Learning Communities and the Learning Health System
Agenda

11:45 AM  Lunch and Networking

12:10 PM  Welcome and Introductory Remarks by Chuck Friedman

12:20 PM  Panelist Presentations

1:00 PM   Interactive Table Discussion Activity

1:10 PM   Moderated Q&A
Interactive Table Discussion Activity

- **Goal:** Generate questions for post-presentation moderated Q&A
- Facilitator at each table
- Individuals write down questions during panel presentations
- Table discussion following presentation yields 1-2 questions for panelists
- Moderator poses selected questions to speaker
- Unanswered questions addressed in post-seminar communication to all
The Learning Community: The Foundation for the LHS

• The formation of a Learning Community is a key differentiator of the LHS approach from other quality improvement methods.

• The formation of the Learning Community represents the first phase of the LHS Project Framework.
Learning Communities are Collaboratives

- Pursuing a shared goal
- Driven by “passion” to achieve the goal
- Not top down
- Leader as facilitator
- Multi-stakeholder
- Strategies are “co-produced”
- No one dominates
Learning Communities: Four Profiles

Gastroenterology
Lisa Ferguson, MSI

Dentistry

Physical Medicine and Rehabilitation
Jason Raad, PhD

Livingston and Washtenaw County
Emilee Coulter-Thompson, LMSW, RYT
GI Learning Community (GI-LC)
Lisa Ferguson, MSI
The GI Learning Community (GI-LC): Overview

<table>
<thead>
<tr>
<th>NAME</th>
<th>GI – LC</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEPARTMENT(S)/UNIT(S)</td>
<td>Gastroenterology &amp; DLHS</td>
</tr>
<tr>
<td>DATE FORMED</td>
<td>8/2016</td>
</tr>
<tr>
<td>PROBLEM OF INTEREST</td>
<td>Improve bowel prep before colonoscopy</td>
</tr>
<tr>
<td>STAKEHOLDERS</td>
<td>Physicians, Nurses, Endoscopy Techs, Patient Educators, Nurse Educators, Schedulers, Patient Advisors, HITS, Quality</td>
</tr>
<tr>
<td>PHYSICAL LOCATION(S)</td>
<td>Multiple</td>
</tr>
</tbody>
</table>
GI-LC: Stakeholders

• Stakeholder Identification Process:
  • Met with physician leads to develop initial list
  • Met with nurse managers and others to add missing stakeholders
  • Needed to encompass role/staff differences across multiple locations
  • Involved PFCC to identify patient advisors

• Multi-Stakeholders **KEY:**
  • Ensured various perspectives represented
  • Involved with development, communication and rollout of interventions
  • Essential to success of GI-LC
GI-LC: Operational Structure

• Entire GI-LC | Meetings every 4-6 weeks

• GI-LC Coordinating Team | Meetings every 2-4 weeks
  • GI, DLHS, Quality, CHEPS

• GI-LC Working Groups | Meetings as needed
  • Specific Interventions
  • Data
GI-LC: Accomplishments

1. **Bowel Prep Instructions**
   - Redesigned for clarity and patient engagement

2. **Patient Portal Inbox Message**
   - Says “Colonoscopy”

3. **1-3-Day Tailored Automated (Robo) Call and Text Message**
   - Says “Procedure”

- **Patient Communication Package**
- 3-Part, Multi-Pronged Intervention
- April, 2017 Rollout
GI-LC: Additional Outcomes

1. GI-LC used as a resource by other investigators and initiatives
   - Ability to tap into multiple stakeholders at one time

2. GI DataMart Instantiated
   - Data from multiple sources available in one place
   - Ready for future projects

3. Developed Relationships & Contacts
   - Compliance
   - Quality
   - HSDW
   - CHEPS
   - Patient Education
   - Others
GI-LC: Challenges & Solutions

• Challenge: Stakeholders at Multiple Locations
  • Solution: Blue Jeans Remote Conferencing
  • Solution: Coordinating Team member present at each location

• Challenge: Time Commitment
  • Solution: 7 a.m. meetings
  • Solution: Avoid departmental conflicts (e.g. Grand Rounds, etc.)
  • Solution: Coordinating Team & Working Groups

• Challenge: Data - Required Accessing & Merging Data from Multiple Sources
  • Solution: GI DataMart
GI-LC: A Collaborative

GI-LC Mission

To provide a structure for an interdisciplinary team to unify around problems of interest and learn about them by linking data to knowledge and knowledge to practice to rapidly and continuously improve quality.

