UR Medicine Project ECHO®: Improving Access to Complex Care through Videoconferencing

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Director of Project ECHO®
Director of Telepsychiatry
Disclosures

I have no financial relationships with a commercial entity producing healthcare related products and/or services to the content I am presenting.
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  - Greater Rochester Health Foundation
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  - The Health Foundation of Central and Western New York
  - HRSA Geriatric Workforce Enhancement Program

- Infrastructure support from
  - Project ECHO®, University of New Mexico (UNM)

(Slides adapted from those of Sanjeev Arora, MD, UNM Professor)
Cost of “Complex” Population

5% of U.S. population account for half (49%) of health care spending\(^1\)
- $43,212 average expenditure per person per year

50% of U.S. population account for only 3% of health care spending
- $253 average expenditure per person per year

“Superutilizers”
Shorthand term for people with complex physical health, behavioral health, and social issues who have high rates of utilization for ER and hospital services\(^2\)

80% of Superutilizers have a mental illness
44% of Superutilizers have a Severe Mental Illness

One solution: Project ECHO®

Extension for Community Healthcare Outcomes

- “One to Many” – Leveraging a proven telementoring model to significantly increase access to specialty care for common complex conditions
- Hubs & Spokes - Links expert specialist teams at an academic ‘hub’ with front-line clinicians in local communities – the ‘spokes’ of the model
How Project ECHO® Works

- Use Technology (multipoint videoconferencing and Internet)
- Disease Management Model focused on reducing variation in processes of care and sharing "best practices"
- Case based learning through three main routes:
  1. Learning Loops
  2. Knowledge Networks
  3. Content Knowledge

Arora (2013); Supported by N.M. Dept. of Health, Agency for Health Research and Quality HIT Grant 1 UC1 HS015135-04, New Mexico Legislature, and the Robert Wood Johnson Foundation.
Learning Loops

Presentation to Project ECHO® Specialist Team
Front-line clinician presents de-identified patient case and goals

Why we do what we do

Recommendations Applied and Implemented

What we do

Results and Consequences

What we obtain

Single-Loop Learning
Reapplying recommendations through problem solving

Double-Loop Learning
more than problem solving, this loop involves reevaluation and reframing of goals

Knowledge Networks

- ECHO® SPOKE Front-line Clinicians
- ECHO® SPOKE Front-line Clinicians
- ECHO® SPOKE Front-line Clinicians
- ECHO® SPOKE Front-line Clinicians
- ECHO® HUB Team of Specialists
- ECHO® SPOKE Front-line Clinicians
- ECHO® SPOKE Front-line Clinicians
- ECHO® SPOKE Front-line Clinicians
Content Knowledge

Evidence Based Didactics

Emphasis on:

- National and CMS Quality Initiatives
- Multidisciplinary Team-based Approaches
- Cost Effective and Value-Based Care
Background of Project ECHO®

In 2004 less than 5% of patients with HCV in New Mexico (NM) had been treated
- Estimated 28,000 people with HCV in NM
- No Primary Care Physicians treating HCV in NM

**Good news ...**
- Curable in 70% of cases

**Bad news ...**
- Severe side effects:
  - anemia (100%)
  - neutropenia >35%
  - depression >25%
Outcomes of Treatment for Hepatitis C Virus Infection by Primary Care Providers

Sanjeev Arora, M.D., Karla Thornton, M.D., Glen Murata, M.D., Paulina Deming, Pharm.D., Summers Kalishman, Ph.D., Denise Dion, Ph.D., Brooke Parish, M.D., Thomas Burke, B.S., Wesley Pak, M.B.A., Jeffrey Dunkelberg, M.D., Martin Kistin, M.D., John Brown, M.A., Steven Jenkusky, M.D., Miriam Komaromy, M.D., and Clifford Qualls, Ph.D.
Project ECHO® Replication
WHY UR Medicine Project ECHO®
The Underserved “Complex” Patients

PROBLEM:
Underserved patients have limited access to quality specialist care for common complex conditions.

SOLUTION:
A model that expands access to care by leveraging telementoring and guided practice to build system capacity by empowering community based providers to care for complex conditions in their local community.

LOCAL NEED:
Behavioral health conditions are the 3rd most frequent primary diagnosis cluster seen in the ED. Behavioral health disorders represent the MOST frequently occurring principal diagnosis cluster for inpatient utilization leading to re-admission.
WHY UR Medicine Project ECHO®
The Provider

PROBLEM:
• Community based providers lack access to decision making support around specialty care for complex patients
• Rural providers often feel socially and professionally isolated
• Want to advance their skills, and professional relationships

SOLUTION:
A model that allows providers to engage in a community with like-minded fellow providers and specialists from academic centers.

