Partnerships for Progress in Pediatric Obesity Prevention and Management in Southern California

University of California Los Angeles, Harbor-UCLA Medical Center, Children’s Hospital Los Angeles

Represented by

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Moderated by

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Childhood Obesity Conference, San Diego, CA

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Disclosures

• **Miranda Westfall** - nothing to disclose.
• **Jennifer K. Yee** – travel support from Aegerion Pharmaceuticals

• **UCLA, Harbor-UCLA, and CHLA** all receive grant support from UniHealth Foundation.
• **Off-label medication use** may be discussed
Addressing the Needs of “Forgotten Patients”

• In 2007, UCLA noted a group of patients at the community clinic who were not getting better with standard lifestyle counseling and follow-up
  – no resources for Stage 3 treatment implementation
• In 2008, Dr. Wendelin Slusser received departmental approval to start a multidisciplinary clinic
• In 2011, UCLA received funding support from UniHealth Foundation
• In 2013, Harbor-UCLA became a UniHealth partner, started clinic modeled after the UCLA clinic
• In 2014, CHLA became a UniHealth partner
Collective Mission - UCLA, CHLA, Harbor-UCLA Programs
To provide education and resources related to the prevention and treatment of childhood obesity for local providers and community members, and to advocate for access to quality and affordable care for our patients.
### Table 2. Expert Committee Recommendations for Staged Obesity Treatment

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>Prevention Plus</td>
<td>5210</td>
</tr>
<tr>
<td></td>
<td>• Focus on healthy lifestyle habits to improve BMI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Motivational interviewing and frequent follow-up</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Advance to Stage 2 if no improvement after 3-6 months</td>
<td></td>
</tr>
<tr>
<td>Stage 2</td>
<td>Structured Weight Management</td>
<td>+dietician</td>
</tr>
<tr>
<td></td>
<td>• Increased support and structure to achieve healthy lifestyle habits</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Specific goals with reinforcement of targeted behavior</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Monthly follow-up</td>
<td></td>
</tr>
<tr>
<td>Stage 3</td>
<td>Comprehensive Multidisciplinary Intervention</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Increased intervention intensity with maximal support for behavioral changes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Multidisciplinary approach including health provider, behavioral counselor, registered dietician and exercise specialist</td>
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</tr>
<tr>
<td></td>
<td>• Weekly visits initially</td>
<td></td>
</tr>
<tr>
<td>Stage 4</td>
<td>Tertiary Care Intervention</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Designed for those with severe obesity who fail to improve following successful intervention of initial stages</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Includes consideration of pharmacologic interventions, restriction diets and weight control surgery</td>
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</tbody>
</table>

*USPTF recommends 25 hours of face-to-face time*

*Pediatrics, 2007*
Tertiary care clinic model

- Physician, dietitian, psychology services on site
- Physical Therapist (CHLA)
- Pediatric subspecialists as needed
  - cardiology, GI, endocrinology, pulmonology, surgery, psychiatry
- Pharmacologic therapy if indicated
- Bariatric surgery available (UCLA, Harbor-UCLA)
The Stages of Change (Transtheoretical) Model

- Describes individuals’ motivation and readiness to change a behavior

  Motivational interviewing – key patient care approach

From www.dentistryiq.com
# Clinic Patient Statistics

<table>
<thead>
<tr>
<th></th>
<th>UCLA (n=115)</th>
<th>Harbor-UCLA (n=22)</th>
<th>CHLA (POWER) (n=57)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (years)</strong></td>
<td>13.10 (3.81)</td>
<td>14.0 (3.1)</td>
<td>12</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>49.57%</td>
<td>63.0%</td>
<td>43.9%</td>
</tr>
<tr>
<td>Female</td>
<td>50.43%</td>
<td>37.0%</td>
<td>56.1%</td>
</tr>
<tr>
<td><strong>BMI (kg/m(^2))</strong></td>
<td>34.68 (9.14)</td>
<td>43.1 (16.0)</td>
<td></td>
</tr>
<tr>
<td><strong>BMI percentile</strong></td>
<td>97.8 (1.66)</td>
<td>&gt;99%</td>
<td>25.5% are &gt;95%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20.4% are Class 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>52.7% are Class 3</td>
</tr>
<tr>
<td><strong>BMI z-score</strong></td>
<td></td>
<td>2.7 (0.4)</td>
<td></td>
</tr>
<tr>
<td><strong>Hypertension</strong></td>
<td>20.3%</td>
<td>36.3%</td>
<td>3.5%</td>
</tr>
</tbody>
</table>
Where is Tertiary Obesity Care in the Grand Scheme of Public Health Intervention?

