A Public Health Approach to Obesity in Postpartum Women

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Objectives:

- Background Data
- Impact of improving the well-being of mothers
- Innovative program for postpartum weight improvement
In the United States

- One-third of women are obese
- More than 50% of pregnant women are overweight or obese
- 8% of reproductive-aged women are extremely obese

NHANES 2013
In Los Angeles County

1 in 2 reproductive age women are overweight/obese (46%)

Increased likelihood of retaining at least 11 pounds postpartum

Hispanic and African American Women are Disproportionately Affected
In Los Angeles County 1 in 5 women reproductive age is obese

- Preventive measures and nutritional care should begin **preconception** and continue **interconception**
Obesity Prevalence Among Women of Childbearing Age (18-44 years old) 1997-2011

Hispanic and African American Women Affected More by Obesity
Impact of Obesity on the Mother

- Chronic Disease
- Poor birth outcomes
- Lower breastfeeding rates
Pre-pregnancy BMI Among Major Causes of Death

Only two causes had high rates of obesity

Impact of Maternal Obesity on the Development of Childhood Disease

MATERNAL OBESITY, OVERNUTRITION → FETAL LIPID EXPOSURE → CHILDHOOD DISEASE

↑ INFLAMMATION
↑ INSULIN RESISTANCE
↑ IL-1, IL-6, TNF-α, MCP-1

↑ LYPOLYSIS
↑ VLDL SECRETION

FFA

LPL

VLDL-TG
CM-TG

↑ HEPATIC LIPIDS

SKELETAL MUSCLE
ADIPOSE TISSUE
BRAIN
PANCREAS

REPROGRAMMING OF METABOLIC GENE TARGETS:
↑ FETAL INFLAMMATION?

↑ RISK:

- NAFLD
- INSULIN-RESISTANCE
- OBESITY
- HYPERPHAGIA
- DIABETES

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You're on the clock: Doctors rush patients out the door

Roni Caryn Rabin, Kaiser Health News 7 a.m. EDT April 20, 2014

15-Minute Visits Take A Toll On The Doctor-Patient Relationship

By Roni Caryn Rabin | April 21, 2014
Public Health

All organized measures (whether public or private) to prevent disease, promote health, and prolong life among the population as a whole.

-WHO

Public Health Picks up Where Your Provider Left Off
Choose Health Los Angeles

Early Childhood Obesity Prevention Initiative (ECOPI)

Choose Health LA Kids
Choose Health LA Child Care
Choose Health LA Moms

Life Course Perspective

Choose Health LA MOMs
Choose Health LA CHILD CARE
Choose Health LA KIDS
There goes Jack again, thinking outside of the box.
• Parents are the first teachers and role models

• >50% of obese children are overweight before their second birthday

• Obesity health related issues are appearing earlier and earlier in children
Distribution of 2012 LA County Births by Mother’s Age (129,841 births)

- 47% of births were to mothers aged 25-34 years old
- 21% of births were to mothers aged < 20 years old
- 17% of births were to mothers aged 20-24 years old
- 15% of births were to mothers aged 35+ years old

1 in 3 < 24 years old
### Daily Smartphone Activities Conducted by US Mother Smartphone Users, July 2014

<table>
<thead>
<tr>
<th>Activity</th>
<th>% of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texting</td>
<td>90%</td>
</tr>
<tr>
<td>Social media</td>
<td>79%</td>
</tr>
<tr>
<td>Playing games</td>
<td>42%</td>
</tr>
<tr>
<td>Watching videos</td>
<td>32%</td>
</tr>
<tr>
<td>Parenting communities</td>
<td>30%</td>
</tr>
<tr>
<td>Instant messaging</td>
<td>29%</td>
</tr>
<tr>
<td>Parenting information</td>
<td>20%</td>
</tr>
<tr>
<td>Health information or advice</td>
<td>18%</td>
</tr>
<tr>
<td>Shopping</td>
<td>16%</td>
</tr>
</tbody>
</table>

