Transforming Care Through Telehealth –

The Tipping Point is Now!

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Objectives

• Distinguish components vital in the design, implementation and evaluation of a successful telehealth program.

• Summarize a successful structural model which used telehealth technology to achieve a transformative new safe, quality and affordable care delivery system.
Who We Are

- 5 Campuses
- 1 Children’s Hospital
- 140+ Physician Practices
- 17 Community Clinics
- 13 Health Centers
- 11 ExpressCARE Locations
- 80 Testing and Imaging Locations
- 13,100 Employees

- 1,340 Physicians
- 582 Advanced Practice Clinicians
- 3,700 Registered Nurses
- 60,585 Admissions
- 208,700 ED Visits
- 1,161 Acute Care Beds
# Quality Milestones

<table>
<thead>
<tr>
<th>Year</th>
<th>Achievements</th>
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<tbody>
<tr>
<td><strong>2010</strong></td>
<td>• America’s Best Hospitals for geriatrics-U.S. News &amp; World Report</td>
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<td></td>
<td>• No. 1 in PA and No. 2 in the Nation for Heart Attack Results-Centers for</td>
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<td>Medicare and Medicaid Services (CMS)</td>
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<td></td>
<td>• Top 5 Academic Medical Centers in U.S.-University HealthSystem Consortium</td>
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<td>(UHC)</td>
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<td>• NCI Community Cancer Centers Program-National Cancer Institute, U.S.</td>
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<td>National Institutes of Health</td>
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<td></td>
<td>• 100 Most Wired and 25 Most Wireless Hospitals-Hospitals &amp; Health Networks</td>
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<td></td>
<td>• Top 100 Integrated Health Networks-SDI</td>
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<td></td>
<td>• Leapfrog Top Hospital- The Leapfrog Group</td>
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<td></td>
<td>• One of the 30 Best Hospitals in America-Becker’s Hospital Review</td>
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<td>• 100 Best Places to Work in Healthcare-Becker’s Hospital Review</td>
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<td></td>
<td>• Carolyn Boone Lewis Living the Vision-American Hospital Association (AHA)</td>
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<td></td>
<td>• American Hospital Association</td>
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<td><strong>2011</strong></td>
<td>• America’s Best Hospitals for endocrinology, gastroenterology and geriatrics</td>
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<td>-U.S. News &amp; World Report</td>
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<td>• No. 1 and No. 2 Hospitals in the Region-U.S. News &amp; World Report</td>
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<td>• Magnet Hospital redesignation for nursing excellence- American Nursing</td>
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<td>Credentialing Center</td>
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<td>• Top Performer on Key Quality Measures-Joint Commission</td>
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<td>• Architecture and Design Award for environmentally friendly health care-GreenCare</td>
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<td>• Top 100 Integrated Health Networks-Verispan</td>
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<td></td>
<td>• 100 Most Wired Hospitals-Hospitals &amp; Health Networks</td>
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<td></td>
<td>• 100 Best Places to Work in Healthcare-Becker’s Hospital Review</td>
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<tr>
<td><strong>2012</strong></td>
<td>• America’s Best Hospitals for gastroenterology, orthopedics and pulmonology-U.S. News &amp; World Report</td>
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<td>• Leapfrog “A” Grade for Patient Safety-The Leapfrog Group</td>
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<td></td>
<td>• Accredited Chest Pain Centers-Society of Cardiovascular Patient Care</td>
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<td></td>
<td>• 100 Most Wired Hospitals &amp; Health Networks</td>
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<td></td>
<td>• NCI Community Cancer Centers Program (NCCCP) redesignation- National Cancer Institute, U.S. National Institutes of Health</td>
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<td>• 100 Best Places to Work in Healthcare-Becker’s Hospital Review</td>
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<td></td>
<td>• Computerworld Honors Laureate-Computerworld Magazine</td>
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<td></td>
<td>• VHA Leadership Award for Supply Chain Management Excellence-VHA</td>
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<td></td>
<td>• HealthGrades Emergency Medicine Excellence Awards (LVH and LVH-Muhlenberg)-HealthGrades</td>
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<td>• Certified Comprehensive Stroke Center-Joint Commission</td>
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<td><strong>2013</strong></td>
<td>• America’s Best Hospitals in 7 specialties-U.S. News &amp; World Report</td>
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<td>• Magnet Prize®-American Nursing Credentialing Center</td>
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<td></td>
<td>• Leapfrog “A” Grade for Patient Safety-The Leapfrog Group</td>
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<tr>
<td></td>
<td>• America’s Safest Hospitals -AARP</td>
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<td></td>
<td>• Most Wired Hospitals &amp; Health Networks</td>
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<td></td>
<td>• Integrated Health System to Know-Becker’s Hospital Review</td>
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<td></td>
<td>• 100 Best Places to Work in IT-Computerworld Magazine</td>
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<td></td>
<td>• America’s Best Hospitals in 10 specialties-U.S. News &amp; World Report - 2014</td>
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<td></td>
<td>• Leapfrog “A” Grade for Patient Safety-The Leapfrog Group – 2014 &amp; 2015</td>
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<td></td>
<td>• Circle of Life for Palliative Care-American Hospital Association</td>
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<td></td>
<td>• Most Wired Hospitals- Hospitals &amp; Health Networks</td>
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<tr>
<td></td>
<td>• “Above Average” In Aortic Valve Replacement-Consumer Reports</td>
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<td>• Re-certified Comprehensive Stroke Center-Joint Commission</td>
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2013 Magnet® Prize
Telehealth