Levels of Influence in the Social Ecological Model

- Clinics
- Classes
- Collaborations

- Individual
- Interpersonal
- Community
- Institutions
- Structures, Policies, Systems
Addressing Obesity Through Training in Primary Care
UCLA - The Fit for Residents Training

- 2009 - funded by Anthem Blue Cross
- 52 primary care residents received training through a core curriculum on childhood obesity in:
  - Prevention, management, referral, advocacy
- Outcomes – n=23, baseline and follow-up surveys
  - Residents Increased Scores in Knowledge, Attitudes and Practice
  - Performance data from chart reviews – BMI stabilization or decrease

<table>
<thead>
<tr>
<th>Domain</th>
<th>Change from Pre to Post</th>
<th>P-value *Significant at alpha = .05</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Knowledge (Maximum=39)</td>
<td>+ 2</td>
<td>0.009*</td>
</tr>
<tr>
<td>Attitudes (Maximum= 95)</td>
<td>+ 9.5</td>
<td>&lt;.001*</td>
</tr>
<tr>
<td>Confidence Subdomain (Maximum=60)</td>
<td>+ 9</td>
<td>&lt;.001*</td>
</tr>
<tr>
<td>QI Knowledge (Maximum= 40)</td>
<td>+ 3.5</td>
<td>0.0645</td>
</tr>
</tbody>
</table>
2013 – Harbor-UCLA Clinical Toolkits

- Clinical decision trees from Fit for Residents were updated
- Part of a Clinical “Toolkit” consisting of select provider clinical tools, patient handouts, and community resources
  - Available as hard copy, electronically, and on Dropbox
- Distributed to pediatric residents and community practitioners
  - Harbor-UCLA main campus
  - Department of Health Services (DHS) community clinics
  - eConsult community clinics
- Evaluation tool – Fit For Residents Survey
Cumulative Distribution of Decision Trees

• **UCLA Fit for LA:**
  • 5 primary care provider sites → 150 healthcare providers

• **Harbor-UCLA Be Forever Fit:**
  • 24 primary care provider sites → 110 healthcare providers

  Mokhtari, et al, Poster at the AAP Meeting, San Diego, 2014

**Harbor-UCLA Providers Increased Scores in**

• Knowledge

• Confidence in ability to refer to community resources
UCLA - Addressing Obesity Through Telemedicine
UCLA - Using Telehealth Technology to Expand Access to Multidisciplinary Pediatric Obesity Care in Urban Los Angeles

- Venice Family Clinic Simms-Mann Health and Wellness Center
  - Serves low-income, uninsured and homeless families and individuals

- LAUSD San Miguel Healthy Start School Based Clinic
  - San Miguel Elementary School
  - Serves students and their siblings ages 1-18 years old, with or without insurance

UCLA Telemedicine Evaluation

- October 2011 – April 2014
- 62 patients managed via telemedicine
- Outcomes evaluation
  - Patient and Provider Satisfaction Questionnaires
    - Participation: 28 patients, 17 providers
  - Clinical Outcomes
# UCLA Telemedicine Clinical Outcomes