**Note:** Expectant females or mothers with children under age 9  
### Cell Phone Activities by Race/Ethnicity

<table>
<thead>
<tr>
<th>Activity</th>
<th>White, non-Hispanic (n=1343)</th>
<th>Black, non-Hispanic (n=232)</th>
<th>Hispanic (n=196)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send or receive text messages</td>
<td>70</td>
<td>76</td>
<td>83*</td>
</tr>
<tr>
<td>Take a picture</td>
<td>71</td>
<td>70</td>
<td>79*</td>
</tr>
<tr>
<td>Access the internet</td>
<td>39</td>
<td>56*</td>
<td>51*</td>
</tr>
<tr>
<td>Send a photo or video to someone</td>
<td>52</td>
<td>58</td>
<td>61*</td>
</tr>
<tr>
<td>Send or receive email</td>
<td>34</td>
<td>46*</td>
<td>43*</td>
</tr>
<tr>
<td>Download an app</td>
<td>28</td>
<td>36*</td>
<td>36*</td>
</tr>
<tr>
<td>Play a game</td>
<td>31</td>
<td>43*</td>
<td>40*</td>
</tr>
<tr>
<td>Play music</td>
<td>27</td>
<td>45*</td>
<td>47*</td>
</tr>
<tr>
<td>Record a video</td>
<td>30</td>
<td>41*</td>
<td>42*</td>
</tr>
<tr>
<td>Access a social networking site</td>
<td>25</td>
<td>39*</td>
<td>35*</td>
</tr>
<tr>
<td>Watch a video</td>
<td>21</td>
<td>33*</td>
<td>39*</td>
</tr>
<tr>
<td>Post a photo or video online</td>
<td>18</td>
<td>30*</td>
<td>28*</td>
</tr>
<tr>
<td>Check bank balance or do online banking</td>
<td>15</td>
<td>27*</td>
<td>25*</td>
</tr>
<tr>
<td>Participate in a video call or video chat</td>
<td>4</td>
<td>10*</td>
<td>12*</td>
</tr>
<tr>
<td><strong>Mean (out of 14)</strong></td>
<td><strong>4.7</strong></td>
<td><strong>6.1</strong></td>
<td><strong>6.2</strong></td>
</tr>
</tbody>
</table>

*indicates statistically significant differences compared with whites.

Source: The Pew Research Center’s Internet & American Life Project, April 26 – May 22, 2011 Spring Tracking Survey. n=2,277 adults ages 18 and older, including 755 cell phone interviews. Interviews were conducted in English and Spanish.
Delivering the Program:

**Mobile Phones:**
LA MOMs is using communication moms are already using

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What Makes Unique?

- Focus on Newly Delivered Moms
- Vaginal Delivery
- C-section
- Medical complications
- Modules tailored to obese/new moms
- Culturally sensitive-Spanish
- Moms are home bound

• Text messaging
• Text4Babies
• Mobile curriculum
• Online support groups
Primary Goal:
Weight loss among obese/overweight postpartum women in Los Angeles County

Three Primary Interventions

Breastfeeding

10,000 Steps

Drink Water
Any Breastfeeding

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent %</th>
</tr>
</thead>
<tbody>
<tr>
<td>County Wide</td>
<td>91.2</td>
</tr>
<tr>
<td>White</td>
<td>95.9</td>
</tr>
<tr>
<td>Hispanic</td>
<td>89.3</td>
</tr>
<tr>
<td>AA</td>
<td>84.2</td>
</tr>
<tr>
<td>Asian</td>
<td>95.9</td>
</tr>
</tbody>
</table>

Legend:
- County Wide
- White
- Hispanic
- AA
- Asian

County of Los Angeles Public Health
Physical Activity Among Adults in LA County by Race/Ethnicity, 2007

LA Health Survey 2007
Social Determinants of Health

Choose Health LA
Moms

Health Outcomes
- Length of Life 50%
- Quality of Life 50%

Health Factors
- Health Behavior (30%)
- Clinical Care (20%)
- Social and Economic Factors (40%)
- Physical Environment (10%)

modified from County Health Rankings Model@2014UWPHI
Why Choose Health LA Moms?

