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Early Childhood Caries Disease Management:

The MySmileBuddy Intervention

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ECC Disease Management Aims

To stop the progression of tooth decay in affected children, prevent tooth decay in those unaffected, and reduce risk of future decay for all



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Current Approach to Combating ECC

Surgical treatment does *not* address the underlying disease process...



and results in a high failure rate



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Understanding the ECC Disease Process



¹Step 1 image obtained from MySmileBuddy risk assessment tool (Levine, Wolf, Chinn, & Edelstein, 2012)

²Step 3 image from Gussy (2006) (Gussy et al., 2006)



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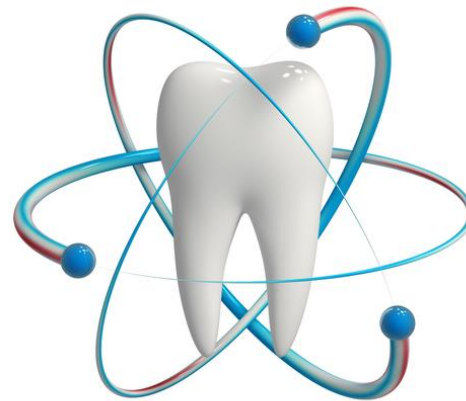
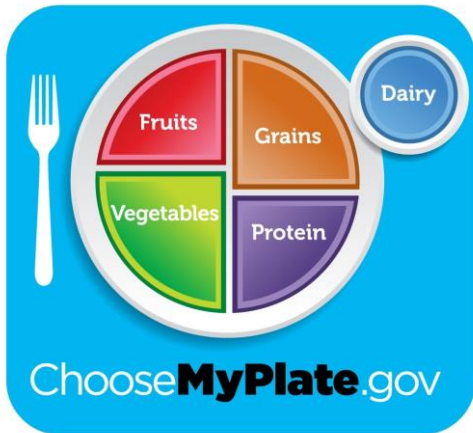
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New York State Dental Foundation Workshop

June 18, 2015

Effectively Combating ECC

Need to address the two key mediators:



Diet- & Fluoride-related Behaviors



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Parents of cavity-prone children can stop new cavities from occurring by working closely with counselors to understand the disease process and take action to reduce risk through fluoride and healthy dietary behaviors



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Introduction to MySmileBuddy

The MySmileBuddy program is an iPad-based family-level intervention that seeks to eradicate ECC

- Delivered by lay health workers
- Targets the two key drivers of ECC: Diet and Oral Hygiene



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About MySmileBuddy

MySmileBuddy supports engagement between lay health workers and families through:

1. Parent Engagement, Education, and Training
2. ECC risk assessment
3. Individualized risk score analysis
4. Family-specific goal setting
5. Family-designed action planning
6. Wrap-around support



Parent Engagement, Education, and Training



- Culturally appropriate videos and images
- Interactive assessment and educational modules



Family 483



Welcome to MySmileBuddy!

MySmileBuddy is a tool that helps you figure out if your kids are at risk of getting cavities and what you can do to help keep them healthy. As we use MySmileBuddy, you'll answer questions about your kids' habits - and some of yours - to determine their risk of cavities. Along the way, you can watch videos and read more about what habits encourage healthy teeth and why. After you complete the risk assessment, MySmileBuddy will help you set goals and plan how to achieve them to lower your child's risk of cavities.



To start out, take a look at the Introduction to MySmileBuddy video in the video library. When you're done watching, come back here and start the assessment.



Getting your Children to Eat a Balanced Diet

Why is This Important?

A balanced diet is important for overall health as well as oral health. Eating a balanced diet means eating foods from all food groups and eating everything in moderation.

- Dairy products provide calcium and vitamin D to help make teeth and bones stronger.
- Breads and cereals supply B vitamins for growth and iron for healthy blood which adds to healthy gum tissue.
- Fruits and vegetables have Vitamin C (and other important vitamins) that help maintain healthy gums.
- Lean meat, poultry and beans provide iron and protein for overall health, and magnesium and zinc for teeth and bones.

Tips to Help Your Child Eat a Balanced Diet

Tip 1 - Set Times



Do not continually let your child snack throughout the day.

Children eat best with scheduled meals and snacks. Each time your child eats food that contains sugars or starches, their teeth are attacked by acids for 20 minutes or more.

Tip 2 - Offer Healthy Choices



Offer healthy snacks such as fruit, cheese and nuts.

The key to choosing foods wisely is to think before you eat. This means not just what your children eat but also how often and how long your children eat.



