Virtual Geriatric Care: Is it Real?
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Case #1
- 66yo eccentric veteran
- Presumed prostate cancer, PSA 476
- Refuses biopsy
- Refuses presumptive treatment
- Losing weight
- Lives with significant other who is frail as well
- Residence: Penrose CO

Case #2
- 85yo with weight loss, FTT, HTN
- Lives with elderly wife

Outline
1. What is the need for Tele–Geriatrics?
2. Define telemedicine and modalities
3. Integration into care
4. Outcomes
5. Challenges
Current State

- 41.4 Million Persons >65 years old
- 7,356 certified geriatricians (2012)
- 1:870 85+ year olds (2013)
- Ideal 1:300

Telemedicine

Defined by the Institute of Medicine as "the use of electronic information and communications technologies to provide and support health care when distance separates the participants."

“Telehealth” and “e-health”

- Appeared later
- Include allied healthcare activities such as:
  - patient education;
  - continuing medical education/grand rounds;
  - remote resident supervision;
  - medical training over distance;
  - health care administration via video–teleconferencing;
  - connect patients to other patients over a distance

3 Types of Telehealth

- Home Telehealth
- Remote non face-to-face or Store-and-Forward Telehealth
- Clinical Video Telehealth (CVT)
Telehealth Goals
1) Timely
2) Cost-effective
3) Convenient access
to quality healthcare services across distance

Benefits
1. Improved access to healthcare services
2. More convenient for patients and caregivers
3. Enables and improves primary and specialty care collaboration to optimize patient outcomes

How did we get here?

Evolution (1)
- Late 1880s
  - Telephone medical advice
- 1905
  - Willem Einthoven ECG transmission hospital to lab (1.5km) via telephone cable
- 1924
  - Radio News magazine featured a visual teleconsultation (on televisions) between a doctor and a patient at pt’s home.
- 1959
  - U of NE College of Medicine – state mental hospital and Nebraska Psychiatry Institute (> 100 miles) for consult
- 1960
  - National Aeronautics and Space Administration (NASA) Physiological parameters telemetered
Evolution (2)

- 1967
  - Massachusetts General Hospital/Airport Medical Station. 2-way audiovisual microwave circuit. Nurses staffed on site.
- 1971
  - NASA→STARPAHC on the Papago Indian Reservation to test X-rays/ECG
  - VA telemedicine →telenental health
  - NLM used NASA satellites to improve rural health care in AK (satellite video consultation to 26 villages)
- 1976
  - U.S. military. Army Special Forces dentists used a digital teeth identification system for transmitting an image of a soldier’s teeth
- Late 1970s and early 1980s
  - Advances in telecommunication systems
  - Decline in telemedicine related to funding and technology need
  - No long term viability assessment

IMPORTANT part of care

- Codes for payment added 2008
- PCMH encourages more phone care
- VA 25% of encounters are telephone
- Limitations

Specific modalities

- Delayed or real time
- Self Management
- Case Management
- Fall safety
- Wandering
- Medication Monitoring
**Remote Non Face-to-Face**

- Store and Forward
- Medicare does not consider telemedicine for payment
- Billed same as same site
- Used by
  - radiology,
  - pathology,
  - ophthalmology,
  - dermatology,
  - cardiology

**Video—telehealth**

**Clinic video**
- Brings primary and specialty care
- Underserved
- Clinic or hospital or nursing facility

**Home video**
- Used for mental health primarily
- Skype-like technology

**Standards by American Telemedicine**

- Pathology
- Dermatology
- Mental health
- Retinal imaging
- Home telehealth
- Rehabilitation
Elderly Adaptations

- Visual and auditory deficits
  - Technologies to help
- Multiple medical problems
- May require diagnostic procedures
- Include caregivers/family as appropriate & with permission
- Sensitivity for cognitive impairment
- May be difficult to adapt to the technology


Currently Growing Uses

- Medicine Specialty services
  - INCLUDING Geriatrics & Dementia
- Anesthesia
- Wound/Podiatry

Early Uses in VA Care

- TeleCardiology
- TeleDermatology
- Tele–ICU
- TeleGenomics
- TeleMental Health
- TeleNeurology
- TeleNutrition
- TelePathology
- TelePulmonology
- TelePrimary Care
- TeleRehab
- TeleRetinal Imaging
- Tele–Spinal Cord Injury/Disorder
- TeleSurgery
- TeleTransplant
- TeleMOVE

Integration
My interests with telehealth at VA

Will they work?

Tele-Dementia/Geriatrics
- Interdisciplinary clinic
- See Veterans across Colorado at THEIR local VA clinic
- Invite Caregivers!

Clinical Video to Home

Tele-wound care
- Chronic wounds
- Expand expertise
- Support rural long-term care settings
- Tracking wounds
- Early recognition and treatment
Practice Considerations

- **Medicare** reimburses at same rate as face-to-face codes for CVT
- Also reimburses $18 per session for the staff presenting with the client (CPT code Q3014).
- Medicare imposes three restrictions:
  - Geographic – Pt located in a non-metropolitan statistical area
  - Facility – Pt located in a qualifying facility and accompanied by a qualified staff person.
  - Procedure – Approved procedure for telehealth

Coding

- Appropriate CPT code for the professional service provided
  +
- Telehealth modifier “GT” – “via interactive audio and video telecommunications system.” (certifies eligible originating site)
  +
- Facility payment: bill HCPCS code “Q3014, telehealth originating site facility fee”

Home Telehealth

- Outside the scope of the Medicare home health benefit and home health PPS
- Nothing to preclude HHA from adopting telemedicine to promote efficiencies (no $)

Privacy Concerns

- The HITECH amendment to HIPAA (3/25/13) lists “persons that provide data transmission services with respect to protected health information to a covered entity and that requires routine access to such protected health information” as Business Associates.

