FOCUS ON A Fitter Future
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N.A.C.H.
Policy Agenda: Childhood Obesity

“There are two things you never want to see being made—sausage and legislation”

- John Kingdon’s Agenda Setting Theory
  - The policy agenda is the list of problems to which government officials and the voting public, pay serious attention.
- Moving an idea onto a policy agenda involves three processes:
  - problems
  - proposals
  - politics

Policy Stream Convergence

Problems

Proposals

Politics

Policy Window
Figure 1. Trends in obesity among children and adolescents: United States, 1963–2008

NOTE: Obesity is defined as body mass index (BMI) greater than or equal to sex- and age-specific 95th percentile from the 2000 CDC Growth Charts.

Scope of the Problem

- Data from the National Survey of Children’s Health (NSCH) indicates that the magnitude of socioeconomic disparities in obesity prevalence may have increased between 2003 and 2007.

- The same study notes that, in 2007, children from low-income and low-education households had three to four times higher odds of obesity than children from higher socioeconomic households.*

Medicaid and Childhood Obesity

Medicaid insures more than 1 in 4 children, making it the single largest children’s health insurance program and the single largest payer for children’s hospitals.
Access to Preventative Care

## Medicaid and Medicare Reimbursements

<table>
<thead>
<tr>
<th>State</th>
<th><strong>CPT 99201 - New Patient Visit</strong></th>
<th><strong>CPT 44950 - Appendectomy</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Medicaid</td>
<td>Medicare</td>
</tr>
<tr>
<td>California</td>
<td>$24.98</td>
<td>$36.46 - $46.92</td>
</tr>
<tr>
<td>Kentucky</td>
<td>$29.66</td>
<td>$32.66</td>
</tr>
<tr>
<td>Maryland</td>
<td>$30.27</td>
<td>$34.97 - 37.27</td>
</tr>
<tr>
<td>New Jersey</td>
<td>$20.60</td>
<td>$38.57 - $40.75</td>
</tr>
<tr>
<td>Ohio</td>
<td>$21.81</td>
<td>$34.30</td>
</tr>
<tr>
<td>Texas</td>
<td>$28.87</td>
<td>$33.17 - $37.05</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>$28.23</td>
<td>$33.82</td>
</tr>
</tbody>
</table>

Source: AAP Medicaid Study
2007-2008
Financial Impact of Obesity

- The total days of care associated with obesity increased from about 152,000 days in 1979-1981 to about 210,000 days in 1997-1999.

- In 2008, Health Affairs estimated that obesity-related medical costs have reached $147 billion, or about 9 percent of total annual medical spending.

- CBO Analyses: Spending per capita for obese adults exceeded spending for adults of normal weight by about 8 percent in 1987 to 38 percent in 2007.
Policy Recommendations to Reduce Childhood Obesity

• Establish grants to increase the availability of evidence-based childhood obesity treatment programs.

• Create a comprehensive registry that allows researchers and pediatric physicians access to patient-level, clinical data to support the development of best practices to reduce childhood obesity.

• Commission the Government Accountability Office to conduct a national study of payment on existing state practices for Medicaid and CHIP coverage, as well as private insurers.
Policy Recommendations to Reduce Childhood Obesity

• Improve data surveillance and collection of childhood obesity incidents that track the number of children living with obesity by strengthening the National Health and Nutrition Examination Survey (NHANES).

• Create regional hubs of childhood obesity expertise based in academic medical centers affiliated with children’s hospitals.
Opening the Policy Window

• Key policy leaders are paying attention to the problem

• Proposals are seen as technically feasible, compatible with the values of decision makers, reasonable in cost, and are generally appealing to the public.

• Political factors influence the childhood obesity agenda
  – Changes in elected officials
  – Political climate
  – Voices of advocacy groups and key stakeholders rise
East and West Wing Efforts

• Office of the First Lady’s Let’s Move! initiative

• President’s Task Force on Childhood Obesity
  – Report: Solving the Problem of Childhood Obesity Within a Generation
  – Chair of the Task Force: The Assistant to the President for Domestic Policy
  – Focus of Task force
  – N.A.C.H. Summary and comments

• Clinical and administrative leadership meet with White House Domestic Policy Council staff

• Presidential proclamation declaring September Childhood Obesity Awareness Month
Office of the Surgeon General

• Children’s Hospital Day at the Department of Health and Human Services
  – Five children’s hospitals meet with Dr. Regina Benjamin
  – Seeking input from relevant stakeholders

• Chair of the National Prevention, Health Promotion, and Public Health Council (Council)
Bi-Partisan Congressional Proposals

- September declared ‘Childhood Obesity Awareness Month’
  - House and Senate unanimously

- Rep. Ron Kind (D-WI) Health CHOICES Act

- Rep. Marcia Fudge (D-OH) and Rep. Anh Cao (R-LA) Fit for L.I.F.E. Act

- Briefing with bi-partisan Congressional Task Force on Childhood Obesity
The Healthy CHOICES Act of 2010

• Comprehensive obesity bill
• Require body mass index (BMI) information be provided in vaccination records for school-age children
• Establish a grant program to help states disseminate information about BMI results to parents and children;
• Expand coverage for obesity prevention and treatment services in Medicaid and the Children’s Health Insurance Program (CHIP);
• Expand coverage of medical nutrition therapy in Medicaid and CHIP; and
• Expand collection of data on obesity
Fit for L.I.F.E. Act of 2010

• Reps. Marcia Fudge (D-OH) and Anh Cao (R-LA)
• Targeting underserved communities struggling to combat childhood obesity
• The bill incorporates recommendations made by N.A.C.H. and its member children’s hospitals that would fund coverage for evidence-based preventative services under Medicaid and CHIP.
• Establishes a National Commission on Childhood Obesity that would develop and oversee a comprehensive registry of patient data of children living with obesity for the purposes of accessing patient-level, clinical data for research and the development of best practices.
Health Reform and Childhood Obesity

• The Patient Protection and Affordable Care Act (P.L. 111-148) appropriated $25 million for a Childhood Obesity Demonstration Project that was authorized in the 2009 CHIP reauthorization (P.L. 111-3).

