Parent Health Literacy: A Social Determinant of Child Health?

Lee Sanders, MD, MPH

Health Literacy Conference 2016
Portland, Oregon
Your baby has an ear infection and the doctor puts him on Amoxicillin 3 times a day (see bottle). Using the picture of the dropper, please show how much medicine you would administer for one dose of this medication.
Among parents of young children, about what percent answer this question incorrectly?

A. 10%
B. 20%
C. 33%
D. 50%

N = 358

Lokker, Sanders, et al Acad Ped 2009
Objectives

- Define parent health literacy and child health system’s “literacy burden.”
- Understand parent health literacy as a social determinant of child health outcomes.
- Discuss “health-literacy” interventions that may reduce health disparities and improve health outcomes.
Literacy

“The ability to use printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential.”

U.S. Department of Education 2003

Health Literacy

“The capacity to obtain, process, and understand basic health information, and services needed to make informed health decisions.”

Institute of Medicine 2004
Components of Health Literacy

**Oral Literacy Skills**
- Communicating with healthcare providers
- Getting important questions answered

**Document / Numeracy Skills**
- Understanding written health information
- Understanding risk of future disease
- Adhering to medication dosing instructions

**Navigational Skills**
- Accessing eligible services, including care transitions
- Performing disease self-management tasks
- Following action plans
Health Literacy of Parents in the US

Over 21 Million Parents with Basic or Below Basic Health Literacy

Data from 2003 National Assessment of Adult Literacy (NAAL): National Center for Educational Statistics

Health Literacy Skills

“Below Basic”
- Understand an appointment slip.
- Dose over-the-counter medicine.
- Enter names / DOB on health insurance form

“Basic”
- Interpret a growth chart
- “Take medicine on an empty stomach”
- Determine when a child’s next vaccine is due

29% of US parents
Health Literacy and Ethnicity

Projections of the Percent Minority: 2012 to 2060

- The minority population is projected to become the numerical majority of the population under 18 years in 2018.

Figure 2-5. Percentage of adults in each health literacy level, by race/ethnicity: 2003

- White: 9% Basic, 19% Intermediate, 58% Proficient
- Black: 24% Below Basic, 34% Basic, 41% Intermediate
- Hispanic: 41% Below Basic, 25% Basic, 31% Intermediate, 4% Proficient
- Asian/Pacific Islander: 13% Below Basic, 18% Basic, 52% Intermediate, 18% Proficient
- American Indian/Alaska Native: 25% Below Basic, 23% Basic, 45% Intermediate, 7% Proficient
- Multiracial: 9% Below Basic, 28% Basic, 59% Intermediate, 3% Proficient

NAAL 2003
Health Literacy and Education

Figure 2-9. Percentage of adults in each health literacy level, by highest educational attainment: 2003

- Still in high school: 12, 24, 56%
- Less than some high school: 49, 27, 13, 1%
- GED/high school equivalency: 14, 30, 54, 3%
- High school graduate: 15, 29, 53, 4%
- Vocational/trade/business school: 12, 25, 57, 0%
- Some college: 20, 67, 3%
- Associate's/2-year degree: 4, 15, 66, 15%
- Bachelor's degree: 3, 10, 60, 27%
- Graduate studies/degree: 3, 8, 32, 31%

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or groups. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003) are excluded from this figure.

The Shame of Low Literacy

2/3 of adults with low literacy have never asked for help with learning to read

Most have also never told:
- Their Spouse: 68%
- Their Children: 53%
- Anyone: 19%

Parikh et al 1996
## Health Information Complexity

<table>
<thead>
<tr>
<th>Health Category</th>
<th>Grade Level</th>
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<tbody>
<tr>
<td>Health Websites</td>
<td>10th-grade(^i)</td>
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<tr>
<td>Insurance Enrollment</td>
<td>7th – 12th grade  ^v|</td>
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<tr>
<td>AAP parent handouts</td>
<td>6th - 16th grade  (^{ii,iii,iv,vi,vii})</td>
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<tr>
<td>Medication Labels</td>
<td>8th-grade (^x)</td>
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<tr>
<td>Median US Adult Skills</td>
<td>8th-grade</td>
</tr>
<tr>
<td>CDC Vaccine information</td>
<td>5th - 10th (^{viii,ix})</td>
</tr>
</tbody>
</table>


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“Public Health Malpractice?”  Roter D 2008
Skills / ability

Health Literacy

Demands / complexity

✓ Define parent health literacy and child health system’s “literacy burden.”
☐ Understand parent health literacy as a determinant of child health outcomes.
☐ Discuss “health-literacy” interventions that may reduce health disparities and improve health outcomes.
Social Determinants of Health

Social Determinants

- Poverty
- Low education levels
- Race and ethnicity
- Culture differences
- Language and Literacy
- Disenfranchisement from social institutions

Relative influence of the five major determinants of population health, Tarlov, AR 1999
Health Literacy: A Social Determinant of Child Health?