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ECC Risk Assessment

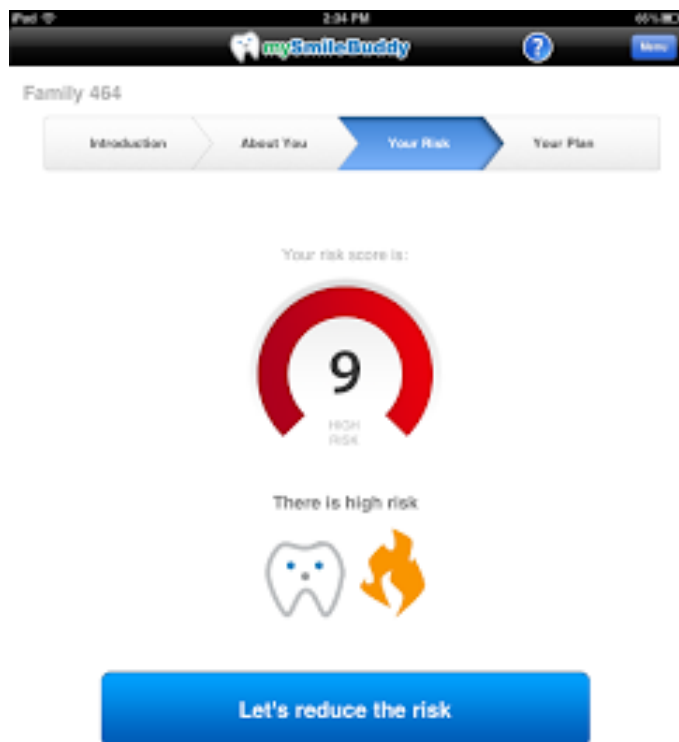


- A series of targeted questions
- Highly developed “diet widget” to score dietary cariogenicity



Individualized risk score analysis

- Built-in modifiable science-based risk algorithm



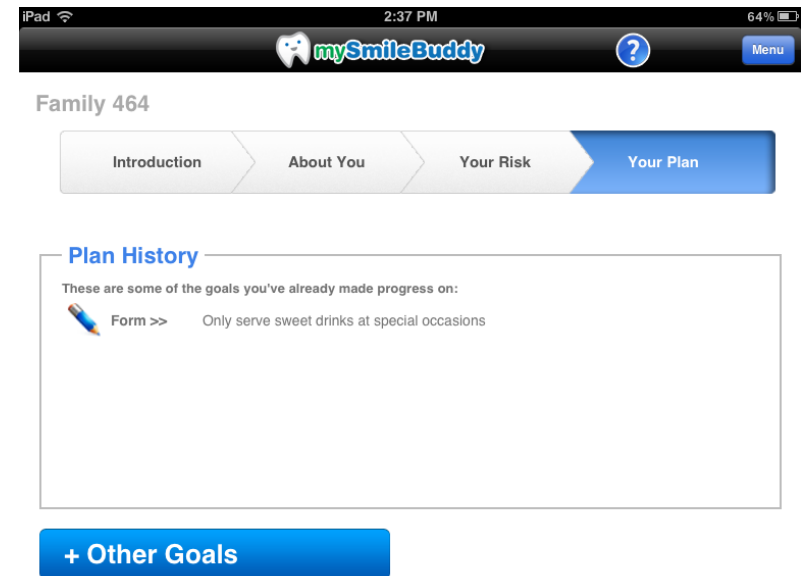
Family-specific goal setting

- Pre-populated list of goals tailored to current risk-related behaviors





Family-designed action planning

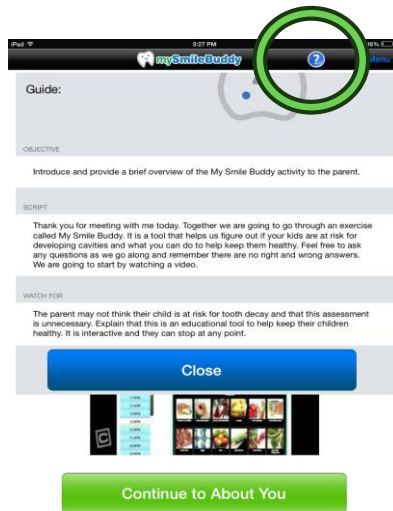
- Open field space for parents, working with lay health workers, to develop individualized action plan by specifying who will do what, when, where, and how