• Funding for the development of a comprehensive model for reducing childhood obesity, through targeted support to families, identification of needed clinical preventive, screening benefits, and medical assistance.

• The health reform law established the authority to create the National Prevention, Health Promotion, and Public Health Council (Council).

• Provides the first ever federal payment standard increases Medicaid payment to Medicare level for services defined by Evaluation and Management (E&M) Codes.
“All Politics is Local”
-Former Speaker of the House Tip O'Neill

• The Healthy Choices for Healthy Children (HCHC) legislation, signed into law by Ohio Governor Ted Strickland on June 18, 2010, will implement measures to decrease and prevent childhood obesity in Ohio schools.

• Nationwide Children’s Hospital partnered with leaders in the business community to gain bi-partisan support for this legislation.

• National and statewide commitments
The Tipping Point

• Public and political support for childhood obesity is on the rise

• N.A.C.H. Key Issue

• N.A.C.H. joined the National Council on Childhood Obesity Awareness Month
  – Collaborative with 70 other national and local organizations, with the First Lady serving as the Honorary Chair working to support and advance the health observance month

• Children’s hospitals driving policy change
Objectives

• Discuss how children’s hospitals are responding to the obesity epidemic and expert committee guidelines

• Examine challenges faced by obesity programs/centers and the role of hospital administrators
Dr. David Ludwig
Children’s Hospital Boston
CONTINUUM OF CARE FOR CHILDHOOD OBESITY

Community environmental supports and policies for healthy lifestyles
Community services for at-risk and overweight children
Primary care and early identification and management of at-risk and less complex cases
Medical management of complicated patients
Specialty diagnosis services including surgery

Community Based Services | Weight Management Clinic, Specialty Services | Primary Care Practices
Expert Committee Guidelines for Managing Childhood Obesity

• Released in 2007
• Interdisciplinary group of professionals
• Provided guidelines on screening, classification, location and length of care, staffing for each level of care
• Children’s hospital are ideal sites for stage 3 and 4 levels of care that involve intensive programs and multidisciplinary teams
Components of the Ideal Obesity Center

- Bariatric program
- Intensive medical weight management program based in hospital
- Weight management program with community focus
- Clinic based program
- Quality Improvement/Prevention Educational programs
- Public Health and Legislative Policy

Research
## Nationwide Children’s Hospital Center for Healthy Weight and Nutrition (CHWN)

<table>
<thead>
<tr>
<th>Prevention/Advocacy</th>
<th>Identification</th>
<th>CHWN Medical</th>
<th>CHWN Bariatric</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Ounce of Prevention Program</td>
<td>• Resources for AAP Guidelines</td>
<td>Assessment Clinic Programs</td>
<td>Surgeries</td>
<td>• Teen Labs-Bariatric Surgery</td>
</tr>
<tr>
<td>• Healthy, Happy Preschoolers Courses</td>
<td>• QI within Epic</td>
<td>• New U Jr</td>
<td>• Gastric bypass</td>
<td>• Feeding Dynamics</td>
</tr>
<tr>
<td>• Community Activities e.g., walking with a doc</td>
<td>• Community Partnerships With Boys/Girls Club YMCA</td>
<td>• New U</td>
<td>• Gastric banding</td>
<td>• Metformin therapy for weight loss</td>
</tr>
<tr>
<td>• Policy &amp; Legislation</td>
<td>• Monthly visits</td>
<td>• Gastric sleeve</td>
<td>• Retrospective studies on intervention/outcome</td>
<td>•</td>
</tr>
</tbody>
</table>
To reduce the prevalence and consequences of child obesity in Franklin County (Reduce rate of obesity in 5th graders in HNHF Zone by 25% in 5 years—47% to 38%)

Key Drivers

- Energy imbalance
- Lack of detection/intervention
- Lack of coordinated efforts
- Lack of measurement and accountability

Design Changes/Interventions

**Healthy Eating**
- Community Gardens
- Farmers’ Markets
- Feeding Your Kids

**Physical Activity**
- F.A.N. Club
- Get Active Columbus Partnership with CPH
- Walk with a Doc
- Walking Wednesdays

**Policy**
- OBRT Employer Action Group

**Leadership**
- NCH Pediatric Obesity Prevention Coalition
- NACHRI Obesity Focus Group
- Healthy Choices for Healthy Children Act Implementation
- CCS School Nurse Training
- ODH Screening & Referral Training
- Data Analysis & Reporting Team (DART)
- Full Potential
- NCH In Shape
- Alliance for a Healthier Generation
- GetNHealthy with Aetna Pilot
# University of Michigan C. S. Mott Children’s Hospital
**Pediatric Comprehensive Weight Management Center**