- Genetics
- Epigenetics
- Environment

- SES
- Culture
- Language

- Family Health Literacy
  - Child Caregiver(s)

- Family Health Behavior

- Child Health Needs

- Health Systems
  - Providers (MDs, RNs)
  - Delivery System
  - Information System

- Child Health Outcomes

- Community Systems
  - Schools
  - Social Networks
  - Public Health

Stanford Children's Health
Lucile Packard Children's Hospital
Stanford
Poor Child Health Outcomes Associated with Low Parent Literacy

Child / Family Health Behaviors
- Decreased breastfeeding*
- Poor child feeding/diet**
- Increased TV/screen use**
- Injury-risk behaviors**
- Tobacco use*

Maternal / Child Health Outcomes
- Maternal depression**
- Child developmental / behavioral problems*
- Worse control of child chronic illness*
- Adolescent STDs

Healthcare Access and Use
- Uninsurance**
- Increased ED use*
- Decreased “usual source of care”**
- Decreased Access to WIC, TANF**

*Adj. for SES; **Strong association

Child Chronic Illness: A Special Case for Health-Literacy Action

At least 5 million have chronic conditions that impair daily activity

5% of children responsible for > 50% of child health system costs are for chronic illness care

Children receive about 50% of recommended chronic-care services, including written Action Plans.

Cohen 2012; Berry 2014; Mangione-Smith, NEJM 2007
Child Chronic Illness: The Role of Parent Health Literacy

Low Literacy and Child Chronic Illness

**Asthma:** Low parent literacy
- worse asthma control
- increased ED visits

**Diabetes:** Low parent and child literacy
- worse diabetes knowledge
- glycemic control.

**Obesity:** Low parent literacy → higher child BMI

Dewalt et al, Ambulatory Pediatrics, 2007
Ross et al, Diab. Medicine, 2001
Sanders et al, PAS Abstract, 2008
Yin et al, PAS Abstract, 2008
Child Chronic Illness: A Life Course Perspective
Cost of Health Literacy

Estimated $106 – 236 billion in “preventable” costs per year associated with low literacy

– $10,000 per adult per year
– 7 to 17% of all healthcare expenditures

Child-specific costs: Unknown

Friedland 2002; Vernon 2007
Health Literacy: A Priority Area for Health Safety and Quality

- IOM
- AHRQ
- Healthy People 2020
- AMA
- AAP
- Joint Commission
- CDC
- FDA
- NIH
Define parent health literacy and child health system’s “literacy burden.

Understand parent health literacy as a determinant of child health outcomes.

Discuss “health-literacy” interventions that may reduce health disparities and improve health outcomes.
Everyone benefits from clear health information

All families are at risk for misunderstanding health information

Assessing health literacy in the clinical setting is NOT recommended
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Communication Principles for the Child Exam Room

1. Listen.
2. Simplify.
3. “Teach Back.”

1. **Listen.**

Ask first for the child’s or parent’s agenda. Encourage questions.

**Do not say:**
- Do you understand?
- Do you have any questions?

**Ask:**
- What questions do you have?
2. Simplify.

Focus on 3 or fewer key action items.

Slow down.

Avoid jargon.
**Avoid Jargon**

- Instead of ...
  - Benign
  - Chronic
  - Cardiac
  - Edema
  - Negative test
  - Hypertension
  - Hydrocephalus

- Use ...
  - Normal
  - Happens again and again
  - Heart
  - Swelling
  - Normal result
  - High blood pressure
  - Fluid buildup in the brain
Avoid Jargon

Use plain “living room” language
• Break it down
• Use short statements
• Use analogies (arthritis – “creaky hinge on door”)
3. Use “Teach Back”

New Concept: Health Information, Advice, or Change in Management

Clinician Clarifies and Tailors Explanation

Clinician Reassesses Patient Recall and Comprehension

Adherence

Clinician Expects Patient Recall and Comprehends

Patient Recalls and Comprehends

Clinician Assesses Patient Recall and Comprehension

Don’t forget to chunk and check!

