Disclosure to Participants

- Notice of Requirements For Successful Completion
  - Please refer to learning goals and objectives
  - Learners must attend the full activity and complete the evaluation in order to claim continuing education credit/hours

- Conflict of Interest (COI) and Financial Relationship Disclosures:
  - Eleni Sheehan, MSN, APRN, FNP-BC, CDE – No COI/Financial Relationship to disclose
  - Marissa Town, BSN, RN, CDE – No COI/Financial Relationship to disclose

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- Funding provided by the Helmsley Charitable Trust

Learning Objectives

- Recognize disparities in T1D care and burden of patient care falling on primary care providers.
- Understand how Project ECHO® model is being applied to T1D to help reduce disparities in care.
- Contemplate adapting use of the Project ECHO® for T1D.
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Dissemination of Quality Care for Type 1 Diabetes (T1D): The Project ECHO® Experience
Overview:
Health disparities in T1D and barriers to care

Recognizing the facts: on average, the current system of delivery for T1D in the US is failing patients.

Health disparities in T1D

Socioeconomic Status (SES) Differences in Childhood
- Higher HbA1c
- Higher rates of hospitalization for serious diabetes-related complications
- Lower competency in diabetes knowledge

SES Differences Across the Lifespan
- Higher rates of mortality
- Excess mortality associated with diabetes-related complications
- Non-Hispanic blacks have highest risk for T1D-related death from complications
- Higher HbA1c and less aggressive insulin regimens are noted for non-Hispanic blacks independent of SES
Understanding barriers for adults with T1D: Focus Groups

**Demographic Characteristics of Florida Focus Groups**

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Non-Hispanic White</th>
<th>Non-Hispanic Black</th>
<th>Hispanic or Latino</th>
<th>Multiracial</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>26 (63%)</td>
<td>10 (24%)</td>
<td>3 (7%)</td>
<td>2 (5%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SES: Household Income</th>
<th>Pump</th>
<th>CGM</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;$25,000</td>
<td>15 (37%)</td>
<td>11%</td>
</tr>
<tr>
<td>$25,000 to &lt;$35,000</td>
<td>5 (13%)</td>
<td>10%</td>
</tr>
<tr>
<td>$35,000 to &lt;$50,000</td>
<td>8 (20%)</td>
<td>16%</td>
</tr>
<tr>
<td>$50,000 to &lt;$75,000</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>Missing Data</td>
<td>5 (12%)</td>
<td>12%</td>
</tr>
</tbody>
</table>

**Barriers to care:**

- (1) Cost of insulin and supplies
- (2) Long wait times when needing to schedule adult endocrinology visits
- (3) Lack of attention to T1D care in adult endo visits
- (4) Distance
- (5) Many defer to PCP for care
- (6) Lack of any support groups for T1D or networks therein
- (7) Are unable to get pumps due to A1c%

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**Surveys with PCPs in Florida and California: Protocols for T1D care delivery**

- For pediatrics: 61% refer to endocrinology, 48% test for HbA1c
- For adults: only 34% refer to endocrinology, 77% test HbA1c
- 70% report filling an insulin prescription for a T1D patient in the last year
- Many barriers in getting patients referrals to endocrinology are noted
- Low levels of confidence in T1D care were shown – especially related to pumps and CGMs

- Despite low confidence levels, PCPs are managing T1D

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**What have we learned?**

Barriers to receiving endocrinology care in T1D

- Income & Work: For low-income children with T1D, financial barriers for parents like time lost from work may be an obstacle.
- Adult Care: For adults with T1D, there is a continued growing shortage of adult endocrinologists.
- Rural Obstacles: For children and adults with T1D in rural areas, distance may be an obstacle.
- Beyond Distance: For adults and children with T1D in close proximity to endocrinologists, barriers other than distance persist.
**Project ECHO® model applied to T1D**

**Goal:** Increase the capacity of primary care providers and clinics to empower and safely and effectively manage underserved patients with T1D who do not receive routine specialty care.