<table>
<thead>
<tr>
<th>Advocacy and Education</th>
<th>Collaborations</th>
<th>Medical</th>
<th>Bariatric Surgery</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership in Healthy Kids</td>
<td>YMCA of Ann Arbor</td>
<td>Evaluation and Feedback Clinic</td>
<td>Pre-surgical Education Program (PEP-1)</td>
<td>Parents’ role in pediatric weight loss interventions</td>
</tr>
<tr>
<td>Healthy Michigan Coalition to get insurance coverage of obesity care</td>
<td>Meijer</td>
<td>MPOWER Teen (<em>Michigan Pediatric Outpatient Weight Evaluation &amp; Reduction</em>) Program (24 wks)</td>
<td>Roux-en-Y Gastric Bypass</td>
<td>Communications technology and adherence</td>
</tr>
<tr>
<td>- BMI entered in state registry</td>
<td>Food Gathers</td>
<td>MPOWER JR (24 wks with YMCA)</td>
<td>Sleeve Gastrectomy</td>
<td>Inflammation and pediatric obesity</td>
</tr>
<tr>
<td>- Improved day-care guidelines</td>
<td>Washtenaw County Health Department</td>
<td>MPOWER Parent Booster Program</td>
<td>Post-surgical Enhancement Program (PEP-2)</td>
<td>Genetic and metabolomic profiling of obese adolescents</td>
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<tr>
<td>CORE - Childhood Obesity Research and Education Interest Group</td>
<td>Eastern Michigan University</td>
<td>Post-transplant and Primary Care Programs (under development)</td>
<td>Online Distance Program (under development)</td>
<td>Evaluation of program outcomes</td>
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<tr>
<td>Electives for all levels of trainees</td>
<td>Leslie Science Center</td>
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</table>
...But is there effective obesity treatment for children?
United States Preventive Services Task Force (USPSTF)

• Moderate intensity (26-75 hours), and high intensity (greater than 75 hours can be effective over the short-term (up to 12 months after intervention).

• Combined comprehensive behavioral and pharmacologic interventions may be beneficial to adolescents.

How Effective is our Treatment?

• Look AHEAD is a 15-center study in more than 5,000 adults persons with type 2 diabetes. (Diabetes Care 2007, Arch Intern Med 2010)

• At 1 year, the weight loss in the Treatment group was \(-8.6\%\) compared to \(-0.7\%\) in the Control group
  – The treatment group was able to reduce their hemoglobin A1c from 7.3 to 6.6\%, whereas the control group remained at 7.2\%.
  – Percentage using diabetes medication decreased from 87\% to 79\% in treatment group and increased to 89\% in control group
  – There was a marked increase from 10\% to 24\% of individuals in the treatment group meeting all three of the ADA goals (for low-density lipoprotein [LDL]-cholesterol, hemoglobin A1c, and blood pressure)
How Effective is our Treatment? The Look AHEAD and Yale Bright Bodies

• The Yale Bright Bodies Program is a 12 month program (JAMA 2007)
  – The BMI declined by 1.7 units in the intervention group compared with 0.3 units in the control group
  – The number needed to treat (NNT) with the one-year obesity program in order for one participant to resolve obesity (decrease in BMI to below the 95th percentile) was only 13.
  – The NNT needed to prevent and resolve insulin resistance was 5 and 6, respectively.
Anthropometric patient outcomes (weight/BMI) in 6 months

2 to 20 years: Boys
Body mass index-for-age percentiles

<table>
<thead>
<tr>
<th>Date</th>
<th>Age</th>
<th>Weight</th>
<th>Stature</th>
<th>BMI*</th>
<th>Comments</th>
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</table>

*To Calculate BMI: Weight (kg) ÷ Stature (cm) × Stature (cm) x 10,000
or Weight (lb) ÷ Stature (in) × Stature (in) x 703
Nationwide Children’s Hospital patient outcomes - child reported quality of life (Peds QoL)

Child Reported Quality of Life

Peds QOL score on scale of 0-100. Higher scores indicate better quality of life.
** Denotes statistically significant improvement in results at the beginning and end of program (Paired t-test)

HOMA-IR is used as a surrogate measure of insulin resistance.
Normal level used 4.39

<table>
<thead>
<tr>
<th>Test</th>
<th>Baseline mean (std)</th>
<th>End Mean (std)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose **</td>
<td>89.4 (9.6)</td>
<td>85.9 (9.5)</td>
</tr>
<tr>
<td>Insulin **</td>
<td>24.6 (13.3)</td>
<td>17.8 (8.9)</td>
</tr>
<tr>
<td>HOMA-IR **</td>
<td>4.8 (0.8)</td>
<td>4.4 (0.5)</td>
</tr>
</tbody>
</table>
** Denotes statistically significant improvement in results from the beginning to the end of program (Paired t-test)
Surgical Options For The Adolescent
When Other Weight-Loss Therapies Have Failed

- **Gastric Bypass**
  - Restrictive
  - And
  - Malabsorptive

- **Gastric Sleeve**
  - Restrictive Only

- **LAP-BAND System**
  - Restrictive and
  - Adjustable

[Image: Diagrams of surgical procedures]
Weight Loss Following Surgery

Health and economic impact of preventing and reducing overweight and obesity in adolescence

- A 1% point reduction in both overweight and obese adolescents ages 16-17 years
- By age 40 will
  - Reduce number of obese adults by 52,821
  - Decrease healthcare costs by $586 million
  - Lifetime quality-adjusted life years (QALYs) would increase by 47,138

Survival Guide

“Planning, Building, and Sustaining a Pediatric Obesity Program: A Survival Guide”
Planning, Building, and Sustaining a Pediatric Obesity Program: A Survival Guide