Wrap-around Support



- Health Worker Resources 
- Family Resources 
- Tracking and Follow-up



Food	Sample Foods
Nuts	Variety of nuts
Cheese	String cheese, packaged slice cheese, cubes of cheese
Egg	Hard-boiled egg, scrambled egg, poached, sunny-side-up eggs
Meats	Chicken, turkey, beef, pork, fish, hot dogs, lunch meat
High fiber vegetables	Celery, cucumber, broccoli, cauliflower, lettuce, spinach, tomatoes, carrots
Starchy vegetables and beans	Plantain, corn, potatoes, yams, peas, carrots, yucca, beans
Fruit	Berries, mango, apple, grapes, pears, guava, melon, banana
Soup	Soup
Meat or cheese sandwich	Turkey sandwich, ham and cheese, carpaccio
Bread and Tortillas	Whole wheat and white bread, buns, tortillas, pancakes, waffles
Rice and Pasta	Yellow rice, white rice, rice pilaf, pasta, macaroni, spaghetti
Cold desserts	Ice cream, water ice, sherbet, jello, puddings
Sweetened yogurt	Yogurt with fruit on bottom, frozen yogurt, Walden Farms
Sauces	Tomato sauce, ketchup, barbecue sauce
Sweeteners	Honey, sugar, maple syrup
Spreads	Jams, jellies, marmalades, peanut butter, marshmallow fluff alone or on bread
Pasta	Pasta
Macaroni and cheese	Macaroni and cheese
Peanut butter and jelly sandwich	Peanut butter and jelly sandwich or jelly sandwich
Cake-like dessert	Cake, cookies, pie, doughnuts, muffins, cereal breads
Candy and Chocolate	Twizzlers, Starburst, Snickers, chocolate, hard candies, lollipops
Granola bars	Breakfast bars, snack bars, granola bars, energy bars
Dried fruits	Raisins, prunes, dried apricots, canned fruit
Salty Snack foods	Potato chips, Doritos, Cheetos, Tortilla chips, Crackers, Pretzels, French fries, Goldfish crackers
Cold plain cereal	Cheerios, Wheaties, Chex, grits, shredded wheat, oatmeal
Sweetened cereals	Frosted flakes, Corn pops, Fruit Loops, Trix
Beverage	Sample Beverages
Plain water or seltzers	Tap water, bottled water, flavored seltzer, plain seltzer
Diet and non-sugar drinks	Diet Snapple, crystal light, diet soda
Vegetable juices	V8, tomato juice
Milk	All plain milk, plain yogurt
Flavored milk	Neosnick (powdered and premade), chocolate, vanilla and strawberry milk
Juice and Juice drinks	100% Juice, Orange Juice, Apple Juice, Sunny D, Iced tea, Capri sun, Juice Barrel, etc.



mySmileBuddy

Serve non-carbogenic foods as snacks

What is your goal?

What are the steps it will take to make it happen?

1. Leave cut up fruit in the refrigerator
2. Let Ava pick which fruit she wants to eat

Who is responsible for this success?

When will this happen?

Goal Update

Limitations to meeting the Goal

Additional Comments

Set Goal



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MySmileBuddy Development



A multidisciplinary team of Columbia-affiliated faculty

- Pediatric Dentistry
- Pediatric medicine
- Nursing
- Social Work
- Public Health
- Nutrition and Health Behavior
- Health Education



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MySmileBuddy Projects



The Diet and Early Childhood Caries (DECC) Study

- Evaluated feasibility, acceptability and preliminary impact of MySmileBuddy and tested concurrent criterion validity of risk scores with physical indicators

ADA Foundation Harris Grant Program

- To develop and test a text-message supplement to the MySmileBuddy Program in a perinatal Head Start population

National Institute of Dental and Craniofacial Research (NIDCR) R34

- To rigorously test MySmileBuddy through a B-RCT throughout NYC

CMS Center for Medicare and Medicaid Innovation (CMMI)

- To demonstrate ECC disease suppression in 2000 already affected NYC children, < 6, using MySmileBuddy delivered by community health workers



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Overview of CMMI Study Procedures

- Community Health Workers (CHWs), supported by MySmileBuddy, partner with families of affected children
 - Meet 6 to 9 times over 12 months
 - Additional telephone contacts in-between visits
- CHWs obtain consent from parents to participate in the program
- Children will have access to regular dental care
- Children's teeth will be examined before and after the program year
- CHWs record all of their interactions with families
- Parents and CHWs are surveyed at the beginning and end of the study



Challenges

- Technology advances
 - Innovation in mobile technology moves fast!
 - Medicaid claims data
 - Data for hospital-based dental care are often incomplete
 - Hiring, managing and retaining CHWs
 - Community-based organizations are unique in management and structure
 - Turnover is fairly common
 - Difficult-to-reach target population
 - Misconceptions about oral health and ECC
 - Oral health vs. oral care
 - Sense of immediacy and concern is often lower
 - Providers' acceptance of disease management approaches
-



Successes

- Providers' acceptance of disease management approaches (not a typo!)
- Families are interested and motivated!
 - High acceptance during clinic and Head Start projects
 - Focus group reactions, interest and engagement
- CHWs/CBOs are eager and ready for engagement!
 - Training was an eye opening experience
 - CHW feedback and input are invaluable!
 - Interest in scalability and ability to reach more families
- Project team collaboration, cooperation and communication
 - Effective problem solving
 - Creative solutions



Thank You!
Any
Questions?



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