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**Project ECHO®**  
**Extension for Community Healthcare Outcomes**

- Founded in 2004 by Dr. Sanjeev Arora to address Hepatitis C in New Mexico
- The heart of the ECHO model™ is its hub-and-spoke knowledge-sharing networks
- Led by expert teams who use multi-point videoconferencing to conduct virtual clinics with community providers
- Primary care providers (doctors, nurses, and other clinicians) learn to provide excellent specialty care to patients in their own communities
- Model has been adopted and applied in over 20 different specialties in over 50 institutions globally

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**ECHO Hubs and Superhubs: Global**

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Diabetes Liaison = Health Coach

- Peer coaches hired and trained by UF & Stanford to provide support to adult T1D patients at spoke locations
- Organize social gatherings, serve as a resource and care navigator
- **They do not give direct medical advice**
- Adults with T1D who are interested opt in to the program via a social contract
Health Coaches

- California Health Coaches are seeing 18 patients
- CA and FL coaches hosting social gathering events that are being well attended

How can ECHO® T1D help address disparities?

- **Empowerment**
  - Empowering PCPs: T1D children and adults will have better care in primary care settings
- **Support Network**
  - By providing diabetes liaisons T1D patients will have greater social network support

Summary of how ECHO® T1D can help offset T1D health disparities

- Improve care received by underserved population with T1D
- Increase knowledge and confidence of Primary Care Providers’ care for patients with T1D
- Create social support network with Health Coaches
California Spoke Sites

- 11 Established Spoke Sites in CA with 37 clinic sites serving over 1,000 patients with T1D who do not receive routine specialty diabetes care
  - 9 Federally Qualified Health Centers (FQHCs): Partnership Health Plan is the largest managed care organization (MCO) for the majority of the sites
  - 2 Non-FQHCs
  - As of January 6th – 89 people from these sites are participating in ECHO® T1D (at least 79 of whom are clinicians)

Florida Spoke Sites

- 12 Established Spoke Sites in FL serving over 1,000 patients with T1D who do not receive routine specialty diabetes care

FQHCs: HCN is largest MCO for Spoke sites
- Miami Beach Community Health Centers – 3 Clinics
- Community Health Centers of Pinellas – 10 Clinics
- Jessie Trice Community Health Centers – 11 Clinics 40 schools
- Citrus Health Network – 6 Clinics
- Healthcare Network of Southwest Florida – 22 Clinics

Non-FQHCs:
- UF Student Health Care Center – 1 Clinic
- UF Eastside Clinic – 1 Clinic
- Old Town – UF Health Family Medicine – 1 Clinic
- The Stever Family Children’s Hospital at Sacred Heart – 10 Clinics
- Tallahassee Memorial Hospital Transition Center – 1 Clinic
- Help a Diabetic Child Foundation – 1 Location
- Tallahassee Memorial Good Samaritans Clinic – 1 Clinic

Educational Needs

- Determined based on baseline surveys of participating PCPs
  - Confidence in T1D management
  - Knowledge of:
    - Insulin and Medications
    - Blood Glucose Monitoring and Continuous Glucose Monitoring (CGM)
    - Complications
- Monitored through assessment of online CME evaluations for CA
  - Percentages of learners who will make changes in their practice and the types of changes anticipated
  - Mean scores regarding increases in stated ability to better manage the care of patients with T1D
  - Assessment of topics of interest for future sessions
Baseline Knowledge – CA & FL

- 13 Question Pre-test
- % Correct response ranged from:
  - CA: 14.0% - 85.7%
  - FL: 9.7% - 83.9%