1. Building a case for a hospital-based obesity program
2. Administrative or financial planning
3. Adding sustainable value to your institution and community
4. Focusing the program in the continuum of obesity treatment
5. Building your team
6. Marketing the program
7. Building clinical or community networks
8. The role of education and research in the childhood obesity program
Building a case for a hospital-based obesity program
Strengths Weaknesses Opportunities Threats Analysis - DeVos Children’s Hospital, Grand Rapids

**Strengths**

- Increasingly important topic nationally and locally
- Strong endocrinology practice with over 400 obesity referrals per year
- History of strong collaboration with the YMCA
- Dr. Peterson - strong advocate, community connections
- No other player in Grand Rapids is doing comprehensive program for pediatrics weight management within the medical model at this time
(SWOT) Analysis
DeVos Children’s Hospital, Grand Rapids

Weaknesses

– None of sub-specialists have much expertise in weight issues
– Space constraints
– Reimbursement challenges
(SWOT) Analysis
DeVos Children’s Hospital, Grand Rapids

Opportunities

– Lessen the burden on Endocrinology
– Provide service to families and referring physicians that they currently don’t have
– Researcher/Professor (PhD Kinesiology) from MSU would improve structure, outcomes and sophistication of clinic
– Could build a bariatric surgery program for older teens
(SWOT) Analysis
DeVos Children’s Hospital, Grand Rapids

Threats

– Overwhelming societal issue-multifaceted
– Labor and cost intensive to impact behavior change
– Participant follow through in programs is difficult, no show rate among this population is high
– No gold standard that is proven to significantly reduce BMI over long term except surgery
Building a Sustainable Obesity Program

• Senior Program Administrators surveyed at 49 NACHRI member hospitals with interdisciplinary obesity programs
  – 72% Response rate (34/47)
  – 26% CEO/COO/Presidents, 21% VPs, 50% Section Chief

• Four key areas targeted:
  1. Perceived value of the obesity program
  2. Funding mechanisms
  3. Administrative Challenges
  4. Sustainability of the programs
Obesity Programs Added Value to Institution

- Met needs of patients and families (97%)
- Met needs of health providers (91%)
- Prevented future health problems in children (85%)
- Increased visibility in the community (79%)
Outcomes Institution Needs to Ensure Program continues to be Sustained

Figure 2: Outcomes Institution Needs to Ensure Program Continues to be Sustained

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Percent of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achieving planned growth in clinical volume</td>
<td>26%</td>
</tr>
<tr>
<td>Continued grant funding</td>
<td>50%</td>
</tr>
<tr>
<td>Demonstrated effectiveness of treatment</td>
<td>79%</td>
</tr>
<tr>
<td>Financial viability</td>
<td>74%</td>
</tr>
<tr>
<td>Sustained perceived need by the community</td>
<td>62%</td>
</tr>
</tbody>
</table>
Is the lack of demonstrable outcomes a challenge for your obesity program?

Figure 3: Is the lack of demonstrable outcomes a challenge for your obesity program?

Length of time program has been in existence

<table>
<thead>
<tr>
<th>Duration</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 2 years (n=12)</td>
<td>67%</td>
<td>33%</td>
</tr>
<tr>
<td>2 to 6 years (n=14)</td>
<td>21%</td>
<td>79%</td>
</tr>
<tr>
<td>More than 6 years (n=7)</td>
<td>14%</td>
<td>86%</td>
</tr>
<tr>
<td>Challenges</td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>Lack of Reimbursement</td>
<td>29</td>
<td>85%</td>
</tr>
<tr>
<td>High operating costs</td>
<td>24</td>
<td>71%</td>
</tr>
<tr>
<td>Inadequate space</td>
<td>19</td>
<td>56%</td>
</tr>
<tr>
<td>Not financially viable</td>
<td>14</td>
<td>41%</td>
</tr>
<tr>
<td>Lack of demonstrable outcomes</td>
<td>12</td>
<td>35%</td>
</tr>
<tr>
<td>Personnel problems</td>
<td>5</td>
<td>15%</td>
</tr>
<tr>
<td>Poor patient recruitment</td>
<td>5</td>
<td>15%</td>
</tr>
<tr>
<td>Inadequate expertise</td>
<td>2</td>
<td>6%</td>
</tr>
<tr>
<td>Lack of leadership</td>
<td>1</td>
<td>3%</td>
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</tbody>
</table>
How are obesity programs funded?

**Figure 1: How Obesity Program is Funded**

<table>
<thead>
<tr>
<th>Source</th>
<th>Percent of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical revenue</td>
<td>72%</td>
</tr>
<tr>
<td>Endowments</td>
<td>6%</td>
</tr>
<tr>
<td>Foundation support</td>
<td>34%</td>
</tr>
<tr>
<td>Grant support</td>
<td>63%</td>
</tr>
<tr>
<td>Institutional support</td>
<td>75%</td>
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</table>
Actual Business Plan Projections-
‘X’ Children’s Hospital

• Center of National Prominence- Comprehensive Obesity Center
  – Multidisciplinary clinic involving Physicians, Nurse practitioners, dietitians, physical therapists, psychologists, social workers
  – Outpatient Eating Disorder program
  – Building an outreach network with primary care offices connected to the Hospital
  – Setting up a bariatric program
  – Setting up a research program
## Actual Business Plan Projections- ‘X’ Children’s Hospital

