The Family Check-Up 4 Health: Integrating a Family-Focused Behavioral Intervention into Primary Care

Cady Berkel
& the Raising Health Children study team

INTEGRATING PRIMARY AND BEHAVIORAL HEALTH CARE THROUGH THE LENS OF PREVENTION

ASU REACH Institute

Center for Prevention Implementation Methodology for Drug Abuse and HIV
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FCU4Health Coordinators
Agenda

Rationale for the Family Check-Up adaptation

Raising Healthy Children study

Participant characteristics

Service utilization
Evidence-based programs prevent:
- mental health problems, substance use, sexual risk behaviors, teen pregnancy, HIV & other STDs, academic underachievement, school dropout, suicide, delinquency, bullying, violence, incarceration, obesity, parental depression, family conflict, child abuse and neglect, ...

BUT...
- In general, children and families have not been able to access these programs
- Beyond the scope of academic settings to provide these services
The Potential of Primary Care

Integrated physical & behavioral health focus

Reach

Longitudinal contact

Parent involvement

Legitimacy & trust

Existing billing structures

Leslie, et. al. 2016; Berkel, Rudo-Stern, et. al. under review
THE FAMILY CHECK-UP MODEL

3 STEPS

Initial Interview  Child & Family Assessment  Feedback Session

Family Management Training: Everyday Parenting Curriculum

- Brief & Tailored Family Management
- Family Management Weekly Meetings
- Family Management Parent Groups
- Community Resources & Support
Six principles of the Family Check-up

FAMILY-CENTERED
Addresses adult leadership, services are linked to family management and child adjustment

ASSESSMENT DRIVEN
Decisions regarding intervention targets follow careful assessments

MOTIVATIONAL
Client motivation to change is a core component addressed in feedback session

TAILORED
Addresses unique needs of each child and family

STRENGTHS-BASED
Validates existing strengths to promote change

HEALTH MAINTENANCE MODEL
Includes periodic visits and long-term relationships with providers
The Coercive Cycle

1. Child problem behavior
2. Parent responds emotionally
3. Child escalates
4. Parent escalates
5. Parent withdraws or gives in
Managing Child Behavior
Breaking the Cycle

Child problem behavior

Child de-escalates

Parent stays engaged

Parent responds differently

Learning new strategies with a parent consultant

Child escalates

Parent escalates

Parent withdraws or gives in
Outcomes of Randomized Trials of the Original Family Check-Up in Early Childhood

**Improvements in:**
- Parenting practices
- Child self regulation
- School readiness
- Language acquisition
- Improved nutrition quality

**Reductions in:**
- Problem behaviors (ODD, CD) at home and school
- Irritability
- Anxiety & depression (Sx & Dx)
- Child neglect
- Rates and trajectories of obesity/excess weight gain

**Multisite RCT, N = 731**
WIC → home visitation
Children at Risk for Obesity (age 5)

- Control: 39%
- FCU: 20%

Overweight/Obese by age 9.5
- Control: 44%
- FCU: 70%

Normal weight by age 9.5
- Control: 44%
- FCU: 70%
The Adaptation and Enhancement Process

Partnerships are Critical


Pediatrician survey (2011)

1) Obesity
2) Nutrition education/diet
3) Parenting

Key Considerations
• Space
• Staffing
• Content for obesity/nutrition/diet

Pilot feasibility trial (2013-2014)
• Acceptable
• Feasible with modifications
• Piloted implementation strategy
FCU4Health is a Bridge

Identify Children who are Overweight/Obese
Counsel
Recommend behavior change: diet/nutrition, physical activity
Refer: specialty care, dietitian, behavioral health

Motivation to Change
Parenting Skills Training
Nutrition Education
Community Program Engagement

Supported by
Motivated to Support Child Behavior Change
Effective Parenting and Family Management
Family Health Behavior Change Engagement in Community Services
Referral by pediatrician for:
- Chronic disease management and prevention
- Family dysfunction
- Ecological risk

Health Module

Family Health Routines Assessment

Feedback & Motivation Session

Individually Tailored Follow-Up Services

Parent Training & Family Management

Community-Based Services
- Social Support Services
- Nutrition & Exercise Programs
- Specialty Medical Care
Family Health Routines Assessment
Questionnaires (60 min)

Core Family Check-Up Battery

- Child behaviors
- Peer relations
- School success
- Depression/anxiety
- Self regulation
- Parental well-being
- Marital/relationship quality

- Neighborhood resources
- Financial/life stress
- Family and extra-familial support
- Family conflict/functioning
- Family management skills