45 CFR Parts 160 and 164
Modifications to the HIPAA Privacy, Security, Enforcement, and Breach Notification Rules Under the Health Information Technology for Economic and Clinical Health Act and the Genetic Information Nondiscrimination Act; Other Modifications to the HIPAA Rules; Final Rule
Video to Home

Q. Can we conduct telehealth video sessions with consumers in their homes?
- A. From a technical perspective – yes
- HIPAA perspective – yes
- From an Insurance reimbursement perspective – Mostly No
- Medicare = No
- Medicaid = No in most states.
- Private Insurance = no in most cases.
- Private Pay = yes.

Cost Outcomes

- VA Studies:
  - Total cost of care is reduced when patient and healthcare provider travel expenses are considered. Costs are also reduced if patients have the support to manage their own care, or get care early in the disease process.

"Is telehealth ‘effective’ to do ‘what’ for ‘whom’ and ‘when’ at this point in time, based on its evolution?”

Outcomes

Patient Centered Medical Home Care Managers with Data Connection

- UPMC
- Lower medical and pharmacy costs
- Lower hospital admissions and readmissions
- Less use of hospital emergency departments
- 160 percent return on the plan’s investment

Rosenberg et al, PCMH Pilot, Health Affairs, Nov 2012, 31:112423–2431
### Integrated Telehealth And Care Management Program For Medicare Beneficiaries With Chronic Disease Linked To Savings

- Two clinics in the US Northwest
- Health Buddy Program
- Chronically ill Medicare beneficiaries
- Matched controls
- Spending reductions 7.7–13.3 percent ($312–$542) per person per quarter

Baker et al, Health Affairs, September 2011 30:91689-1697

### UK Telephone Case Management

- Outcome measure—costs
  - 12 months after initial hospital discharge
  - Inpatient care, outpatient care, ED visits
- Reduced costs by 22%


### The Systematic Implementation of Health Informatics, Home Telehealth, and Disease Management to Support the Care of Veteran Patients with Chronic Conditions

- VHA
- 2003 and 2007
- Cohort of 17,025 CCHT patients
- 25% reduction in numbers of bed days of care
- 19% reduction in numbers of hospital admissions
- Satisfaction score rating of 86%


### Access Outcomes

- 126 VA facilities
- 75% provide some specialty care
- By providing care closer to where the Veteran lives, there is greater access to specialty care. For example to see a cardiologist, neurologist, or surgeon for follow-up after surgery without traveling to the distant site.
Remember 1:870 Geriatrician

Satisfaction with care

- Nursing Home contact improved staff-provider interactions
- Patients are just as satisfied
- Less familiar with technology but not resistant to it

References:
Brignell, Wooton, Gray, Age and Ageing 2007; 36: 369–374
Charness et al, Telemedicine and e-health, Oct 2010, 860–866

Satisfaction Outcomes

- VA surveys gathered after each telehealth encounter show a high level of satisfaction, particularly as it relates to cost and improved access.

Quality

- Telehealth vs. inpatient visits indicate no significant perception of difference
- Cognitive Assessment comparable
  - Administered by CVT
  - Instructions through CVT and given by local staff
  - Administered by local staff

References:
Barton et al, Telemedicine and e-health, Dec 2011, 17:789–793
Challenges

Start-up costs high
Communications tools cost several times more than traditional medical equipment suited for the same task.
Provided to more than one — or even several — locations.
Initial purchasing costs + recurring operational costs
Operational costs → telecommunications connections
Staff, facilities, and maintenance
Early obsolescence equipment is prominent

Legal Barriers: Confidentiality and Privacy

- Informed consent.
  - Medical liability companies require explaining the scope and purpose of the telehealth "visit" and what to expect.
  - Allows refusal of telehealth without prejudicial consequences.
- Documentation. Additional info:
  - Names of everyone present at both of the geographic locations
  - Clinical details
  - Date
  - Session’s beginning and ending times

Monetary Barriers

- Start-up costs high
- Communications tools cost several times more than traditional medical equipment suited for the same task.
- Provided to more than one — or even several — locations.
- Initial purchasing costs + recurring operational costs
- Operational costs → telecommunications connections
- Staff, facilities, and maintenance
- Early obsolescence equipment is prominent

Human Factors Barriers

- Crucial
  - Increased number of individuals, varying procedures and protocols, different work styles, altered job descriptions, old biases and new patient considerations.
- Training is critical
  - Integrating telehealth systems into existing traditional clinical environment
  - Comfortable with technologies
  - Superior interpersonal skills
Tele-Palliative Care Case #1 Revisited

- Consult request: eval for decisional capacity
- Why are you making these decisions?
- Fears, Social concerns
- Hospice Referral

Polypharmacy/Geriatric Physiology Case #2 Revisited

85yo with significant weight loss due to lack of appetite and early satiety. Some cognitive impairment. Significant anxiety.

- Educated to eat many times per day
- Educated patient and wife on normal changes on appetite and taste
  - Salt and Sugar improve taste
- Dysguesia– d/c lisinopril, use amlodipine for HTN
- PVR 175cc
  - d/c oxybutinin
  - Start tamsulosin
- Daily laxative for early satiety
- Age appropriate screening: colonoscopy done >10 years ago. No cough but significant tobacco history. PSA not indicated.