Back to the Future
LVHN TeleBurn<sup>SM</sup>
Emergency Telephone Call - Burn Remote Physician Description

- **83 year-old** male
- Burned his lower leg *yesterday* while burning brush with gasoline
- His burn looks to be about a **0.5% TBSA**
- Wound is *pink and moist* with blistering
- Patient has a *history* of diabetes and heart disease as well as mild dementia
- I would like to treat him here and refer if there are any complications with healing
Additional Conversation

• **Burn Surgeon:** Is his pain controlled and does there appear to be any signs or symptoms of cellulitis?

• **Remote Dr.:** His pain is controlled and he does not have any signs of cellulitis. His wound looks pink.

• **Burn Surgeon:** Does the wound blanch?

• **Remote Dr.:** It appears to blanch in the area of blister…
Case Summary

- **TELEPHONE**
  - Same verbal communication
  - No Visual
  - .5% burn TBSA
  - Patient probably treated local and sent home
  - Big chance for infection
  - If wound becomes infected – two surgeries vs. one

- **TELEHEALTH**
  - Same verbal communication
  - Couple Digital Pics
  - 1.5% burn TBSA
  - Patient transferred to LVHN Burn Center
  - No infection due to timely treatment
  - One surgery – next day – discharged day 5
Important Summary Points

- Telehealth provides a better assessment of the patient!
- Payor implications – two surgeries vs. one and corresponding LOS differences
- Think about the legal issues of mistreatment
- MOST IMPORTANT – think about the implications for the patient
- Better health, better care, better cost
Rationale

• Crossing the Quality Chasm
  • To achieve substantial improvements in quality, information technology must play a central role in healthcare system redesign

Crossing the Quality Chasm: A New Health System for the 21st Century
Institute of Medicine
March, 2001
The Tipping Point

• Access
  • Extended coverage
  • Provider shortages

• Ever-increasing costs for care
LVHN Telehealth Services
Structural Model

Administrative

Structural Model

Clinical

Technical
Administrative

• Personnel
  • Manage and coordinate operational planning
  • Establish, execute, and evaluate programs and services

• Knowledge
  • Telehealth and telecommunication technologies
  • Business development
  • Contracting
  • Current and proposed legal and regulatory issues impacting healthcare
A Clinical Focus

It is not about the technology but, rather, about clinicians using the technology to care for patients.

Joseph Tracy, MS, LVHN Vice President, Center for Connected Care & Innovations
Technical

• Information Technology Resources as Consultants

• Expertise in such things as:
  • Audiovisual Devices
  • IT Security
  • Computer Systems Hardware and Software
  • Clinical Informatics
Telehealth Technologies

• Store and Forward
  • Sends patient information to a provider for review at a later time
  • Digital images and electronic images

• Interactive Audio-Video
  • Live, virtual encounter between patient and provider
  • From 2-way audio/video conferencing to peripheral devices
Technology Selection

- Clinical purpose and needs of each individual telehealth program drive the technology utilized
Current LVHN Telehealth Programs

- Advanced ICU (AICU)
- BabyCam
- Infectious Diseases
- Neurosciences (2)
- LVHN TeleBurn<sup>SM</sup>
- Maternal Fetal Med (2)
- Psych Emergency/Eval Services
- Remote Patient Monitoring
- Interpreter Services
- Toxicology
- Wound
- Trauma
- Radiology
- Virtual Inpatient Check-In/Out**
- Virtual Observation**

17 SERVICES

31,000 + Encounters per year*

* Excludes Radiology
** New Service – No Data
Advanced ICU (AICU)

- Off-site location
- Operational 365 nights (7 pm – 7am)
- 3 critical care nurses and intensivist
- Virtual monitoring via electronic algorithmic event system
- Access to all applications available at bedside
- More than 100 patients
Babycam
Virtual Observation