Family Check-Up 4 Health Module

- Child and parent(s) diet and physical activity behaviors
- Sleep management
- Mealtime routines
- Body Image & Stigmatization
- Quality of life
- **Optional**: Diabetes and asthma management

Se Habla Espanol
## FCU4Health Child and Family Feedback Form

### Family Health Routines

<table>
<thead>
<tr>
<th>Family Health Routines</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent Health Behaviors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Familiarity with Health Practices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Strength**
- **Needs Attention**

### Child Health Behaviors

<table>
<thead>
<tr>
<th>Child Physical Activity Habits</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Eating Behaviors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Food and Beverage Choices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Strength**
- **Needs Attention**

### Family Well-Being and Support

<table>
<thead>
<tr>
<th>Family Stress</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent Well-Being</td>
<td></td>
<td></td>
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<tr>
<td>Parent Substance Use</td>
<td></td>
<td></td>
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</tbody>
</table>
Support for this study was provided by National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control & Prevention (U18 DP006255; Berkel & Smith). The content of this presentation is solely the responsibility of the authors and does not necessarily represent the official views of the funding agencies.
Study Goals

Evaluate ability of the FCU4Health to reduce pediatric obesity

Learn about how to integrate family-centered behavioral interventions in primary care
Inclusion criteria

- 6-12 year olds
- Elevated BMI (≥85\textsuperscript{th} %)
- Attending a primary care clinic

Could be identified:
- at well-check or sick visit, or through EHR
- by resident/attending pediatrician or study team
Exclusion criteria

- No available primary caregiver
- Primary caregiver did not speak:
  - English
  - Spanish
## Service Delivery Model

<table>
<thead>
<tr>
<th>Service Delivery Model</th>
<th>Identification</th>
<th>Assessment</th>
<th>MI-based goal setting &amp; planning meeting</th>
<th>Referrals to community resources</th>
<th>Parenting modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital-based clinic</td>
<td>PCP</td>
<td>ASU Interviewer</td>
<td>ASU Coordinator</td>
<td>ASU Coordinator</td>
<td>ASU Coordinator</td>
</tr>
<tr>
<td>FQHC 1</td>
<td>PCP or BH</td>
<td>BHC in Behavioral Health</td>
<td>BHC in Behavioral Health</td>
<td>BHC in Behavioral Health</td>
<td>BHC in Behavioral Health</td>
</tr>
<tr>
<td>FQHC 2</td>
<td>PCP</td>
<td>CHW in Primary Care</td>
<td>BHC in Primary Care</td>
<td>CHW/BHC in Primary Care</td>
<td>BHC in Primary Care</td>
</tr>
</tbody>
</table>
Study Sample

Assessment = 240

FCU4Health = 141

Services as Usual = 99
## Study Timeline

<table>
<thead>
<tr>
<th>Event</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASU IRB approval</td>
<td></td>
<td>July</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCH IRB approval</td>
<td></td>
<td>May</td>
<td></td>
<td></td>
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<tr>
<td>Enrollment</td>
<td>April</td>
<td></td>
<td>November</td>
<td></td>
</tr>
<tr>
<td>Data collection</td>
<td></td>
<td>July</td>
<td></td>
<td>September</td>
</tr>
<tr>
<td>FCU4Health services</td>
<td></td>
<td></td>
<td>August</td>
<td>August</td>
</tr>
</tbody>
</table>
Participant characteristics
Referral Source & Method

- Phoenix Children's Hospital: 82%
- Terros: 8%
- Valle del Sol: 5%
- Other: 5%

- EHR List: <1%
- In-Clinic: 9%
- Self-Referral: 91%
BMI Categories

- 81% Obese (95th%)
- 47% Severe Obesity (120% X 95th)
- 17% Overweight (85th%)
- 2% Borderline

¹ Child in range when referred by pediatrician; below 85th%ile when assessed by study team.
Child was within 2 months of 6th birthday when referred to the study.

Child was < 13 years of age at referral from pediatrician or first contact from study recruiters (delay between referral and interview).
Race/Ethnicity and Language

- American Indian/Alaskan Native: 2%
- Asian: 1%
- Black/African American: 2%
- Latino: 5%
- Non-Latino White: 68%
- Multiple: 14%

Caregiver Language Preference

- English: 62%
- Spanish: 38%

Primary Caregiver
Insurance Coverage

- Private
  - Child: 18%
  - Parent: 25%
- Public
  - Child: 73%
  - Parent: 40%
- Multiple
  - Child: 4%
  - Parent: 3%
- Other
  - Child: 2%
  - Parent: 3%
- None
  - Child: 2%
  - Parent: 25%
- Refusal
  - Child: 1%
  - Parent: 6%
Food Insecurity

