Children’s Health and the Built Environment

Prepared for It’s Time Summit by
Monique R. Mills, MD, FAAP
Assistant Professor of Pediatrics
The University of Texas Health Science Center at Tyler
June 21, 2011
Disclaimer

- This presentation was prepared by the Association of Occupational and Environmental Clinics (AOEC) and funded (in part) by the cooperative agreement award number 1U61TS000118-02 from the Agency for Toxic Substances and Disease Registry (ATSDR).

- Acknowledgement: The U.S. Environmental Protection Agency (EPA) supports the PEHSU by providing funds to ATSDR under Inter-Agency Agreement number DW-75-92301301-0. Neither EPA nor ATSDR endorse the purchase of any commercial products or services mentioned in PEHSU publications.
“There’s a person living inside of there!”
The built environment affects our behavior
Case
What causes obesity?

A disturbance of energy balance in the body.
What influences energy balance?

Behavior
What influences behavior?

- Motive
- Opportunity
It is so simple…

…why is it so difficult?
Because it’s complicated
Built environment affects our behavior

Walking school bus

Notice the sidewalks
The built environment affects our behavior

“More Space to Play”

Tyler Morning Telegraph  headline March 29, 2011

Children’s Park Plans Expansion To Meet Usage Demands

Private endeavor thru local foundation
The built environment affects our behavior

Light rail in Phoenix

http://www.valleymetro.org/notes/topic/ridelrebn
The built environment affects our behavior

<table>
<thead>
<tr>
<th>Item</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oak Farms Milk 2%</td>
<td>$1.59</td>
</tr>
<tr>
<td>Tax</td>
<td>$2.49</td>
</tr>
<tr>
<td>NonTax</td>
<td>$3.29</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$7.37</strong></td>
</tr>
<tr>
<td><strong>Tax</strong></td>
<td><strong>$0.21</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$7.58</strong></td>
</tr>
<tr>
<td><strong>Change Due</strong></td>
<td><strong>$-12.42</strong></td>
</tr>
<tr>
<td><strong>Cash</strong></td>
<td>$20.00</td>
</tr>
</tbody>
</table>

$3.32
ENVIROMENT

Physical
- Natural and Built Environment
  - Mixed land use
  - Density
  - Street connectivity
  - Aesthetics
  - Public transportation
  - Sidewalks
  - Bike paths
  - Physical Activity Facility
  - Playgrounds
  - Parks
  - Public open spaces
  - Pedestrian Safety
  - Crime rate

Social
- Social Networks
  - Family
  - Friends
  - Colleagues
  - Neighbors
  - Socioeconomic status
    - Income
    - Education
    - Occupation
  - Cultural climate
  - Economic climate
  - Political Climate
  - Marketing

Individual
- Biological factors
  - Age
  - Gender
  - Genetics
- Cognitive factors
  - Knowledge = Education
  - Attitudes
  - Beliefs
  - Motivation
  - Perceived barriers
  - Self control
  - Influence

PERSON

Nutrition Behavior
Energy Balance
Physical Activity
BMI
What’s Different?

Hint: 2 things

Broadway and Loop 323 – Tyler, Texas

19th and Camelback – Phoenix, Arizona
“Tyler 21 Comprehensive Plan: Building Our Future Together 2007 to 2030”

Broadway (Hwy 69) and Loop 323
ENVIRONMENT

Physical
- Built Environment
- Mixed land use
- Density
- Street connectivity
- Aesthetics
- Public transportation
- Sidewalks
- Bike paths
- Physical Activity Facility
- Playgrounds
- Parks
- Public open spaces
- Pedestrian Safety
- Crime rate

Social
- Social Networks
- Family
- Friends
- Colleagues
- Neighbors
- Socioeconomic status
- Income
- Education
- Occupation
- Cultural climate
- Economic climate
- Political Climate

Individual
- Biological factors
  - Age
  - Gender
  - Genetics
- Cognitive factors
  - Knowledge = Education
  - Attitudes
  - Beliefs
  - Motivation
  - Perceived barriers
  - Behavioral control

PERSON

Nutrition Behavior

Energy Balance

Physical Activity

BMI

kcal

kcal
The built environment affects our behavior

http://youtu.be/2lXh2n0aPyw
References

• The Mayors’ Guide to Fighting Childhood Obesity – The United States Conference of Mayors 2009
• Tyler 21 City of Tyler Comprehensive Plan: Building Our Future Together 2007 to 2030
• Tackling Obesity by Creating Healthy Residential Environments Edited by: S. Schoeppe and M. Braubach; The World Health Organization 2007
• Tackling Obesity by Building Healthy Communities: Changing Policies Through Innovative Collaborations; California Health Policy Forum, Center for Health Improvement Policy Brief December 2009
• The Built Environment: Designing Communities to Promote Physical Activity in Children, Policy Statement of Committee on Environmental Health, PEDIATRICS Volume 123, Number 6, June 2009
References

- Environmental Influences on Young Adult Weight Gain: Evidence From a Natural Experiment, Kandice A. Kapinos, Ph.D. and Olga Yakusheva, Ph.D. Journal of Adolescent Health- (2010) 1–7


- The Role of Built Environments in Physical Activity, Eating, and Obesity in Childhood; James F. Sallis and Karen Glanz, THE FUTURE OF CHILDREN, VOL. 16 / NO. 1 / SPRING 2006