Schillinger 2003
Why Use Teachback?

Teachback considered one of the top patient safety practices based on strength of scientific evidence (AHRQ, 2001 Report, Making Health Care Safer)

Teachback associated with improved outcomes
  • Associated with achieving good glycemic control (15.2x odds)
  • No increased visit time (Schillinger 2007)

Teachback results in improved informed consent (National Quality Forum)
Common concern: Teachback seems condescending. I feel awkward doing it...

• Put the pressure on **yourself**, not the parent/patient
  – “I’d like to make sure that I did a good job explaining this to you. Can you tell me how you plan to give the medicine to Osvaldo when you get home?”

• Contextualize
  – “Based on our discussion, what will you tell Maria’s father about what to do when her asthma gets bad?”
  – “We talked about a lot of different ways to reduce juice intake for Sofia. What is one thing you plan to try that will work for you at home?”
Use “Showback”, when appropriate

Demonstrate, then ask for family to demonstrate back to you (“showback”)

• “I want to make sure I explained how to give the medicine clearly. Can you use this syringe to show me how much medicine you will give Juan?”
How can we build a more “Health-Literate” Child Health System?

Skills / ability  Health Literacy  Demands / complexity

Is your clinic or hospital health-literate?

• Access and Navigation
  – Is it easy for all patients and families to access basic services (check-in, appointments, referrals)?
  – Are phone systems and EMR portals designed for easy access by low-literacy families?

• Communication
  – Have your staff been trained to be sensitive to patients with low health literacy and limited English proficiency?

IOM 2012; JACHO 2012
Is Child Health Information “Readable” and “Suitable”?

- Content
- Images / Graphics
- Layout / Typography
- Behavior-focus
- Cultural Appropriateness
Clinic Intake Forms

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Rachael Postman, OHSU, 2016
Asthma and Your Child

This publication was written by the American Academy of Pediatrics to inform parents about asthma, including symptoms, triggers, treatments, and how to communicate with your child's school.

What is asthma?
Asthma is a chronic disease of the airways in the lungs. The airways are very sensitive and may be inflamed even though symptoms are not always present. The degree and severity of airway inflammation varies over time. One of the most important goals of asthma treatment is to control the inflammation in the airways and the symptoms that result.

An asthma "attack," the airways become narrowed or blocked. The inner lining of the airways becomes inflamed and irritated, and the airways muscles tighten around the airway, making breathing difficult. The good news is that this can be treated and controlled.

Who gets asthma?
Asthma is the most common serious chronic disease of childhood, and one of the most common reasons children seek medical care. It is the most common chronic health condition of childhood and affects 1 in 13 children. In the United States, nearly 1 in 13 of all children have asthma.

Asthma may affect anyone, but it is more common among children. Children with asthma often look and act like any other child. However, they may need to use medications to control their asthma. The symptoms of asthma can range from mild to severe.

How is asthma diagnosed?
There is no simple test for diagnosing asthma. It is often difficult to diagnose, especially in young children. Your child's doctor will need to ask specific questions about your child's health and whether your child is allergic to certain substances. The information may be provided either by you or your child’s doctor after treatment.

- Does your child have symptoms such as wheezing, coughing, or chest tightness?
- How often do these symptoms occur and how do they feel? For example, are your child's symptoms related to exercise, exposure to cold air, or exposure to smoke or other irritants?
- Is there a history of asthma in your family or others in your community?

- What medications have you tried? Do they work?
- Is there a family history of allergies or asthma?

- If your child is old enough (at least 6 years), your child's doctor may test your child's lung function. The good news is that this can be done at home or in the hospital. Your child's doctor may also ask your child to keep a journal of their symptoms.

How are symptoms of asthma?
Symptoms of asthma can occur quickly or slowly. Some children have symptoms of asthma even though they have no symptoms of asthma at all. Other children may report symptoms of asthma even though they have no symptoms of asthma at all.

A cough may be the first and sometimes the only symptom of asthma. It often occurs when the lungs are not able to remove the irritants in the air. This may happen in the morning or after exercise. The most common triggers of asthma are pollen, dust, and smoke.