### Institutional Impact

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
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<tr>
<td><strong>Volume</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>O/P</td>
<td>3,150</td>
<td>5,705</td>
<td>7,665</td>
<td>9,310</td>
<td>10,850</td>
<td>12,110</td>
</tr>
<tr>
<td>I/P</td>
<td>0</td>
<td>20</td>
<td>50</td>
<td>75</td>
<td>90</td>
<td>100</td>
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<tr>
<td><strong>Net Revenue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>361,660</td>
<td>1,607,965</td>
<td>2,452,026</td>
<td>3,133,120</td>
<td>3,650,859</td>
<td>4,097,318</td>
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<tr>
<td><strong>Total Expense</strong></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>553,681</td>
<td>1,735,633</td>
<td>1,877,973</td>
<td>2,617,430</td>
<td>3,104,684</td>
<td>3,256,571</td>
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<tr>
<td><strong>Salary</strong></td>
<td>516,476</td>
<td>1,507,062</td>
<td>1,615,552</td>
<td>2,222,614</td>
<td>2,640,684</td>
<td>2,759,991</td>
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<tr>
<td><strong>Net Income</strong></td>
<td>-192,021</td>
<td>-127,668</td>
<td>574,053</td>
<td>515,690</td>
<td>546,715</td>
<td>840,747</td>
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<tr>
<td>MD FTE</td>
<td>1.75</td>
<td>4.5</td>
<td>4.5</td>
<td>6.5</td>
<td>7.5</td>
<td>8</td>
</tr>
<tr>
<td>Non MD FTE</td>
<td>2.25</td>
<td>8.5</td>
<td>9.75</td>
<td>13.75</td>
<td>16.75</td>
<td>16.75</td>
</tr>
<tr>
<td>Total FTE</td>
<td>4.00</td>
<td>13.00</td>
<td>14.25</td>
<td>20.25</td>
<td>24.25</td>
<td>24.75</td>
</tr>
</tbody>
</table>
**Revenue/Expense Report - Comprehensive Obesity center-Clinical operations. Nationwide Children’s Hospital**

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue</th>
<th>Expenses</th>
<th>Institutional Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year #2 2008</td>
<td>489,842</td>
<td>736,149</td>
<td>246,307</td>
</tr>
<tr>
<td>Year #3 2009</td>
<td>819,756</td>
<td>1,031,422</td>
<td>211,666</td>
</tr>
<tr>
<td>Year #4 Proj. 2010</td>
<td>932,0457</td>
<td>1,026,885</td>
<td>94,840</td>
</tr>
<tr>
<td>3-Yr Cumulative</td>
<td>2,241,643</td>
<td>2,794,456</td>
<td>552,813</td>
</tr>
</tbody>
</table>

Total FTE 10.9

Surgical revenue NOT included
Case example for downstream revenue:

- Estimated charge for single sleep study: $2,000
- Average referrals annually: 100/year ≈ $200,000 downstream revenue
- Estimated additional revenue with CPAP studies and titration
Summary

• The role of Children’s Hospital in responding to the obesity epidemic is intricately linked to the universal children’s hospital mission of providing service to children and communities.

• The best results will be achieved by a collaboration of clinicians who are working to determine best practices in treating childhood obesity and administrators who are looking for strategies to support those efforts in balance with myriad competing pressures and needs.
Karan Staten, MS, RD, LD
Director of Clinical Nutrition
Arkansas Children’s Hospital
Objectives

• Reimbursement
• Hospital Environment
  – Hospital Preparedness
  – Link between Clinical and Administrative
  • QI projects related to Obesity
Reimbursement Challenges

- Programs are not consistent and definable
- Obesity is not often recognized as a Primary Diagnosis
- Poor or short term outcomes that may or may not be sustainable.
- Obesity Treatment programs are expensive
- Lack of hospital buy-in
Stages of Childhood Overweight Treatment outlined by the AMA in 2007 and endorsed by AAP

• Stage 1: Prevention Plus
• Stage 2: Structured Weight Management

• **Stage 3: Comprehensive Multidisciplinary Intervention**

• Stage 4: Tertiary Care Intervention

Stage 3: Multidisciplinary Obesity Care Team

- Medical: MD, DO, APN
- Nutrition: RD
- Behavioral Therapy: PhD, MFT, LCMSW, MA
- Physical Activity: PT, Exercise Physiologist
- Care Coordination: RN, MSW, or Health Educator
- Bariatric Surgeon (optional)

<table>
<thead>
<tr>
<th>Services</th>
<th>BMI: 85&lt;sup&gt;th&lt;/sup&gt; – 94&lt;sup&gt;th&lt;/sup&gt; percentile</th>
<th>BMI: &gt;95&lt;sup&gt;th&lt;/sup&gt; percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Pediatric Medical visits</td>
<td>At least 4 per year</td>
<td>Initial Treatment: One per month x 6 months On-going Minimum Treatment: 4 per year</td>
</tr>
<tr>
<td>Registered Dietitian visits</td>
<td>Initial Treatment: 1x/week x16 weeks On-going Minimum Treatment: 3, 6, 9, 12 months</td>
<td>Initial Treatment: 1x/week x16 weeks per year On-going Minimum Treatment: 3, 6, 9, 12 month visits</td>
</tr>
<tr>
<td>Behavioral therapy (Health &amp; Behavior Codes)</td>
<td>Initial Treatment: 1x/week x16 weeks On-going Minimum Treatment: 3, 6, 9, 12 months</td>
<td>Initial Treatment: 1x/week x16 weeks On-going Minimum Treatment: 3, 6, 9, 12 months.</td>
</tr>
<tr>
<td>Physical Activity Support</td>
<td>Initial assessment.</td>
<td>Initial Treatment: Exercise support 1x/week x16 weeks. On-going Minimum Treatment: 3, 6, 9, 12 months.</td>
</tr>
<tr>
<td>Services</td>
<td><strong>BMI: 85th – 94th percentile</strong></td>
<td><strong>BMI: &gt;95th percentile</strong></td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>---------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td><strong>Subspecialty involvement</strong> as needed (e.g. Endocrine, GI, Ortho, Cards, Pulm)</td>
<td>As needed</td>
<td>As needed</td>
</tr>
<tr>
<td><strong>Mental health services</strong> for comorbid psychiatric diagnoses (mental health codes)</td>
<td>As needed</td>
<td>As needed</td>
</tr>
<tr>
<td><strong>Social work</strong></td>
<td>Initial assessment and then as needed</td>
<td>Initial assessment and then as needed</td>
</tr>
<tr>
<td><strong>Laboratories</strong> – screening for co-morbidities, continued follow-up of co-morbid conditions</td>
<td>If risk factors present in history or physical exam: AST/ALT, fasting glucose and lipids, beginning at 2 years of age (every two years for screening)</td>
<td>AST/ALT, BUN/Cr, fasting glucose and lipids (with or without risk factors); consider insulin levels.</td>
</tr>
</tbody>
</table>
Pay Now or Pay Later

