better able to feed himself
- the elimination of trihexyphenidyl resulted in resolution of cognitive impairment and eliminated the need for donepezil (The eliminated medications resulted in a savings of \$181.50 per month.)



STUDY TWO:

- feasibility of telemedicine treatment for Parkinson Disease established by 100% completion of telemedicine visits by patients living in the community and 94% completion among nursing home residents
- patients receiving telemedicine showed significant improvement in quality of life and motor function compared to those who received standard care (6.3 improvement vs. 17.2 worsening in quality of life and .33 improvement vs. 6.5 worsening in motor function)
- nine of the ten telemedicine participants opted to continue receiving care via telemedicine



CONCLUSION:

TELEMEDICINE
OFFERS AN IDEAL SOLUTION
TO OVERCOMING
THE BARRIERS WHICH PATIENTS
WITH PARKINSON DISEASE &
OTHER MOVEMENT DISORDERS
FACE IN ACCESSING
OPTIMAL CARE

title: Pilot Randomized Controlled Trial of Telemedicine for Individuals with Parkinson disease

Ray Dorsey, MD, MBA, Lisa Deuel, BA, Anna Appler, RN, Sheelah Eason, MSW, Benjamin George, BS, Anthony Joseph, MSW, MPA, David Miller, Joyce Polanowicz, RN, Jason Reminick, MS, Sandra Smith, BS, Lucy Viti, RN, Tiffini Voss, MD and Kevin Biglan, MD, MPH.

Objective: Establish the feasibility of providing telemedicine care to individuals with Parkinson disease (PD).

Background: Telemedicine may improve access to specialized medical care for PD patients by eliminating burdensome travel requirements.

Methods: Fourteen patients (4 from a nursing home and 10 in the community) living 150 miles from our institution participated in this study. Community participants were randomized to telemedicine care (n=6) or standard care (n=4). All four nursing home patients were assigned to receive telemedicine. Three telemedicine visits took place over the course of the six months. Feasibility was determined by the ability of telemedicine participants to complete telemedicine visits. Secondary analyses were the change from baseline to six months between those randomized to telemedicine and to standard care on measures of quality of life (PDQ-39), mood (GDS-15), satisfaction with care (GHAA), cognition (MoCA) and motor function (motor UPDRS) using Wilcoxon Signed Rank Tests. Nursing home residents receiving telemedicine were evaluated separately.

Results: Participants randomized to telemedicine and standard care had similar baseline characteristics. Those randomized to telemedicine completed 100% (18/18) of their telemedicine visits. Telemedicine participants showed significant improvements compared with those receiving standard care in quality of life (6.3 improvement vs. 17.2 point worsening; p=0.03) and the motor UPDRS (0.33 improvement vs. 6.5 point worsening; p=0.03). Relative improvements were also seen in satisfaction with care (6.2 vs. 0.75 point improvement; p=0.34).

The four nursing home telemedicine participants completed 94% (15/16) of their telemedicine visits as scheduled. Relative to baseline, nursing home participants experienced trends toward improvement in satisfaction with care (15.5; p=0.13), quality of life (-18.3; p=0.25), depression (-2.3; p=0.25), and cognition (3.0; p=0.25).

Nine of the ten participants assigned to telemedicine opted to continue receiving their care via telemedicine.

Conclusions: Telemedicine is a feasible means for providing care to patients with PD living far from sub-specialists and may provide clinical benefits.

Title: The motor UPDRS assessed via telemedicine is reliable and valid

Kevin M Biglan, MD,MPH, Lisa M Deuel, BA, Anna Appler, RN, Anthony Joseph, MSW, MPA, David Miller, Joyce Polanowicz, RN, Sandra Smith, BS, Lucy Viti, RN and Ray Dorsey, MD, MBA. (Rochester, NY, United States)

Objective: Assess the feasibility, reliability, and validity of the motor Unified Parkinson Disease Rating Scale (UPDRS) via a web-based telemedicine program.

Background: Clinical trials for Parkinson disease (PD) are limited by the ability to recruit individuals who are unable to participate because of distance from research centers, travel difficulties or clinical condition. Using telemedicine to complete web-based assessments of motor function may allow the recruitment and assessment of these individuals.

Methods: In the context of a randomized trial of telemedicine for PD, we assessed the feasibility, reliability and validity of the motor UPDRS scored via telemedicine. Ten participants assigned to telemedicine received an in-person evaluation at baseline, followed by telemedicine visits at 1, 3, 6, and 6.5 months. A nurse trained to perform the motor UPDRS was present and completed rigidity and retropulsion items. Feasibility was determined by the ability to score all motor UPDRS items at each telemedicine visit. Test-retest reliability was evaluated by comparing the month 6 and 6.5 total motor scores. Validity was assessed by comparing the motor UPDRS and individual motor items completed in-person and at 1 month via telemedicine. Intraclass correlation coefficients (ICC) were calculated for total motor scores and Cohen's kappa coefficients (C^*) for individual motor items. A secondary analysis excluded fluctuators.

Results: The telemedicine participants had a mean age of 72 years, a mean Hoehn and Yahr of 2.7 and a mean motor UPDRS of 34.7. Three participants had motor fluctuations. All items of the motor UPDRS were able to be completed at each telemedicine visit.

Test-retest reliability of the motor UPDRS via telemedicine was excellent (ICC=0.82).

Comparison of the motor UPDRS to the gold standard in-person assessment was also excellent (ICC=0.78). All motor items had fair or better agreement ($C^*>0.20$) between telemedicine and in-person with the exception of rigidity ($C^*=-0.09$) and leg agility ($C^*=-0.30$). When fluctuators were excluded, there were no substantial changes, except agreement for rigidity ($C^*=0.18$) and leg agility ($C^*=0.25$) improved.

Conclusions: The motor UPDRS can be completed reliably via telemedicine and is valid when compared with the gold standard in-person assessment.