1. LVHN Team
   - Monitor Tech
   - Runner

2. Patient Behavior Escalates

3. Monitor Tech Calls Runner

4. Runner Reports to Patient Room
Virtual Inpatient Check-In/Out
Inpatient Telewound

- Use of photos for more immediate access and intervention by wound nurse specialist
Street Medicine
Outcomes & Implications

• Improve **ACCESS** to care

• Improve **QUALITY** by extending the reach of specialists using advanced technologies

• Reduce **COST** by providing the right care, at the right time, in the right place

• Add **VALUE** to healthcare institutions
Considerations for Nurse Executives

• Legal and Regulatory Issues
Key Issues Impacting Telehealth

- Health Reform
- HIPAA HITECH
- Licensure
- FCC
- Liability
- Credentialing & Privileging
- ‘Care, ‘Caid & Commercial Reimbursement
- Anti-Kickback Statutes
- FDA
Reimbursement

• Medicare
  • Limited locations/providers/services
  • Professional + facility fee
  • See [www.CTel.org](http://www.CTel.org) website for checklists

• Medicaid
  • 47 state Medicaid programs reimburse for telehealth encounters, in some fashion

• Commercial
  • Decision by payor/by state
  • 28 states now mandate reimbursement
HIPAA and HITECH

• Work with your privacy and security team
• No “HIPAA certified” telehealth systems
• Implementation strategies will keep you safe
Credentialing and Privileging

- CMS Hospital Conditions of Participation
  - Delegated Credentialing & Privileging (C&P)
    - Recognize credentialing process of another facility
    - A C&P Agreement required between facilities
    - Agreement must address several criteria
  - The “originating site” medical staff bylaws can impact whether the delegated C&P process may be used
Liability

• Does telemedicine create a liability risk?

• If you have telemedicine and don’t use, could that create a liability risk?

• Does telemedicine lower liability?

• Does your organization’s liability policy extend to include telemedicine?
Anti-Kickback Statues

• Can’t give something to others – may be construed as an inducement for referrals

• Federal Grants are a “safe harbor”

• 2011 OIG Opinion on Neuro-emergencies
• **Universal Services Program**
  • Subsidize broadband for rural, non-profit facilities
  • Cumbersome, underutilized

• **Healthcare Connect Fund**
  • Subsidize up to 65% broadband for rural, non-profit facilities
  • Consortium applications available and can include some urban sites
Important New Items to Think About

• Lives Under Management
  • Accountable Care & M’care Shared Savings

• Federation of State Medical Boards and the American Medical Association
  • Safe Telemedicine
Licensure

• Most states require full medical license to practice telemedicine on patients in their state
  • In 2014 Federation of State Medical Boards developed a model to facilitate the cross state licensing of physicians

• Progressive nurse compacts between 25 states allow nurses to cross state boundaries
  • Must meet individual State requirements
The New Competitors

- Walgreens
- UnitedHealthcare
- CVS
- Wegmans
- Walmart
- Capital BLUE
- Patient First
- Humana
- CARE by TeleMD
A Few of MANY Direct to Consumer Telehealth Companies
Legal/Regulatory “Next Steps”

• Many telehealth programs adapted to what is allowed/reimbursable, not what is best for the patients

• Telehealth must become “mainstream” to move legal/regulatory changes

• Population demand may drive change faster than lobbying
Legal/Regulatory “Next Steps” (cont’d)

• Some on-line practices may not meet “standard of care”, yet the standards are not being enforced

• Will third party insurers pay health networks for delivering virtual visits, when they are already providing virtual visits themselves?
Considerations for Nurse Executives – Beyond Legal and Regulatory Issues

- Aligned with the organization’s mission, fundamental priorities, and community needs
  - Nurse executives in tertiary care networks
  - Nurse executives in small, local hospitals
Considerations for Nurse Executives – Beyond Legal and Regulatory Issues (cont’d)

• Considerations for new telehealth programs may be inspired by one that is already in place
  • Eg. LVHN Inpatient TeleWound
Funding Telehealth

• Grants/Foundations

• Contracts
  • To Hospitals, SNFs/LTC, Industry, Prisons

• Reimbursement
  • Traditional & Credit Card Transactions

• Organizational/Institutional
  • LOSE LESS
  • Efficiency – Productivity
  • VALUE!
A Founding Partner in Innovation

Air Products Center for Connected Care and Innovation at Lehigh Valley Health Network
Make Sure You See The Entire Picture!

Picture – courtesy of Robert Schosser, MD, East Carolina University
Accurate Verbal Description, but the Picture Tells the Story

Picture – courtesy of Robert Schosser, MD, East Carolina University
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