• Final Recommendations for the initial care plan of the morbidly obese child
  – 6 physician visits that may include other multidisciplinary team members
  – 6 dietitian visits
  – Behavioral health and exercise although part of the multidisciplinary team are billed separately.
Desired outcomes for patients and families (one or more)

• Maintain or reduce BMI percentile
• Slow down weight gain velocity
• Improved co-morbidity measures (i.e. reduced blood pressure, reduced insulin levels, reduced fasting serum lipids)
• Reduced medication usage
• Increased school attendance
• Improved emotional health
What would ideal look like?

• Recognize obesity as a chronic disease and treat it like a chronic disease
  - asthma & diabetes
• Reimbursement like other chronic diseases
• Consider case management
Reimbursement for Obesity

• Commercial Insurance
  – HM0/PPO/Self insured
• Medicaid
• Grants
• Self Funded
Commercial Insurance

- Majority of the services that are reimbursed for is physician/APN/DO services
- More likely to pay for co-morbidities associated with obesity (hypertension, diabetes...)
- Dietitian services rarely reimbursed but increasing
- PT reimbursed more commonly than other physical activity specialists
- Psychological services reimbursed separately
Commercial Insurance

• Coverage highly variable
• Many are self insured plans, coverage is dependent on what the employer chooses
• BC/BS and Kaiser are leaders
  – Often include:
    • Physician visits (4-6/year)
    • Nutrition counseling referrals (6-12/year)
BC/BS of Massachusetts

• Physician Visits
• Nutritional Counseling
• Weight loss benefit
  – Up to $150 toward feeds paid to a qualified Weight Watchers® or hospital-based weight management program.
• Fitness benefit
  – Up to $150 per family toward membership or exercise classes at a health club.

Zallen, Nemours Conference on Child Health Promotions, 2008.
Commercial Coverage in Arkansas

• United Healthcare:
  – Bariatric surgical procedures
  – Coverage Limitations and Exclusions
    • “obesity related nutritional counseling is excluded from coverage”

• QualChoice:
  – Does not cover any surgery, medical services or supplies intended to treat obesity or morbid obesity, even if the obesity or morbid obesity aggravates another condition or illness.
Commercial Coverage in Arkansas continued

• Arkansas Blue Cross:
  – Surgical Procedures Commercial Coverage in Arkansas
  – One time nutritional counseling for diabetes

• TriCare:
  – Surgical Procedures(specific guidelines met)
Commercial Coverage Pilot Program

• 4 Medical visits that may include other team members
• 6 Dietitian visits
• Review patient history following utilization of patient visits for reauthorization as needed

Based on the Alliance for a Healthier Generations (Collaboration between the Clinton Foundation, AHA and 5 private health insurers: Aetna, BlueCross MA and NC, PepsiCo, WellPoint).
Medicaid

• “Medicaid’s existing Early and Periodic Screening Diagnostic and Treatment (EPSDT) coverage standards provide for comprehensive, obesity-related pediatric health care interventions”
  – Inform families about the importance of preventive health care
  – Comprehensive preventive coverage
  – Assistance in securing care

(Wilensky et, 2006)
Medicaid

- Clarify the application of obesity prevention and treatment guidelines as part of the EPSDT benefit for children and adolescents
- Clarify proper coding and payment procedures for obesity prevention and treatment services.
- Bundle obesity prevention/treatment into a single package following a weight management module.
Medicaid

• Arkansas
  – Cost based Reimbursement
  – Code for abnormal weight gain vs. obesity

• Pennsylvania
Pennsylvania Medical Assistance

• Covers 1.8 million consumers (14% of Commonwealth population)

• Mandatory Managed Care Program – HealthChoices – covering 1.1 million consumers – 650,000 children

• Enhanced Primary Care Case Management Program – ACCESS Plus – covering 300,000 consumers – 188,000 children

Alexander-Childhood Obesity Conference 10/28/08
ROI Methodology

• 33% of children are overweight or obese

• Assumed 1% treated – 3,000 children

• Average cost of treatment - $974.42/year

• 41% of the 3,000 children – about 1,200 will achieve a BMI less than 85%

• Over 10 years 1.67 ROI

Alexander-Childhood Obesity Conference 10/28/08
Childhood Nutrition and Weight Management Services