LOCAL NEED:
11 out of 14 counties in the Finger Lakes Region are designated Health Provider Shortage Areas (HPSA) for Primary Care
8 out of 14 counties in Finger Lakes Region are designated HPSA for Mental Health Care
Psychiatry providers are the most difficult providers to recruit for NYS Federally Qualified Health Centers
Growing Need in Geriatrics

- Aging and disease impact in New York State (NYS)
  - Population age ≥ 65 years will rise from 2.5 to 4 million by the year 2030
  - Elderly with mental illness will rise from 495,000 to 772,000 by the year 2030

New York State Office of Mental Health, 2013; Alliance for Aging Research, 2002; Alzheimer’s Association, 2012
Project ECHO® GEMH for Primary Care (PC)

September 18, 2014 – February 4, 2016

33 TeleECHO™ clinics
520 total attendees
15.8 attendees on average per TeleECHO clinic
244 Continuing Medical Education (CME) credits
65 patient case presentations
  o 59 new and 6 follow up patient cases
33 Evidence-based didactic presentations
Participants in ECHO® GEMH for PC

- Primary Care Practices
  - Hospital system affiliated
  - Accountable care affiliated
  - Provider owned group

- Federally Qualified Health Centers

- Health Service Corporations

- County Department of Aging Centers
## Findings: Diagnoses

### Health care utilization among Excellus beneficiaries aged 65+ with GEMH diagnosis

<table>
<thead>
<tr>
<th>Description</th>
<th>Before ECHO® GEMH</th>
<th>After ECHO® GEMH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median number of Excellus beneficiaries (aged 65+) attributed to each participating practice during the study period</td>
<td>561</td>
<td>577</td>
</tr>
<tr>
<td>Average percentage of Excellus beneficiaries (aged 65+) attributed to each practice diagnosed with a mental health condition*</td>
<td>17%</td>
<td>17%</td>
</tr>
<tr>
<td>...with depression diagnosis</td>
<td>10%</td>
<td>11%</td>
</tr>
<tr>
<td>...with anxiety diagnosis</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>...with dementia diagnosis</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>...with adjustment disorder diagnosis</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Findings: Utilization by GEMH patients

Health care utilization among Excellus beneficiaries aged 65+ with GEMH condition*

<table>
<thead>
<tr>
<th>Utilization Variables (average use per patient)</th>
<th>Mean: Before ECHO® GEMH</th>
<th>Mean: After ECHO® GEMH</th>
<th>% Change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient Visits</td>
<td>0.276</td>
<td>0.23</td>
<td>-16%</td>
<td>0.21</td>
</tr>
<tr>
<td>Outpatient Visits</td>
<td>4.175</td>
<td>3.93</td>
<td>-6%</td>
<td>0.29</td>
</tr>
<tr>
<td>ER Visits</td>
<td>0.829</td>
<td>0.67</td>
<td>-20%</td>
<td>0.08</td>
</tr>
<tr>
<td>Antipsychotics</td>
<td>0.372</td>
<td>0.41</td>
<td>10%</td>
<td>0.26</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>0.590</td>
<td>0.56</td>
<td>-4%</td>
<td>0.60</td>
</tr>
</tbody>
</table>

*Patients who do not have a mental health condition of interest are those who have not received a diagnosis of anxiety, depression, dementia or adjustment disorder, or who have not filled prescriptions for a medication that treats one of these mental health conditions.
Findings: **Cost of Care for GEMH Patients**

Health care costs for Excellus beneficiaries aged 65+ with GEMH condition*

<table>
<thead>
<tr>
<th>Cost Variables (average cost per patient, $)</th>
<th>Mean: Before ECHO® GEMH</th>
<th>Mean: After ECHO® GEMH</th>
<th>% Change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient Costs</td>
<td>$2,560.72</td>
<td>$2,198.09</td>
<td>-14%</td>
<td>0.22</td>
</tr>
<tr>
<td>Outpatient Costs</td>
<td>$1,405.57</td>
<td>$1,402.93</td>
<td>0%</td>
<td>0.98</td>
</tr>
<tr>
<td>ER Costs</td>
<td>$406.37</td>
<td>$310.71</td>
<td>-24%</td>
<td>0.049</td>
</tr>
<tr>
<td>Prescription Costs</td>
<td>$1,938.35</td>
<td>$1,712.85</td>
<td>-12%</td>
<td>0.60</td>
</tr>
<tr>
<td>Total Costs</td>
<td>$7,725.34</td>
<td>$7,142.97</td>
<td>-8%</td>
<td>0.16</td>
</tr>
</tbody>
</table>

*Patients with a mental health condition of interest are those who have not received a diagnosis of anxiety, depression, dementia or adjustment disorder, or who have not filled prescriptions for a medication that treats one of these mental health conditions.
Findings: Utilization by Non-GEMH Patients

Health care utilization among Excellus beneficiaries aged 65+ **without** GEMH condition*