- Pursuit of a shared goal
- Driven by “passion” to achieve the goal
- Not top down
- Leader(s) as facilitator
- Multi-stakeholder
- Strategies are “co-produced”
- No one dominates
GI-LC: Current Status

• On hiatus.....
  • New problem of interest?
• Should be able to reconvene easily using previous structure – won’t have to ‘start from scratch’
The LHS Learning Community: A Practical Guide

Content
• Learning Health System (LHS) Overview
• What is a Learning Community?
• Benefits of a Learning Community
• Components of a Learning Community:
  • General Membership
  • Core Leadership Team/Coordinating Committee
  • Working Groups
  • Mission
  • Charter
• Considerations for Number of Learning Communities
• Steps for forming a Learning Community
• Identifying a Problem of Interest within a Learning Community
• Administration and Operations of the Learning Community
• Solutions to Barriers and Challenges of forming and maintaining a Learning Community
• Recommendations for Sustaining a Learning Community
• Sample Artifacts and Templates
Improving resource utilization in dental clinics.

Baby steps towards Learning Health Systems in dentistry
Dr. Alex DaSilva
(Dr. Romesh P. Nalliah)
Disclosure: MoxyTech Inc (Co-Founder)
Learning Communities

Robert Eber
Alex Da Silva
Kim Huner (Administration)
Darlene Jones
Romesh P. Nalliah (Chair)
Vidya Ramaswamy
Mark Snyder
Jean Thompson
Brent Ward
Kate Weber
Administration  Education  Clinical
206,851
Pre-doc $= 59,599$
Grad $= 124,559$
DFA $= 22,693$
$20,160,002
Pre-doc=$5.69M
Grad =$11.21M
DFA =$3.26M
45,000

$4.5 million dollar per year problem
Ratio of cancellations much lower when appt is confirmed...
Actions
1. Cell as preferred contact
2. Moving to text message reminders across the school
28. How do you feel about going to the dentist (please circle) Scared Apprehensive No problem

EXAMINER'S COMMENTS: #7 Pt had full hand ortho when teenager
Actions
(Should) patients who report high anxiety receive a special pathway of care
Actions
Building customized messaging for high risk groups
2D Tools for a 3D Problem
Why This Matters

- VAS lacks precision
- GeoPain showed clear difference between active and sham group earlier.
- Potential clinical biomarker for pain severity

<table>
<thead>
<tr>
<th>V.A.S.</th>
<th>5.9</th>
<th>6.3</th>
<th>5.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>P.A.I.N.S.</td>
<td>3.5%</td>
<td>3.6%</td>
<td>25.7%</td>
</tr>
</tbody>
</table>
How It Works

Intuitive 3D navigation and painting of pain over time

Proprietary anatomical pain calculation

Secure servers and global scale analytics

Real-time actionable data with clear Rx effect

Copyright 2018, MoxyTech, Inc. * Confidential and Private *

Eric@moxytech.net | 734.545.4403 | www.moxytech.net
Engagement

- Arbitrary models to appeal to specific demographics.
- Aggregate across populations.
- Appeals to difficult populations.
Actions

1. Cell as preferred contact
2. Moving to text message reminders across the school
3. New pathway of care for patients self reporting as anxious
4. Building customize messaging for high risk groups
5. Precise and Inclusive Pain tracking and analysis
Thank You!
Physical Medicine and Rehabilitation Learning Community

Jason Raad, PhD
Learning Communities – Physical Medicine and Rehabilitation

Overview of Learning Community

• DEPARTMENT: Physical Medicine and Rehabilitation
• DATE FORMED/DATES LC IN PLACE: Winter 2017
• PROBLEM OF INTEREST: Establish evidence that supports the “value” of PM&R services; develop more uniform data collection and documentation across the department
• STAKEHOLDERS:
  • Proximal: Clinicians (Physicians, Psychologists, Occupational and Physical Therapists)
  • Distal: Patients, Referring clinicians, Payers and Administrators
Learning Communities - Physical Medicine and Rehabilitation

Overview of Learning Community

• STRUCTURE
  • PM&R Clinical faculty and staff (Physician, Psychologist, OT, PT) based on service line
• PHYSICAL LOCATION(S):
  • 500+ Providers
  • 16+ Locations
• CURRENT STATUS:
  • “Buy-in” & “Analysis” Phase of the Project
  • Rollout to a limited number of clinical teams; the “early adopters”
  • Develop teams by clinic and/or service to identify key questions/problems:
    • Identify the “universe” of data elements and “best practices” for documentation
    • Link evidence-based practice to interventions / treatments
In what ways has the Learning Community been of benefit?