Require an initial assessment (96150)
• Each 15 minutes face-to-face with patient $20.38
• Limited to three initial assessments/365 days
• Minimum 30 minutes – maximum 45 minutes

Re-assessment (96151)
• Each 15 minutes face-to-face with patient $20.38
• Limited to four re-assessments/365 days
• Minimum 30 minutes – maximum 60 minutes

Use of Appropriate Diagnosis Coding 278.00-278.02 along with V-code V85.52-V85.54

Alexander-Childhood Obesity Conference 10/28/08
Childhood Nutrition and Weight Management Services

Counseling Codes

- 96152 - face-to-face individual counseling $19.16
- 96153 - face-to-face counseling two or more $5.39
- 96154 - face-to-face family counseling, patient present $19.16

Maximum twenty-four 15 minute units for all codes combined per 365 days

RN can bill in addition to physicians, CRNPs and clinics

Alexander-Childhood Obesity Conference 10/28/08
Childhood Nutrition and Weight Management Services

Nutritional Counseling Code (S9470)

- Only billable by registered dietitian – able to enroll as individual provider

- Maximum 12 visits/365 days – flat rate of $26.46 per visit

- Allow community as place of service for visit to grocery store with consumer

Alexander-Childhood Obesity Conference 10/28/08
Medicaid

• Significant amount of funding to Children’s Hospital
• Vary from state to state
• Reimbursement low compared to commercial payers
Obesity Programs at Arkansas Children’s Hospital Funding

- Pediatric Fitness Clinic for BMI > 97th percentile
- WHAM for central Arkansas residents, overweight or mild obesity (BMI > 85th percentile to 97th percentile), and can be heavier while waiting for Fitness Clinic appointment
- Nutrition Clinic for patients under 2 years of age.
Philanthropic Grant/Self Pay

- Children’s Medical Center of Dallas
  - 5 year 1.25 M grant from a donor
  - 12 week program
  - Charge for the program, services bundled and are required to pay for the entire program regardless of attendance. Payment plan is optional
Overall Findings

- Payment is inadequate to cover the cost of care
- Lack of payment for dietitians is common among programs
- Grant funding requires significant labor for applying and providing outcomes to grant providers
- Community partnerships add value but seldom funding
Recommendations

• Contact your managed care team at your hospital and let them help you regarding what plans you have and whether they pay for obesity.

• Work with your coding/billing departments and find out what they are coding for and what is being reimbursed at your hospitals.
Recommendations

• Find out which health care professionals are receiving reimbursement in your obesity clinics

• Utilize the tools that we have developed to help you contact your Commercial/Medicaid payers for potential increased reimbursement.

• Start with our own insurance plans- Do we provide the services we are asking of others?
Hospital Environment

- Reimbursement

- Hospital Costs
Impact of Obesity: Hospitalizations

Percentage of Hospitalizations

Wang & Dietz, Pediatrics, 2002
## Cost and Health Impact of Childhood Obesity in Medicaid/SCHIP Enrollees

### Annualized Average Total* Costs

<table>
<thead>
<tr>
<th></th>
<th>All (5-19 yr)</th>
<th>5-9 yr</th>
<th>10-14 yr</th>
<th>15-19 yr</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overweight</strong> (N=11,745)</td>
<td>$1,073</td>
<td>$908</td>
<td>$1,135</td>
<td>$1,274</td>
</tr>
<tr>
<td><strong>Normal</strong> (N=31,106)</td>
<td>$976</td>
<td>$916</td>
<td>$1,046</td>
<td>$978</td>
</tr>
<tr>
<td><strong>All</strong> (N=52,905)</td>
<td>$1,004</td>
<td>$918</td>
<td>$1,059</td>
<td>$1,096</td>
</tr>
</tbody>
</table>

*Outpatient, inpatient, pharmacy, dental.

Arkansas Center for Health Improvement, Little Rock, AR; Pediatrics, University of Arkansas for Medical Sciences, Little Rock
HealthCare Costs and Obesity

Every point of the BMI above 30 is correlated with about $300 in increased healthcare costs per capita annually, based on 2007 data.

---


Modern Healthcare, August 2, 2010
Costs Associated with the Inpatient Obese Patient

- Equipment and Supplies
- Obese patients may require longer hospitalizations
- Increase number of staff for care
  - Buried costs- two employees instead of one to bath or get out of bed

Modern Healthcare, August 2, 2010
Costs Associated with the Inpatient Obese Patient (continued)

• Renovations costs - enlarging doorways, installing new bathroom fixtures.
• Training personnel
• Greater quantity of supplies due to the amount utilized during procedures, i.e., sutures.

Modern Healthcare, August 2, 2010
NACHRI : Healthy Hospital Subcommittee

- **Objective:** To examine current practices in children’s hospitals that provide for:
  - a safe, healthy and supportive environment, particularly for its obese patients.
  - guidelines for pediatric hospitals based on those results
Recommendations

1. Identification and treatment of obesity should occur in all in-patient and out-patient settings in children’s hospitals

2. Create a healthy hospital environment around wellness for patients, families, and employees
   - Establish a wellness committee
   - Implement an Employee Wellness Program
   - Make available physical activity options
   - Create a healthy food environment
   - Mandate a smoke-free campus

3. Establish a safe hospital environment for obese patient and family including:
   - Physical safety
   - Emotional safety
Inpatient Guidelines

Guidelines for Patient Care: Severe Obesity

Draft 6.15.2010

Table of Contents
- Physical Safety: 2
- Equipment: 3
- Medication: 4
- Emotional Support: 6
- Obesity Screening & Management: 7
- Obesity Core Algorithm: 8
- Special Considerations: 9
- Emergency Care: 11
- References: 13
- Appendices: 24
  - Calculate BMI and zScore
  - Determine BMI category
  - 99th Percentile Cut Points
  - ACH Obesity Programs

Intended for Obese Patients:
- BMI ≥ 99th Percentile
- BMI > 40 kg/m²
- Weight > 300 lbs. (136 kg)

The admitting diagnosis may not indicate morbid obesity, but following the protocol may benefit the patient.