<table>
<thead>
<tr>
<th>Utilization Variables (average use per patient)</th>
<th>Mean: Before ECHO® GEMH</th>
<th>Mean: After ECHO® GEMH</th>
<th>% Change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient Visits</td>
<td>0.162</td>
<td>0.146</td>
<td>-10%</td>
<td>0.75</td>
</tr>
<tr>
<td><strong>Outpatient Visits</strong></td>
<td>3.198</td>
<td>3.591</td>
<td>+12%</td>
<td>0.019</td>
</tr>
<tr>
<td>ER Visits</td>
<td>0.397</td>
<td>0.408</td>
<td>+3%</td>
<td>0.84</td>
</tr>
</tbody>
</table>

*Patients who do not have a mental health condition of interest are those who have not received a diagnosis of anxiety, depression, dementia or adjustment disorder, or who have not filled prescriptions for a medication that treats one of these mental health conditions.
# Findings: Cost of Care for Non-GEMH Patients

Health care utilization among Excellus beneficiaries aged 65+ **without** GEMH diagnosis

<table>
<thead>
<tr>
<th>Cost Variables (average cost per patient, $)</th>
<th>Mean: Before ECHO® GEMH</th>
<th>Mean: After ECHO® GEMH</th>
<th>% Change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient Costs</td>
<td>$1,804.10</td>
<td>$1,556.49</td>
<td>-14%</td>
<td>0.68</td>
</tr>
<tr>
<td>Outpatient Costs</td>
<td>$892.84</td>
<td>$1,119.42</td>
<td>+25%</td>
<td>0.000</td>
</tr>
<tr>
<td>ER Costs</td>
<td>$192.74</td>
<td>$198.78</td>
<td>+3%</td>
<td>0.83</td>
</tr>
<tr>
<td>Prescription Costs</td>
<td>$1,097.10</td>
<td>$1,355.29</td>
<td>+24%</td>
<td>0.004</td>
</tr>
<tr>
<td>Total Costs</td>
<td>$5,126.86</td>
<td>$5,584.46</td>
<td>+9%</td>
<td>0.53</td>
</tr>
</tbody>
</table>

*Patients who do not have a mental health condition of interest are those who have not received a diagnosis of anxiety, depression, dementia or adjustment disorder, or who have not filled prescriptions for a medication that treats one of these mental health conditions.
Provider Level Outcomes

Qualitative Interviews:

- Program was valuable and offered useful support or insight
- Improved knowledge related to geriatric mental health
- Improved the care they provided to patients
- Common barrier was lack of time
- Reported increased access to professional support
- Appreciated the real-time, “in-person” interaction
- Increased confidence in handling complex cases
- Major value – opportunity to be part of an interdisciplinary team-based collaborative
**Project ECHO® GEMH for Long Term Care (LTC)**

December 3, 2015 – October 20, 2016

- **34** TeleECHO™ clinics
- **1686** total attendees
- **49.6** attendees on average per TeleECHO clinic
- **765** Continuing Medical Education (CME) credits
- **52** patient case presentations
  - 48 new and 4 follow up patient cases
- **34** Evidence-based didactic presentations
Participants in ECHO® GEMH for LTC

- Physicians
- Advanced practice nurses (NP/CNS)
- Physician assistants
- Pharmacists
- Nurses
- Nursing aides
- Social workers
- Therapists
- Administrators
Project ECHO® General Psychiatry (PSYCH) for PC

March 3, 2016 – October 20, 2016

15 TeleECHO™ clinics
287 total attendees
19.1 attendees on average per TeleECHO clinic
88 Continuing Medical Education (CME) credits
24 patient case presentations
   - 21 new and 3 follow up patient cases
15 Evidence-based didactic presentations
Model Sustainability

H.R. 5395: ECHO Act

- Assigned to a congressional committee on June 7, 2016
- Would require the Secretary of the U.S. Department of Health and Human Services (HHS), in collaboration with the Health Resources & Services Administration to prioritize analysis of the model, its impacts on provider capacity and workforce issues, and evidence of its effects on quality of patient care
- Would require the U.S. Government Accountability Office to report on how to integrate this model into current funding streams and innovative grant proposals
Project ECHO®
Medicaid Learning Collaborative

- Eight states: CO, KS, MO, NJ, NV, OR, UT, VT
- Develop and promote long-term Medicaid policy and financing strategies for sustaining Project ECHO®
- Support state Medicaid agencies in advancing the model in their states
- Engage with federal partners to support implementation and address policy barriers

Center for Health Care Strategies, 2016
How do we integrate Project ECHO® into Value-based Care

New York State Delivery System Reform Incentive Payment Program (DSRIP)

- Restructure the health care delivery system
  - To create an accountable, coordinated network of care that improves access, quality and efficiency of care for patient populations
- Reinvesting in the Medicaid program
  - Up to $8 billion dollars are allocated to this program
- Primary goal of reducing avoidable hospital use