- Excessive airway inflammation

- Tightness in the chest

- Enlarged airway (increased airway resistance)

- Excessive mucus (increased mucus production)

- Excessive airway inflammation

- Tightness in the chest

How to use the AAP's Guide to the diagnosis and treatment of asthma

1. The good news is that asthma treatment is effective in reducing asthma symptoms and improving lung function. Children who are well controlled are less likely to have asthma attacks. This can be done by avoiding triggers and using medications. It is also important to prevent emergency department visits and hospital stays because of asthma attacks. If your child experiences asthma symptoms more than twice per year, tell your child's doctor now.

2. Always use a spacer for medication that can cause damage to the lungs. The symptoms of asthma can range from mild to severe.

3. Always use a spacer for inhalers that can cause damage to the lungs. The symptoms of asthma can range from mild to severe.

4. Always use a spacer for medication that can cause damage to the lungs. The symptoms of asthma can range from mild to severe.

5. Always use a spacer for medication that can cause damage to the lungs. The symptoms of asthma can range from mild to severe.

6. Always use a spacer for medication that can cause damage to the lungs. The symptoms of asthma can range from mild to severe.
Right From The Start: ABC's of Good Nutrition for Young Children

Good nutrition: the results are worth it
Proper nutrition is key to the development of the foods you give and combinations of foods make a complete and nutritionally sound diet for your child. Good nutrition is important for your child's healthy start with good eating habits and proper nutrition. Good nutrition is important for your child's healthy start with good eating habits and proper nutrition. Good nutrition is important for your child's healthy start with good eating habits and proper nutrition. Good nutrition is important for your child's healthy start with good eating habits and proper nutrition. Good nutrition is important for your child's healthy start with good eating habits and proper nutrition.

Actions speak louder than words
As children grow and develop, they are more likely to be more aware of their food choices. They often copy food habits, from healthy to unhealthy choices. More or more, the simple food choices of the family can influence their child's health habits. The foods that are consumed become a part of a child's healthy food choices and continue to influence their regular physical activity.

The ABCs of good nutrition
As children grow and develop, it is important to get the nutrition that they need to build strong bodies and stay healthy. Foods that are healthy include those that are low in fat, sodium, and cholesterol, and those that are high in vitamins and minerals. These foods are usually the foods that are low in fat, sodium, and cholesterol, and those that are high in vitamins and minerals. These foods are usually the foods that are low in fat, sodium, and cholesterol, and those that are high in vitamins and minerals. These foods are usually the foods that are low in fat, sodium, and cholesterol, and those that are high in vitamins and minerals.

Safety check
Clothing hazards
Do not let children younger than 4 reach for food unless it is shaped and held securely. The following food items are choking hazards: nuts and seeds, certain fruits and vegetables, stuffed animals, balloons, and toys. Safety check: Do not let children younger than 4 reach for food unless it is shaped and held securely. The following food items are choking hazards: nuts and seeds, certain fruits and vegetables, stuffed animals, balloons, and toys.

Food allergies
Peanuts and tree nuts are common allergens. These are the foods that are the most likely to cause an allergic reaction. Some children who have peanut allergies may also have allergies to other foods, such as fish, shellfish, and eggs. Safety check: If your child has peanut allergies, keep these foods out of reach.

Foods to choose
Foods from all food groups are necessary for health and growth. No food group is more important than another. For good health, you and your child need to choose foods from all five food groups.

1. Grain foods: Whole-grain products such as breads, crackers, pasta, rice, and cereals, can provide energy and help your child to learn about food choices and healthy eating habits.

2. Milk and milk products: A variety of foods, such as milk, cheese, yogurt, and eggs, provide essential nutrients such as calcium and vitamin D.

3. Fruits and vegetables: A variety of foods, such as fruits, vegetables, and legumes, provide essential nutrients and help your child to learn about food choices and healthy eating habits.

4. Meats and beans: A variety of foods, such as meats, beans, and legumes, provide essential nutrients and help your child to learn about food choices and healthy eating habits.

5. Fats and oils: A variety of foods, such as margarine, butter, and cooking oils, provide essential nutrients and help your child to learn about food choices and healthy eating habits.

The following are guidelines about what type of milk your child should be given.