<table>
<thead>
<tr>
<th>Summary Statistics (n=32)</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Sex</td>
<td>47% male; 53% female</td>
</tr>
<tr>
<td>Average age</td>
<td>11 years</td>
</tr>
<tr>
<td>Average BMI percentile</td>
<td>98.6</td>
</tr>
</tbody>
</table>

| BMI Outcomes (n=32)                          |                  |
| Change in BMI z-score at follow up visit     | 40.6% decreased  |
|                                              | 40.6% stabilized |
|                                              | 18.8% increased  |

| Blood Pressure Outcomes (n=25)                |                  |
| Hypertension or prehypertension at ≥1 visit  | 16%              |
| Improvements in blood pressure among pre-     | 75% of patients  |
| hypertensive or hypertensive patients (n=4)   | had normal blood |
|                                              | pressure at most |
|                                              | recent visit     |

CHLA – Addressing Obesity at All Levels

- Reporting on Health Policy Blog
- Faith-based Intervention
  - CHLA Farmers Market
  - UCLA UniCamp
  - Kids N Fitness
- FQHC Capacity Building
- Structures, Policies, Systems
  - Valerie Ruelas, Director of Community Advocacy
  - Institutions
    - Linda Heller, Director of Healthy Hospital Environment
    - Community
      - Ellen Iverson, Director of Community Engagement
      - Interpersonal
        - Megan Lipton, Director, Kids N Fitness
    - Individual
      - Claudia Borzutzky, Medical Director, EMPOWER
  - EMPOWER Clinic

Children's Hospital Los Angeles
Diabetes and Obesity Program
• Kids N Fitness©, developed in 2000
  – Implemented in clinical, community, afterschool, camp, and faith based settings
  – >1000 participants to date
• Designed for children 8-16 years and parents
• Family-centered, 6 session program which includes nutrition education, physical activity, parent support sessions, goal setting and self monitoring
  – Utilized as a Stage 1 prevention healthy lifestyle program in the schools/parks/churches
  – Utilized as Stage 2 weight management intervention in clinical settings
Kids N Fitness – Decrease in BMI and Body Fat%
Afterschool Intervention : 8 Elementary schools (4 schools received KNF)

Mean Δ BMI Z-Score over 6 Weeks

<table>
<thead>
<tr>
<th>Children</th>
<th>Control (n=123)</th>
<th>Intervention (n=109)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>0.0364 (SD 0.1664) n=123</td>
<td>-0.0632 (SD 1.743) n=109</td>
<td>p&lt;0.0001</td>
</tr>
<tr>
<td>BMI%≥ 85%</td>
<td>0.00597 (SD 0.0984) n=61</td>
<td>-0.0445 (SD 0.113) n=57</td>
<td>p=0.0090</td>
</tr>
<tr>
<td>BMI%≥ 95%</td>
<td>0.01564 (SD 0.0941) n=46</td>
<td>-0.03567 (SD 0.0865) n=44</td>
<td>p=0.0158</td>
</tr>
</tbody>
</table>

Change in mean BMI Percentiles Baseline to Follow-up
*Mean time elapsed 9.1 months ±1.7

Change in Body Fat % from Baseline to Follow-up
N=185
Kids N Fitness – Improvement in Knowledge, Behaviors and Self-Efficacy

Eating Behavior

Nutrition Knowledge

Nutrition Self-Efficacy

n = 97
P = 0.0051

n = 96
P = 0.0568

n = 92
P > 0.05
Addressing Obesity on the Institution Level – Sustainability Through Reimbursement

• Collaboration with Anthem Blue Cross Medi-Cal
• Pilot project to model reimbursement for multidisciplinary pediatric weight management services:
  – Harbor-UCLA, CHLA, and UCLA
• Parallel proposals from the three institutions
• Evaluation – collaborative outcomes data collection
Change in BMI Values Across Clinic Visits
Change in BMI compared to ΔBMI at the 50%ile

In patients who had 6 visits or more, significant reduction in BMI was observed.
Conclusions

• Stage 3 (Multidisciplinary) and Stage 4 (Tertiary) obesity intervention are effective for patients who fail primary care
  – Tertiary interventions - medications and surgery
  – Services available at CHLA, UCLA, Harbor-UCLA

• Multidisciplinary/tertiary care programs can effectively partner to enhance primary care and community programs in nutrition and exercise

• Further work is needed toward sustainability of all stages of obesity care
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