The protocol is to be initiated because there is a potential for the patient to have special equipment needs, respiratory needs, skin care needs, mobility difficulties, or additional needs as addressed in this protocol.
Obesity Task Force Members at Arkansas Children’s Hospital

- Nursing VP - Chair and Several Unit Nursing representatives
- Specialty nurse from Fitness Clinic
- Registered Dietitians
- OT/PT
- Facilities Planning
- Clinical Engineering
- Radiology
- ED
- Social Work
- Discharge Planning
- Human Resources
- STAT
Inpatients admitted weight > 160kg
Arkansas Children’s Hospital

2007: 14
2008: 11
2009: 19
2010: 12

- Burn (Adults)
- Children
# Obese Patient Equipment Needs

<table>
<thead>
<tr>
<th>Room Accommodations</th>
<th>Supplies</th>
<th>Special Equipment (know size limits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed or Crib</td>
<td>Large Adult and Thigh Manual Blood Pressure Cuffs</td>
<td>Large CVL catheters</td>
</tr>
<tr>
<td>Exam Table</td>
<td>XL IV Gowns</td>
<td>OR Tables</td>
</tr>
<tr>
<td>Room Chairs</td>
<td>XL Ted Hose</td>
<td>CT Scanner</td>
</tr>
<tr>
<td>Waiting Room Chairs</td>
<td>Adult diapers</td>
<td>MRI horizontal movement</td>
</tr>
<tr>
<td>Commode/toilet</td>
<td>Booties</td>
<td>MRI vertical movement</td>
</tr>
<tr>
<td>Chair Bed for Family Member</td>
<td>Larger Simple and Nonrebreather masks</td>
<td>Nuclear Medicine</td>
</tr>
<tr>
<td>Wheelchair</td>
<td>Size 4 and 5 LMA’s</td>
<td>Fluoroscopy</td>
</tr>
<tr>
<td>Stretcher</td>
<td>Longer needles and IV catheters</td>
<td>Interventional Radiology</td>
</tr>
<tr>
<td>Walker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scale</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lift</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lateral Transfer Device</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
List Price $1,899.00

OUT OF STOCK

Sale price $1,250.00
Other Hospital Facility Considerations

- Location of the patient rooms
- Location of the clinic
Guidelines: For design and construction of Health Care Facilities

The Facility Guidelines Institute

2010

2.2 SPECIFIC REQUIREMENTS FOR GENERAL HOSPITALS

2.2.2.16 Bariatric Care Unit

The need for bariatric care units (and care for the extremely obese patient in general) is growing in the United States. Not only do these patients require facilities with more space and staff with greater strength to carry heavier loads, they also have a variety of special health care needs from climate control requirements to the need for specialty bathing fixtures.

2.2.2.16.1 General

Bariatric care units can be either units specifically designed to accommodate bariatric surgery patients or units designed to provide the full range of acute care services to an extremely obese patient population.

2.2.2.16.1.1 Application: These standards shall apply to all beds designated for bariatric care.

2.2.2.16.1.2 Location: In hospitals that provide bariatric care, rooms shall be designated for this purpose. These rooms shall be permitted to constitute a separate unit or to be provided as a designated part of another unit.

2.2.2.16.2 Patient Room

The following shall apply to all bariatric care units unless otherwise noted.

2.2.2.16.2.1 Capacity: All bariatric patient rooms shall be single-patient rooms.

2.2.2.16.2.2 Space requirements: Mixed occupancy (including columns and hand-washing stations that do not interfere with function) may be ignored when determining space requirements for patient rooms.

2.2.2.16.2.3 Windows: Each patient room shall have a window in accordance with Sections 2.2.2.2.3 and 2.1.7.2.2.3.

2.2.2.16.2.4 Reserved

2.2.2.16.2.5 Hand-washing stations

(1) These shall be provided to serve each patient room and shall comply with the requirements of 2.2.2.5.

(2) Hand-washing stations in bariatric units/areas shall be mounted with sufficient strength/ability to withstand determined static force of 4,000 lbs.

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A2.2.2.16 Bariatric care units

For the purpose of this standard, bariatric care units are intended for patients who have a body mass index (BMI) of 35 or higher. The body mass index (BMI) is calculated by dividing an individual's weight in kilograms by the square of their height in meters. A person with a BMI of 25-29.9 kg/m² is considered overweight, while a BMI of 30 or higher is considered obese. The higher the BMI, the greater the risk of health problems.

BMI = weight (kg) / height² (m²)

BMI categories include:
- Normal: 18.5-24.9
- Overweight: 25.0-29.9
- Obesity: 30.0 or greater

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2016 Guidelines for Design and Construction of Health Care Facilities
Next Steps
Coming soon:

FOCUS on a Fitter Future will continue to release findings throughout 2010-2011. You can expect to see:

• A supplement to Pediatrics in winter 2011
• Survival Guide co-published by AAP and NACHRI
• Presentations at both multidisciplinary and singular focused national meetings
• Bi-monthly webinars on more focused topic areas
• White papers, tool kits and additional resources added to the NACHRI website
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