- Whole milk is recommended for children younger than 2.
- 2% milk is recommended for children younger than 2.
- 1% milk is recommended for children younger than 2.
- Skim milk is recommended for children younger than 2.

Milk and water are best.
Your toddler does not need juice or other sugary drinks.

Choose healthy foods and offer the right amount.
Teach your child to like healthy foods from the start.

Be active with your toddler.
TV time is not active time.
Plan The Dinner Plate – for your 15-18 month old

It’s easy to do – just split the plate into 3 parts, the largest part for vegetables.

This dinner plate has:
- 2 servings vegetables
- 1 serving rice & beans
- 1 serving fish

Start with 1 tablespoon of each food and let your toddler ask for more!

Breakfast

2% Milk – 4 ounces

Cereal – ¼ cup
Pear – ¼ of a pear, small bite-sized pieces

Lunch

2% Milk – 4 ounces

Soup with:
- Carrots and peas – ¼ cup
- Potatoes – ¼ cup
- Chicken – ¼ cup
Growth Charts
### Lab Results

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<tr>
<td>LDL (Bad) Cholesterol (mg/dL)</td>
<td>115</td>
<td>At Risk</td>
<td>Above 110</td>
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<tr>
<td>HDL (Good) Cholesterol (mg/dL)</td>
<td>33</td>
<td>Unhealthy</td>
<td>Below 35</td>
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<td>Triglycerides (mg/dL)</td>
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<td>Normal</td>
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<td>Blood Sugar (Glucose) (mg/dL)</td>
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<tr>
<td>Insulin (µIU/mL)</td>
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<td>Normal</td>
<td>Below 21</td>
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Please remember that:
- These test results may not be accurate if Susie had anything to eat or drink in the 8 hours before the blood test.
- Test results can also be affected by some medications.
- Normal levels for children are different than for adults.

More information about what the tests mean and what you can do are found on the back of this page.
Liquid Medication Dosing

http://www.med.nyu.edu/helpix/helpix-intervention/instructions-providers
Medication Consolidation
Action Plans: SMART Principles

Specific
- Let the family choose a specific behavior or goal

Measurable
- Need to be able to evaluate how successful you are at meeting goal

Achievable / attainable
- Is the goal realistic?: “How sure are you?”

Relevant
- Alignment with objectives

Time-based
- Specific target dates: Give a sense of urgency
Jake’s Action Plan for NICU discharge

Setting the Priority Action(s)*

• What’s the family’s agenda?
  - Feeding
  - Development

• What’s your clinical priority*
  - Feeding / G-tube
  - Retinopathy

Specific – “bottle feeding”
Measurable – “10→15 mL”
Achievable – 7-9/10
Relevant – * both agendas
Time-based – “2 weeks”

JAKE’S Action Plan

Date: 10/21/15

Things WE need to do:

1. Appointments with each of the following:
   1. General Pediatrician – in the next week
   2. Gastroenterology – in the next week
   3. Ophthalmology – in the next month

2. Learn more about the pro’s and con’s of a gastrostomy tube (g-tube) for Jake.

Action Plan

One specific thing I will do to help Jake in the next 2 weeks:

Work on increasing Jake’s bottle feeding from **10 to 15 mL** per feeding.

How sure am I that I can do this?

<table>
<thead>
<tr>
<th>Not sure</th>
<th>Very sure</th>
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<td>9</td>
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</table>
Child Chronic-Illness Action Plans

Asthma Action Plan

If Feeling Well

Take Every Day Long-Term Control Medicines

If Not Feeling Well

Take Every Day Medicines and Add These Quick-Relief Medicines

If Feeling Very Sick

Take These Medicines and Get help from a Doctor NOW!

When my blood sugar is less than 170, drink half a glass of fruit juice or eat 7-8 hard candies.

What I will do if my blood sugar level is too high:

Blood-Sugar Level What To Do

My blood sugar is high:

240 or higher

Call doctor.

My blood sugar is getting high:

150 to 239

Less sweets, fats.

My blood sugar is under control:

70 to 149

Go

Good job.

My blood sugar is too low:

Call doctor.