- Yes: 55%
- No: 45%

[Pie chart showing the percentage of people experiencing food insecurity]
FCU4Health
Service Utilization
FCU4Health Structure

Family Health Routines Assessment → Feedback & Motivation Session →
Individually Tailored Follow-Up Services

- Parent Training & Family Management
- Community-Based Services
  - Social Support Services
  - Nutrition & Exercise Programs
  - Specialty Medical Care
Community Programs (diet/nutrition, physical fitness, recreation)

Follow Up
12 months

Month 3
Interview & Ecological Assessment

Month 6
Interview & Ecological Assessment

6 Months

Everyday Parenting

Interview & Ecological Assessment

Feedback & Motivation

Interview & Ecological Assessment

Feedback & Motivation

Interview & Ecological Assessment

Feedback & Motivation
Predictors of Program Initiation

Referral source

Child health
Referral source

![Bar chart showing referral sources and engagement status]

- **In-clinic provider**
  - Engaged: Yes
  - Count: ~25

- **In-clinic research staff**
  - Engaged: Yes
  - Count: ~80

- **EHR**
  - Engaged: No
  - Count: ~10

The chart indicates that the highest engagement is with the in-clinic research staff, followed by in-clinic provider and EHR.
Visit type

![Bar graph showing visit types and counts]

- WCC: Engaged (50 counts)
- Weight Check: Engaged (5 counts)
- Other: Engaged (40 counts)

Legend:
- **Engaged**
  - Blue: no
  - Orange: yes

*Note: The reason for visit 'WCC' has the highest count.*
Metabolic Dx

Program Initiation

- Yes
- No

Endocrine, nutritional and metabolic diseases

Count

Yes

No
Respiratory Dx

Diseases of the respiratory system

Program Initiation

- No
- Yes
Behavioral Health Dx

Mental, behavioral and neurodevelopmental disorders

Program Initiation

- No
- Yes
Feedback & Motivation Sessions

80% of intervention families engaged in at ≥ 1 Feedback Session
Parenting Modules

Of those...

- 67% engaged in ≥ 1 parenting module
- Mean number of modules: 2 (range = 0-12)
- Mean time for modules: 2.87 (range = 0-10.75) hours
Referrals to Community Resources

Referrals: 92% of families received referrals to community resources

Outcome: 100% of those families’ needs were met
## Participation in Community Programs/ Services by Category

<table>
<thead>
<tr>
<th>Category</th>
<th>Mean</th>
<th>SD</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports/organized physical activities</td>
<td>21</td>
<td>51</td>
<td>0</td>
<td>360</td>
</tr>
<tr>
<td>Informal physical activities</td>
<td>34</td>
<td>51</td>
<td>0</td>
<td>210</td>
</tr>
<tr>
<td>Community gardening</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Nutrition classes</td>
<td>3</td>
<td>11</td>
<td>0</td>
<td>87</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>58</td>
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</tbody>
</table>
Motivational interviewing (MI) is a core component of the FCU and FCU4Health used to engage families. MI is a clinical skill that often requires training and ongoing supervision to maintain.

Research Questions
- How do MI skills compare to ratings from a previous efficacy trial?
- Are MI skills associated with indicators of participant responsiveness?
- Is the influence of MI skills moderated by Spanish language?

Berkel, Mauricio, et al. under review
Measures

- Provider delivery and participant in-session engagement
  - Rated the first feedback session using the COACH rating system
  - Coders: 4 trained FCU4Health coordinators
  - 9-pt. scale:
    - Delivery: 1 (needs work) – 9 (good work)
    - Engagement: 1 (low) – 9 (high)
  - IRR: .74 for delivery; .73 for engagement
- Follow-up parenting sessions
  - Count using administrative data
- Motivation to achieve goals
  - Parent report at baseline and immediate post-test
  - 5-pt. scale: 1 (no change needed) - 5 (working hard to change)
  - Cronbach’s αs: .89 at baseline; .91 at post-test

Analysis

- Included 141 participants assigned to the intervention condition
- SEM analyses conducted in Mplus
MI scores

- Previous FCU trial: 5
- FCU4Health: 4
Results

Motivation

In-session Engagement

MI skills

Baseline Motivation

Parenting Modules

Spanish Language

Post-test Motivation

$X^2 (4) = 2.64, p = .62$

Berkel, Mauricio, et. al. under review
Summary

- Programs with both physical and behavioral health outcomes appropriate for integrated primary care settings
- Implementation should be tailored to fit the workflow
- Families are more likely to initiate services if referred by pediatricians at well-checks, and if they had a respiratory or behavioral diagnosis
- Motivational Interviewing skills were important for engagement, and were only slightly lower than efficacy trial
Thank you!

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