- Decrease Stress
- Social Determinants of Health
- Interconception Care

Secondary Goals

- lack of childcare
- financial
- contraception
- housing
- relationship
- nutrition
- depression
- baby in NICU
- stress
Primary Goal:

Weight loss among obese/overweight postpartum women in Los Angeles County

6 months up to 1 year
Measuring Outcomes

• Daily participant tracking via smartphone
• Internet Analytics
• Weight Loss

Long term Analysis:

• Pre- and post- pregnancy weight
• Pre-pregnancy weight counseling
• Breastfeeding
Pilot

- Goal: 10 postpartum women
- Enroll 0 to 1 week postpartum
- Los Angeles County resident
- ≥18 years
- Smartphone with internet access
Pilot

Target Population: Pregnant Obese (>37 Weeks Gestation)

Recruit Potential Participants
- CHLA Moms Health Educators Conduct Screening
- Conduct Overview of Program Components
- Conduct Informed Consent

Baseline Evaluation & Supplemental Screener
- Patient Enrolls into Beta Test via Email
- Participant Completes Initial Questionnaires

Weekly Call from CHLA Moms Health Educator until Baby is Delivered
- CHLA Moms Starter Packet
- CHLA Moms Online and In-person Resources

Delivery Week Patient Begins CHLA Moms Program

Weekly 10 min call Feedback on modules/texts

Monthly self assessment on:
- 10,000 steps a day
- Increase Water Intake
- Exclusive Breastfeed
- Learn, skills, attitudes

Updated 3/23/2015
Preliminary Findings: Race/Ethnicity

N=8

- Hispanic/Latina: 75.0%
- White: 12.5%
- Asian/Pacific Islander: 12.5%
Total Pregnancy Weight Gain

- 50% BMI Normal
- 50% BMI Overweight
Previous Delivery
N=8

50% Yes
50% No
Pilot Results

Ethnicity/Language

- Hispanic: 75%
- White: 12.50%
- Filipina: 12.50%

Marital Status

- Married: 37.5%
- Widowed: 12.5%
- In a domestic partnership: 50%
- Single, but cohabiting with someone: 50%
- Single, never married: 50%
Pilot Results

Health Coverage

<table>
<thead>
<tr>
<th>Health Coverage</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private</td>
<td>25%</td>
</tr>
<tr>
<td>Medi-Cal</td>
<td>75%</td>
</tr>
</tbody>
</table>

Highest Level of Education

- Did not attend school: 12.5%
- Elementary school: 12.5%
- Graduated from high school: 12.5%
- 2 years of college: 50%
- Graduated from college: 12.5%
- Some graduate school: 12.5%
- Completed graduate school: 12.5%

N=8
Delivery

- Vaginal: 48.6%
- C-section: 57.1%
- Admitted to ICU: 28.6%

N=8
How confident are you that you will succeed with .......?

- Water: 8.13
- Walking: 8.75
- Breastfeeding: 6.8
What are you currently feeding your baby?

- Breast milk only: 29%
- Formula only: 18%
- Breast milk in combination: 57%

Most common reason to stop breastfeeding: Difficulty Nursing
Breastfeeding did not satisfy baby
Preliminary Findings: Demographic Snapshot \( N=8 \)

Current Breastfeeding Status

- **Baby Friendly Hospital**:
  - Exclusive Breastfeeding: 16.7%
  - Combination Bottle/Breastfeeding: 16.7%
  - Bottle Feeding: 0.0%

- **Non-Baby Friendly Hospital**:
  - Exclusive Breastfeeding: 16.7%
  - Combination Bottle/Breastfeeding: 50.0%
  - Bottle Feeding: 16.7%
In the Last 30 days…

Exercise:
- 2-3/day: 75%
- 4-6/day: 25%
- 7-8/day: 0%
- >8/day: 0%

Drink 8oz H2O:
- 37.50%
- 25%
- 25%
- 12.50%
### Pilot: Social Determinants of Health