@Starchild

Medical Record:

Updated On:

Date of Birth:

Emergency Contact:

Phone:

Provider Name:

Provider Phone:

Asthma Severity:

None

Mild

Moderate Persistent

Severe Persistent

Asthma Triggers:

Dust

Dogs

Eggs

Fish

Chocolates

Fruit

Milk

Nuts

Other:

If Feeling Well

Take Every Day Long-Term Control Medicines

If Not Feeling Well

Take Every Day Medicines and Add These Quick-Relief Medicines

If Feeling Very Sick

Take These Medicines and Get help from a Doctor NOW!
Monday and Tuesday of next week, I will give juice at lunchtime only instead of at lunch and dinner.

Before I give my baby solid food, I will look to see if he shows signs that he is ready to start.
Feeding Your Toddler

Your toddler enjoys eating with the whole family now. She likes to eat what everyone else is eating – cooked just right for toddlers!

How often should I feed my toddler?

Toddlers should have 3 meals and 2 snacks each day – family mealtimes are best!

How much of each food should I give my toddler?

A serving size for a toddler is 2 to 4 tablespoons of each food (up to a ¼ cup) – about the size of your child’s fist.

1 serving = ¼ cup = size of your child’s fist

Start with 1 tablespoon and let your toddler ask for more if she is hungry!

Finger Foods – for your 15-18 Month Old

Give your toddler small pieces and small amounts of soft “finger foods.” Let your toddler feed himself!

This can get messy – put a plastic sheet or newspaper under his feeding chair to make clean-up easier.

- pasta
- kiwi
- cauliflower
- meatballs
- blueberries
- sweet potato
- papaya
- broccoli
- peach
Results from Greenlight Trial: Physician Counseling Practices

- **Receipt of written materials:**
  - 90% for Greenlight provider
  - 68% for Control provider

- **Goal-setting:**
  - 43% for Greenlight provider
  - 21% for Control provider

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**Provision of diet/activity-related written materials**

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<tr>
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**Diet/activity-related goal-setting**

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*Models adjusting for child age, sex, out-of-home care; parent age, race/ethnicity, language, income, HL

Sanders, Pediatrics 2015
### Results from Greenlight Trial:
**Parent Reported Behaviors at 12 months**

<table>
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<tr>
<th>Variable</th>
<th>Control (n=238)</th>
<th>Intervention (n=333)</th>
<th>p value</th>
<th>AOR or ARR <em>(95% CI)</em></th>
<th>Adjusted P value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any breast milk (%)</td>
<td>13%</td>
<td>23%</td>
<td>&lt;0.01</td>
<td>2.3 (1.3, 3.9)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Juice, oz (median, IQR)</td>
<td>4.0 (0.5-5.2)</td>
<td>2.0 (0.0-4.0)</td>
<td>&lt;0.001</td>
<td>-0.6 (-1.4, 0.16)</td>
<td>0.12</td>
</tr>
<tr>
<td>Giving juice or not diluting juice</td>
<td>35%</td>
<td>26%</td>
<td>0.02</td>
<td>0.6 (0.4, 0.9)</td>
<td>0.02</td>
</tr>
<tr>
<td>Ever give bottle to bed (%)</td>
<td>32%</td>
<td>38%</td>
<td>0.15</td>
<td>1.2 (0.8, 1.7)</td>
<td>0.43</td>
</tr>
<tr>
<td>Provide Fast Food (%)</td>
<td>39%</td>
<td>32%</td>
<td>0.11</td>
<td>0.8 (0.5, 1.1)</td>
<td>0.18</td>
</tr>
<tr>
<td>TV usually on during feeding</td>
<td>54%</td>
<td>53%</td>
<td>0.73</td>
<td>1.0 (0.8, 1.5)</td>
<td>0.81</td>
</tr>
<tr>
<td>Total Minutes per day of TV exposure (median, IQR)</td>
<td>180 (90-360)</td>
<td>120 (60,240)</td>
<td>0.01</td>
<td>-70 (-121, -20)</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

* Adjusted for child gender/age, race/ethnicity language, income, wic status, caregiver education
Summary

✓ Parent health literacy are mismatches with the increasing “literacy burden” of the child health system.
✓ Parent health literacy is a social determinant of child health outcomes.
✓ Developing “health-literate” clinics and hospitals may reduce child health disparities and improve outcomes.
Addressing Social Determinants = Precision Medicine

- Screening for housing and food insecurity
- Addressing mental health and violence
- Culturally competent care
- Language and Literacy-appropriate care

Relative influence of the five major determinants of population health, Tarlov, AR 1999
Thank you!

... Now it’s time for TeachBack