- Document current practice
- Identify goals and potential barriers by practice
- Develop “meaningful” patient groups (currently not well defined)
  - Explicitly link “interventions” to “evidence”
  - Emphasize discrete documentation

What has the Learning Community been able to accomplish?

- To date, we have worked closely with two practices (OT Hand and Peds PT) to better understand current practices; several other teams are launching
- Developed a “workbook” to provide guidance and support to teams
- Currently surveying PTs and OTs to better understand the utilization of standardized measures across practice areas
What were the challenges of forming and/or sustaining the Learning Community?
• Time
• Balance resources with other obligations and priorities

How were these challenges addressed?
• Dedicated time of an “operations” team to do administrative/organizational work to reduce burden on clinical teams
• Align efforts of clinical team to their clinical responsibilities (esp. faculty)
• Dedicated funds for the LHS effort (supports efforts of operations team)
Learning Communities - Physical Medicine and Rehabilitation

Were there any unexpected impacts or outcomes of the Learning Community?

• Therapy clinics in PM&R had addressed issues surrounding data collection and documentation, but these efforts weren’t unified

Things you hadn’t thought of/didn’t expect?

• **Scope**: the steps needed to transform to an LHS are more numerous than we had anticipated

• **Timing**: this initiative will take longer than we originally thought

• **Resistance to Change**: We anticipated more resistance to change than we’ve experienced talking to clinicians
Future Directions:

• Create an LHS “toolkit” that includes workbooks and worksheets to facilitate knowledge transfer within and between service lines
  • Identify strategies to move through transformative steps quickly and efficiently while reducing burden on clinicians
• Engage stakeholders
  • Identify clinically-relevant questions and problems
• Optimize the EMR interface to increase discrete data input
  • Reduce burden
  • Streamline workflow
• Allow clinicians to have the flexibility needed to practice independently
LHS for Out-of-Hospital Cardiac Arrest (OHCA) Learning Community

LHS Collaboratory 12-18-18
• No pulse
• Not breathing – may sound gurgly
• Requires immediate CPR
## Out-of-Hospital Cardiac Arrest in U.S.

<table>
<thead>
<tr>
<th></th>
<th>Adults</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annual incidence of EMS-assessed OHCA</strong></td>
<td>347,322</td>
<td>7,037</td>
</tr>
<tr>
<td><strong>Survival to hospital discharge</strong></td>
<td>10.8%</td>
<td>10.7%</td>
</tr>
<tr>
<td><strong>Good functional status at hospital discharge</strong></td>
<td>9%</td>
<td>8.2%</td>
</tr>
<tr>
<td><strong>Shockable rhythm with AED</strong></td>
<td>20.2%</td>
<td>7.2%</td>
</tr>
<tr>
<td><strong>Public setting</strong></td>
<td>21.1%</td>
<td>16.1%</td>
</tr>
<tr>
<td><strong>Home</strong></td>
<td>68.1%</td>
<td>83.6%</td>
</tr>
<tr>
<td><strong>Nursing home</strong></td>
<td>10.8%</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

Source: American Heart Association: Heart Disease and Stroke Statistics – 2018 Update
OHCA Survival to Hospital Discharge

Source: Cardiac Registry to Enhance Survival (CARES)
Sponsor Organizations

- Department of Emergency Medicine
- **SaveMiHeart**
- Department of Learning Health Sciences
- Emergent Health Partners / Huron Valley Ambulance (Washtenaw County)
- Livingston County Emergency Medical Services
- Washtenaw/Livingston Medical Control Authority
System of Care for Out-of-Hospital Cardiac Arrest

Bystander Response 911 Dispatch EMS Hospital

Kronick Circulation 2015
Out-of-Hospital Cardiac Arrest Learning Cycle

D2K
Data to Knowledge

P2D
Performance to Data

K2P
Knowledge to Performance

Formation of Learning Community
Bystanders, 911 Dispatchers, Police, Fire Fighters, Paramedics, Physicians, Nurses, Survivors and Families
• **Objective:** to increase survival from out-of-hospital cardiac arrest in Washtenaw & Livingston counties
Meeting in Washtenaw County 10/17/18
Themes

- Bystanders’ initiation of CPR is critical
- Increase OHCA public awareness
- Reduce time-to-treatment & improve data collection
  - Time of cardiac arrest
  - Time to first chest compression (CPR)
  - Time to when AED applied
- Improve consistency in hospital care
Current status:

- Newsletter recap
- Combined learning community in early 2019
- American Heart Association grant
Thank you!

Contact us at:
LHS-OHCA-Info@umich.edu