* DSRIP Project Toolkit (page 39) “Modeling of Project ECHO is encouraged where appropriate.”
Finger Lakes Performing Provider System (FLPPS)

- Rochester Regional Health System (RRHS) and UR Medicine
  - Lead implementation of DSRIP
  - In partnership with over 600 organizations
DSRIP Project 3.a.v

Behavioral Interventions Paradigm in Skilled Nursing Facilities (SNF)

Vision:

1. Build an education, consultation & training infrastructure for SNF clinical and non-clinical staff
2. Improve access to psychiatric expertise and behavioral health sub-acute care
3. Modify facilities to assure that adequate recreation and holistic interventions can be carried out
DSRIP Project 3.a.i

Integration of Primary Care and Behavioral Health Services

**Vision:**

1. Integration of behavioral health specialists into primary care clinics using the collaborative care model and supporting the PCMH model

2. Integration of primary care services into established behavioral health sites such as clinics and Crisis Centers.
## UR Medicine Project ECHO® Expansion

<table>
<thead>
<tr>
<th>ECHO® Focus</th>
<th>Department</th>
<th>Faculty Lead</th>
<th>Projected Launch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palliative Care</td>
<td>Geriatric Medicine</td>
<td>Thomas Caprio, MD, MPH, MSEd</td>
<td>November 2016</td>
</tr>
<tr>
<td>Eating Disorders</td>
<td>School of Nursing</td>
<td>Mary Tantillo, PhD, PMHCNS-BC, FAED, CGP</td>
<td>November 2016</td>
</tr>
<tr>
<td>Autism</td>
<td>Pediatrics</td>
<td>Susan Hyman, MD</td>
<td>June 2017</td>
</tr>
<tr>
<td>Hospitalist</td>
<td>Hospital Medicine</td>
<td>Andrew Rudmann, MD</td>
<td>January 2017</td>
</tr>
<tr>
<td>Hepatitis C</td>
<td>CTSI</td>
<td>Thomas Fogg, MS, MPH</td>
<td>June 2017</td>
</tr>
<tr>
<td>Sexually Transmitted Diseases</td>
<td>CTSI</td>
<td>Thomas Fogg, MS, MPH</td>
<td>October 2016</td>
</tr>
<tr>
<td>HIV</td>
<td>CTSI</td>
<td>Thomas Fogg, MS, MPH</td>
<td>January 2017</td>
</tr>
<tr>
<td>Pediatric Epilepsy</td>
<td>Neurology</td>
<td>David Wang, B.Med</td>
<td>Pending funding</td>
</tr>
<tr>
<td>Advanced Cancer</td>
<td>Oncology</td>
<td>Supriya Mohile, MD, MS</td>
<td>Pending funding</td>
</tr>
</tbody>
</table>
Recognition of Our Work
Foundation / Funder Interest
What are the Challenges?

- Long term funding mechanism for ECHO® infrastructure
- Widespread implementation of an educational model currently not tied to value based purchasing contracts
  - Savings accrue to the insurer
  - Savings accrue to our competitors
- Primary care providers have limited capacity
- Misaligned incentives under fee-for-service
Reimbursement for ECHO® Infrastructure

Approaches

- Managed Care: Capitation Rate
- Accountable Care Model: Shared Savings
- Patient Centered Medical Home Funding
- Delivery System Reform Incentive Payment (DSRIP)

State Examples

- New Mexico: Centennial Care
- Oregon: Health Share of Oregon
- Colorado: Accountable Care Collaborative Chronic Pain Disease Management Program
- Texas: Baylor St. Luke’s Medical Center, DSRIP
- New York: UR Medicine, DSRIP
Participation in Savings

Project ECHO

"Superutilizers"
Shorthand term for people with complex physical health, behavioral health, and social issues who have high rates of utilization for ER and hospital services.

80% of Superutilizers have a mental illness
44% of Superutilizers have a severe mental illness

Shared Savings
Reduce Cost

Improved Behavioral Health Access
Improved Treatment Compliance
Improved Provider Satisfaction
Potential Benefits of Project ECHO® to the Health System

- Quality and Safety
- Rapid Learning and best-practice dissemination
- Reduce variations in care
- Access for Rural and Underserved Patients
- Workforce Training and Force Multiplier

De-monopolize Knowledge

- Improving Professional Satisfaction/Retention
- Cost Effective Care- Avoid Excessive Testing and Travel
- Prevent Cost of Untreated Disease
- Integration of Public Health into treatment paradigm
Conclusions

- ECHO® model is a robust method to safely and effectively treat common and complex diseases in underserved areas and to monitor outcomes

- UR Medicine - expansion to other disorders already underway

- Sustainability
Medicine of the Highest Order