<table>
<thead>
<tr>
<th>Question</th>
<th>CA % Correct</th>
<th>FL % Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q5. Insulindose titration - insulin/carbohydrate ratios</td>
<td>36.4%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Q6. Insulin dose titration - insulin sensitivity factor</td>
<td>54.8%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Q7. Post meal glucose targets</td>
<td>72.9%</td>
<td>40.0%</td>
</tr>
<tr>
<td>Q8. Monitoring continuous glucose data</td>
<td>14.0%</td>
<td>9.7%</td>
</tr>
<tr>
<td>Q9. Interpreting continuous glucose monitoring data</td>
<td>74.4%</td>
<td>48.4%</td>
</tr>
<tr>
<td>Q10. Goal hypoglycemia rate</td>
<td>60.5%</td>
<td>83.9%</td>
</tr>
<tr>
<td>Q11. Medical necessity for continuous glucose monitoring</td>
<td>39.5%</td>
<td>62.5%</td>
</tr>
<tr>
<td>Q12. Target blood pressure</td>
<td>26.1%</td>
<td>31.3%</td>
</tr>
<tr>
<td>Q13. Target LDL cholesterol level</td>
<td>45.7%</td>
<td>68.8%</td>
</tr>
<tr>
<td>Q2. Starting insulin</td>
<td>39.1%</td>
<td>40.6%</td>
</tr>
<tr>
<td>Q3. Insulin timing and administration</td>
<td>52.1%</td>
<td>48.4%</td>
</tr>
<tr>
<td>Q4. Metformin use in T1D</td>
<td>59.6%</td>
<td>58.1%</td>
</tr>
<tr>
<td>Q1. Insulin duration</td>
<td>85.7%</td>
<td>64.7%</td>
</tr>
<tr>
<td>Q14. Review of findings from Project ECHO T1D in California and Florida</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Review of findings from Project ECHO T1D in California and Florida

CA Evaluation Results to Date

<table>
<thead>
<tr>
<th>Met Stated Objectives*</th>
<th>November</th>
<th>December</th>
<th>January</th>
<th>February</th>
<th>March</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balanced, Objective evidence-based content*</td>
<td>4.41</td>
<td>4.30</td>
<td>4.40</td>
<td>4.50</td>
<td>4.50</td>
</tr>
<tr>
<td>Presented content at optimal level of complexity*</td>
<td>4.25</td>
<td>4.20</td>
<td>4.20</td>
<td>4.20</td>
<td>4.20</td>
</tr>
<tr>
<td>No Commercial Bias Present</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Effectiveness of Presenters*</td>
<td>4.36</td>
<td>4.06</td>
<td>4.44</td>
<td>4.45</td>
<td>4.54</td>
</tr>
<tr>
<td>The case presentation and subsequent discussion increased my ability to better manage the care of my patients with T1D*</td>
<td>4.23</td>
<td>3.91</td>
<td>4.24</td>
<td>4.35</td>
<td>4.43</td>
</tr>
<tr>
<td>Provided practical suggestions I can apply in my practice*</td>
<td>4.23</td>
<td>3.90</td>
<td>4.32</td>
<td>4.33</td>
<td>4.38</td>
</tr>
<tr>
<td>Based on the information from this TeleECHO clinic I will make changes in my medical practice.</td>
<td>85%</td>
<td>80%</td>
<td>88%</td>
<td>85%</td>
<td>87%</td>
</tr>
</tbody>
</table>

*Based on a 5 pt scale where 1 = Strongly Disagree or Not Effective and 5 = Strongly Agree or Very Effective
Examples of Changes in Practice

- Continuous Glucose Monitoring (CGM)
  - Get my patients on CGM proactively
  - Prioritize at-risk patients for CGM
  - Engage HMOs to facilitate use of CGM

- Psychological Issues around T1D
  - Assess for diabulimia
  - Initiate conversations around shame, guilt of patients
  - Not be afraid to ask people if they are entering fake BGs if their clinical picture doesn’t make sense

- Insulin
  - Change how I transition between basal and NPH
  - Use simplified insulin regimens when needed
  - Apply the conversion of long-acting insulin to shorter insulin use

- Diet
  - Have patients take pictures of their foods to help educate them on carb counting
  - Utilize a small, medium, large meal approach
  - Help patients engage with carbs

- Hypoglycemia
  - Encourage renewal of glucagon RXs
  - Encourage family to be trained
  - Discuss with patients about how to objectively treat hypoglycemic episodes

Focus Groups June 2019

- Spoke Site Focus Groups June 2019
  - Re-evaluate practice changes
  - Identify future objectives

Considerations for expansion and scaling of Project ECHO T1D

- Getting buy-in from Payers/Physician Groups/etc. to help make a sustainable model
Questions?

Thank you