<table>
<thead>
<tr>
<th>Selected Characteristic</th>
<th>Selected Response</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Assistance</td>
<td>Received food assistance from the WIC program</td>
<td>71.4%</td>
</tr>
<tr>
<td>Food Assistance</td>
<td>Used Calfresh or food stamps to buy food</td>
<td>57.1%</td>
</tr>
<tr>
<td>Social Support</td>
<td>Someone to help with babysitting or child care</td>
<td>57.1%</td>
</tr>
<tr>
<td>Current Birth Control Methods</td>
<td>None</td>
<td>57.1%</td>
</tr>
</tbody>
</table>

N=7
### Pilot: Social Determinants of Health

<table>
<thead>
<tr>
<th>Selected Characteristic</th>
<th>Selected Response</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression/Anxiety Symptoms</td>
<td>Feeling down, depressed or hopeless/Little interest or pleasure in doing things</td>
<td>16.7%</td>
</tr>
<tr>
<td>Confidence in Ability to Handle Personal Problems</td>
<td>Occasionally</td>
<td>66.7%</td>
</tr>
<tr>
<td>Neighborhood Safety</td>
<td>Good</td>
<td>57.1%</td>
</tr>
<tr>
<td>Availability of Fresh Fruits and Vegetables</td>
<td>Very Good</td>
<td>50%</td>
</tr>
</tbody>
</table>
Preliminary Findings:
Social Determinants of Health
Snapshot  N=8

Neighborhood Characteristics

- Safety From Violence:
  - Very Poor: 12.5%
  - Poor: 12.5%
  - Neutral: 13%
  - Good: 62.5%
  - Very Good: 0%

- Availability of Parks, Playgrounds, Sidewalks:
  - Very Poor: 12.5%
  - Poor: 25.0%
  - Neutral: 25.0%
  - Good: 13%
  - Very Good: 0%

- Availability of Fresh Fruits and Vegetables:
  - Very Poor: 12.5%
  - Poor: 25.0%
  - Neutral: 25.0%
  - Good: 50%
  - Very Good: 0%

Choose LA
Moms
Preliminary Findings:
Social Determinants of Health
Snapshot

Social Support

- Loan Money: 87.5% Yes, 12.5% No
- Help if Sick: 75.0% Yes, 25.0% No
- Transportation: 75.0% Yes, 25.0% No
- Shelter: 75.0% Yes, 25.0% No
- Childcare: 62.5% Yes, 37.5% No
- Household Chores: 87.5% Yes, 12.5% No
- Listen to Problems: 87.5% Yes, 12.5% No

N=8
Contraception

- 67% using BCM at time of conception
  - 50% pill
  - 50% condom

- 37% currently using BCM

At the time of conception, did you want to get pregnant?

- Yes
- Yes, not trying very hard
- No, I was trying hard to keep from getting pregnant
- I wasn't trying to get pregnant or trying to keep from getting pregnant
Pilot Feedback

• Like supplemental material

• Enjoy text messages

• Liked curriculum very short and easy to read
Success Stories

I can walk!
Success Stories

Skin to Skin Worked!
Opportunities to Leverage

California Lifeline Provides Free Cell Phones

Qualify if already receive assistance Medicaid

• Food Stamps
• Supplemental Security Income (also know as SSI)
• Section 8 Federal Public Housing Assistance
• Low Income Home Energy Assistance Program (LIHEAP)
• Temporary Assistance for Needy Families Program (TANF)
• National School Lunch Program’s Free Lunch

http://www.freegovernmentcellphones.net/states/california-government-cell-phone-providers
Opportunities to Leverage

Programs nationally already being done to promote wellness
Opportunities to Leverage

- Well-woman visits
- Gestational diabetes screening
- HPV DNA testing for women 30 years and older
- STI counseling
- HIV screening and counseling
- FDA-approved contraception methods /counseling
- Breastfeeding support, supplies & counseling
- Domestic violence screening & counseling

Prevention benefits without co-pays, co-insurance or deductibles
Thank You!

dramos@ph.lacounty.gov

'I heard about a great diet... guaranteed to melt away inches!' 

Join our listserv

lamoms@ph.lacounty.gov